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Description of document: North American Aerospace Defense Command NORAD
Historical Summaries, 1967-1974

Requested date: 15-July-2013

Released date: 14-December-2015

Posted date: 11-January-2016

Source of document: HQ USNORTHCOM/CS
FOIA Officer
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UNITED STATES NORTHERN COMMAND

HQ USNORTHCOM/CS
250 Vandenberg Street, Suite B016
Peterson Air Force Base CO 80914-3801

14 Dec '15

We received your Freedom of Information Act (FOIA) request dated 15 July 2013. Your request was assigned USNORTHCOM FOIA case number FY13-24JUL2013-83. In your request letter you asked for the following: 16 NORAD Historical Summaries dated 1967-1974.

After performing a search of our systems of records we found several responsive documents pertaining to your request. You requested six month historical studies (January - June and July - December). NORAD went to yearly historical studies after 1965; therefore there is only one historical study per year and not two as requested. Your request was complex and required review by additional agencies for their equities. Upon review of the documents totaling 1,372 pages, we have determined one document is fully releasable. We have determined that five documents are partially releasable as portions of these documents are currently and properly classified in accordance with Executive Order 13526, section 1.4(c) and should remain exempt from public disclosure under FOIA exemption (b)(1). Portions are also exempt from mandatory disclosure under FOIA exemption (b)(3) as those portions are specifically exempted from disclosure by statute (other than Section 552b) and withheld. The authority for these exemptions can be found in the United States Code, Title 5, Section 552 (b)(1) and (b)(3). In addition, two documents have been referred to the Air Force Historical Research Agency (AFHRA) as our agency does not have these documents. AFHRA will process your request of these two documents. An index of all requested documents and their release status is included at Attachment 1. Attachment 2 is a CD with six of eight requested documents. This response closes your request.

As a requester in the "All Others" fee category, you received the first two hours and 100 pages of records at no cost; therefore, there are no assessable fees for processing your request. If you have any further questions concerning your request, please do not hesitate to contact our FOIA Request Service Center at the above address.

If you are not satisfied with this action, you have the right to appeal to the appellate authority, the Director of Administration, Office of the Secretary of Defense (OSD), by writing directly to OSD/Joint Staff Freedom of Information, ATTN: Appeals Office, 1155

Defense Pentagon, Washington DC 20301-1155. Your appeal must be postmarked within 60 calendar days of the date of this response. Alternatively, you may also submit your appeal electronically, within 60 calendar days of the date of this response, at the following link: <http://pal.whs.mil/palMain.aspx>. Your appeal should cite our case number FY13-24JUL2013-83, and be clearly marked "Freedom of Information Act Appeal" on the request.



CHARLES D. LUCKEY
Major General, USA
Chief of Staff

Attachments:

1. Index of Requested Documents
2. CD with Responsive Documents

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INDEX LISTING OF FOIA DOCUMENTS FOR FOIA CASE FY13-24JUL2013-83

Document #	Title	# of Pages	Release Status#
1	NORAD Historical Summaries for Jan-Jun 1967	154	Full
2	NORAD Historical Summaries for Jul-Dec 1967		
3	NORAD Historical Summaries for Jan-Jun 1968	286	Partial
4	NORAD Historical Summaries for Jul-Dec 1968		
5	NORAD Historical Summaries for Jan-Jun 1969	292	Partial
6	NORAD Historical Summaries for Jul-Dec 1969		
7	NORAD Historical Summaries for Jan-Jun 1970	192	Partial
8	NORAD Historical Summaries for Jul-Dec 1970		
9	NORAD Historical Summaries for Jan-Jun 1971	238	Partial
10	NORAD Historical Summaries for Jul-Dec 1971		
11	NORAD Historical Summaries for Jan-Jun 1972	210	Partial
12	NORAD Historical Summaries for Jul-Dec 1972		
13	NORAD Historical Summaries for Jan-Jun 1973	UNK	Refer to AFHRA
14	NORAD Historical Summaries for Jul-Dec 1973		
15	NORAD Historical Summaries for Jan-Jun 1974	UNK	Refer to AFHRA
16	NORAD Historical Summaries for Jul-Dec 1974		

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Declassified by: Col
David Hicks
Vice Director of
Operations
Declassified on: 27
August 2013



HISTORICAL SUMMARY(U) 1967

CONAD
1695-2

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CONTINENTAL AIR DEFENSE
COMMAND

HISTORICAL
SUMMARY (U)
1967

1 APRIL 1968

COMMAND HISTORY DIVISION
SECRETARY, JOINT STAFF
HEADQUARTERS CONAD



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ARADCOM	2	CAMO	1
USAF ADC	1	CINT	1
CONAD Regions	3 each	COPS	1
CONAD Divisions	1 each	COOP-O	1
HQ CONAD	<u>37</u>	COOP-S	1
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		CPAP	1
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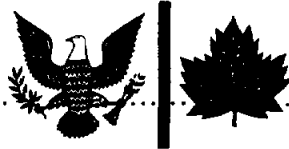
FOREWORD

The Historical Summary is issued for the first time as a Continental Air Defense Command document. This was required because much of the material covering the activities for 1967 is not releasable to foreign nationals. However, the history is not confined to CONAD only but covers North American Air Defense Command activities also. It should be considered, therefore, as much a history of NORAD/CONAD as in the past.

1 April 1968

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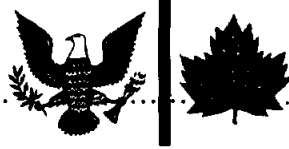
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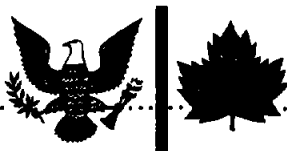
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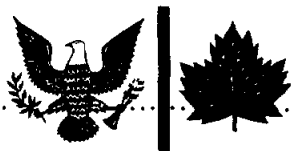
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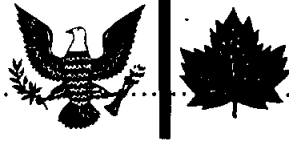


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SUMMARY OF THE FORCES
(AS OF 1 DECEMBER 1967)

INTERCEPTOR FORCE

Regular:

31 Squadrons, 556 Aircraft

<u>Type</u> -	<u>F-101</u>	<u>F-102</u>	<u>F-104</u>	<u>F-106</u>	<u>CF-101</u>
<u>No.</u> -	15	1	1	11	3

ANG:

21 ANG Squadrons, 385 Aircraft

<u>Type</u> -	<u>F-89</u>	<u>F-102</u>
<u>No.</u> -	2	19

MISSILE FORCE

8 Bomarc B Squadrons - 224 Missiles/
224 Launchers

73 RA Hercules Fire Units, 48 ARNG Fire Units -
1974 Missiles/1220 Launchers

8 RA Hawk Fire Units - 288 Missiles/
48 Launchers

SURVEILLANCE AND WARNING

Long Range Radars: 170
Gap Filler Radars: 68
ALRI Stations: 4 - East Coast (30% random
manning - EC-121H Aircraft)
AEW&C Stations: 1 - Key West (Full-time - EC-
121Q Aircraft)
5 - West Coast (30% random
manning - EC-121D Acft.)

DEW Line:

Continental Segment: 29 Stations
Aleutian Segment: 6 Stations
Greenland Segment: 4 Stations



G-I-UK Barrier: 2 Iceland-based radars (under operational control of CINCLANT)

BMEWS: 3 Stations

SPADATS:

Space Defense Center
USAF Spacetrack System
USN Space Surveillance System
Canada - Baker-Nunn Camera
NASA - Data as available and/or upon request -
Eastern Test Range, Western Test Range and
Pacific Missile Range

BOMB ALARM SYSTEM:

99 Instrumented Areas
12 Display Facilities
6 Master Control Centers

NUCLEAR BIOLOGICAL CHEMICAL WARNING AND REPORTING SYSTEM -
Manual System

■ COMMAND AND CONTROL

1 Combat Operations Center
1 Primary and 1 Secondary ALCOP
6 Region Combat Centers
14 Division Direction Centers
29 NORAD Control Centers (13 BNCC's,
16 MNCC's)

■ MANPOWER

NORAD Headquarters: 979
NORAD Region and Division Headquarters: 982

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CHAPTER I ORGANIZATION AND MANNING

U. S.-CANADIAN NORAD AGREEMENT

BACKGROUND

(U) NORAD was established, at least on an interim basis, on 12 September 1957. It was not until eight months later, on 12 May 1958, that a formal agreement for NORAD was concluded between the U. S. and Canadian Governments. This was accomplished through an exchange of notes on this date. The Canadian note, signed by Canadian Ambassador Norman A. Robertson, stated the principles for the organization and operation of NORAD. The U. S. note, signed by Christian A. Herter, Under Secretary of State, stated that the U. S. Government concurred with the principles and that the U. S. reply constituted an agreement between the two governments.

(U) One of the principles of the agreement set a time limit on NORAD:

(9) The North American Air Defence Command shall be maintained in operation for a period of ten years or such shorter period as shall be agreed by both countries in the light of their mutual interests, and their objectives under the terms of the North Atlantic Treaty.

There was no provision in the agreement for automatic renewal or extension. On 12 May 1968, therefore,

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NORAD would simply expire unless a new agreement was signed.

CINCNORAD/CINCONAD VIEWS ON RENEWAL

At the 116th meeting of the Permanent Joint Board on Defense, held in October 1966, the future of NORAD was discussed.¹ It was decided that it would be desirable to get CINCNORAD's views on his future mission and requirements to fulfill this mission. This request went to the Military Cooperation Committee and then to the JCS and the Canadian Defence Staff. The military chiefs then asked for CINCNORAD's comments. The JCS also requested, in a separate memo, CINCONAD's views on the future of NORAD under two alternatives: CINCNORAD to have the air defense mission alone with his headquarters interfacing with U. S. components involved with aerospace functions, or CINCNORAD to have the aerospace defense mission.²

CINCNORAD's views in response to the JCS/CDS request were submitted on 23 December 1966 in two parts.³ The first part covered four areas on which comments were asked and the second covered proposed changes to the terms of reference. The four areas were as follows:

1. The Adequacy of the Principles Upon which the Command was Formed in Terms of Current and Future Needs.

In his comments, CINCNORAD reviewed the changes that had taken place in the threat since NORAD's establishment. But he stated that the principles had proven sound and that they should be accepted as a basis for renegotiation. CINCNORAD said that the alliance was a necessary and effective one and that for the future there was a greater and continuing need for this integrated command.



2. The Applicability of the Terms of Reference for Current and Future Needs.

CINCNORAD said the terms were not accurate and needed updating. He recommended two major revisions, and that in the future the terms be revised continually as required and used as the sole directive. The first major revision recommended was that CINCNORAD be given the mission of aerospace defense of the continental United States, including Alaska, and Canada instead of the current mission of defending against air attack. He defined aerospace defense as "all measures designed to reduce or nullify the effectiveness of hostile acts by aircraft, missiles, and space vehicles after they leave the earth's surface, an inclusive term encompassing air defense and space defense."⁴ The other recommended revision was to authorize communication between CINCNORAD and the chiefs of the services, either directly or through the components, on service matters, rather than only through the components as currently authorized.

3. The Need for Adjustments to the Current Organizational and Command Arrangements.

CINCNORAD stated that the agreement and terms were clear as to command arrangements and these arrangements were satisfactory. He asked, however, that a means be found for more complete and timely consultation between governments in the future before major changes were made in the NORAD structure.

4. The Interrelationship of Defensive Systems Deployed Against Manned Bombers and Ballistic Missiles.

CINCNORAD emphasized as strongly as possible the importance of an integrated air and missile defense under one command. There was no dividing line, he said. "They overlap, support and can even interfere with one another unless they are closely controlled by a single command. ... It is essential for a continental aerospace defense force to operate under a single commander."



█ In the section of his comments on changes to the terms of reference, CINCNORAD updated the terminology and made a number of revisions, the major ones of which were noted above. Of these, the most important was a recommendation to change the mission from air to aerospace defense.

█ As stated above, CINCONAD was also asked to submit his views on the future of NORAD under two alternatives -- CINCNORAD to have the air defense mission or to have the aerospace defense mission. CINCONAD's views were sent on 23 January 1967. CINCONAD strongly opposed the separation of missions, that is, giving NORAD only the air defense mission. It was CINCONAD's view that "the air and missile defenses must be directed by a single individual, and this individual, in order to achieve optimum effectiveness, should be CINCNORAD."⁵ CINCONAD pointed out the problems, confusion, loss of effectiveness, and violation of basic strategic principles that would result if NORAD were limited to air defense. CINCONAD also stressed that the primacy of NORAD should be insured and that CONAD should be used only when necessary.

NEGOTIATIONS

█ At the June 1967 (118th) meeting of the PJBD, much discussion took place on the renewal of the NORAD agreement. The U. S. representative proposed to renew the agreement in substantially the same form with a proviso that the agreement could be amended later if an ABM deployment decision was made.⁶ No decisions were reached at the meeting, but the Board agreed to keep the matter on the agenda. During the 119th meeting (September 1967), the NORAD agreement was again discussed and favorable reaction was received from both sides of the table.⁷

█ Formal negotiations were started on 6 September 1967 on renewal when the U. S. Ambassador in Ottawa presented a note to the Canadian Government.



On 8 December 1967, the JCS informed CONAD of a memorandum from the Department of State which stated that the Canadian Ambassador had presented a note in which the Canadian Government stated its willingness to open negotiations for renewal of the NORAD agreement in substantially its same form.⁸ The Canadian Ambassador noted that his government was proposing, in response to the U. S. proposal of 6 September, that the agreement be renewed for a five-year term. It was to be understood that a review of the arrangements could be made at any time at the request of either party and that the agreement could be terminated by either party after such a review, following a year's notice. The Ambassador also stated that the Canadian note specified that renewal of the agreement would in no way commit the Canadian Government to participate in ABM defense.

■ The JCS requested CONAD's comments on the U. S. draft note and the Canadian proposal. CONAD replied that its position, as covered in the 23 January 1967 letter, remained the ultimate objective.⁹ However, CONAD stated that it was apparent that the environment was not conducive to inclusion of the provisions of this letter in the negotiations at this time. Therefore, CONAD concurred with the renewal as presented.

NORAD HEADQUARTERS
ORGANIZATIONAL AND MANPOWER CHANGES

FY 1969 JOINT MANPOWER ANNUAL SUBMISSION

(U) The NORAD joint manpower program for FY 1969 was submitted in a letter dated 28 December 1966. No additional manpower spaces were requested. NORAD said, however, that it was making studies of DCS/ Intelligence and NCOC requirements and that these might result in manpower submissions later.¹⁰ NORAD stated that it was also making manpower surveys of subordinate headquarters and that recommendations requiring JCS approval would be sent upon completion.



NORAD HEADQUARTERS MANNING

(U) The NORAD/CONAD Joint Headquarters Table of Distribution for 1 January 1967 showed a total of 937 personnel authorized which included 423 officer spaces, 318 enlisted spaces, and 196 civilian spaces. This total had been increased by 42 by mid-year. The 1 July 1967 JTD for the headquarters showed a total of 979 spaces. Of these, 424 were officer spaces (an increase of one), 331 were enlisted spaces (an increase of 13), and 224 were civilian spaces (an increase of 28). The 42 spaces added were allocated as follows: 28 to the Directorate of Computer Program Control, 11 to DCS/Intelligence, and 3 to the NCOC. The 1 January 1968 JTD showed the same total authorizations as the 1 July 1967 JTD.

Reorganization Within DCS/Intelligence.
Following the move of the NCOC to Cheyenne Mountain, DCS/Intelligence found it necessary to make certain adjustments to improve support to the NCMC. Effective 1 February 1967, the Current Intelligence Indications Center was taken from under the Directorate of Threat Assessment and made a separate directorate (Directorate of Current Intelligence and Indications (NIIC)).¹¹ The Current Intelligence Division was transferred from Threat Assessment (NITA) to the new directorate (NIIC). The latter also added an Indications and Warning Division and in June established a provisional Missile and Space Division. Within NITA, a Projects and Estimates Division was established and the old Military Capabilities Division dropped.

(U) To provide manpower for these changes, on 10 April 1967, NORAD sent a priority request for 12 additional spaces.¹² Eleven of these were approved by the JCS, as noted above.

(U) As discussed above, a provisional Space Missile Division was established in June under NIIC. It was formally organized effective with the publication of an amendment to the 1 July JTD, dated 4



October 1967.¹³ The division was formed from analysts previously assigned to the Current Intelligence Division and the three manpower spaces transferred from NITA. The reason for the change was to increase support to the NCOC and better accomplish Naval Intelligence responsibilities in the areas of Space Missile Intelligence. With this change, NIIC was authorized 39 manpower spaces of which 34 were filled.

(U) Directorate of Computer Program Control Reorganization. To provide manning for a new division established under this directorate, the Advanced Systems Division, NORAD asked the JCS on 12 April 1967 for authorization for 28 additional civilian spaces.¹⁴ These spaces were approved by the JCS and became effective on 1 July 1967.¹⁵ The JCS had assigned NORAD the task of 425L computer program system rewrite. In its letter to the JCS, NORAD said that it was recognized that the 425L System (NOCOPS) would require a complete re-engineering and program rewrite by the FY 1973 period. The 28 spaces were required to begin the initial program rewrite, but these spaces might not be the total required, NORAD said.

(U) NCOC Additional Spaces. Three additional enlisted spaces were requested for the NCOC by NORAD on 14 April 1967.¹⁶ These spaces were to provide training support to the NCOC which had been provided by the MITRE Corporation. MITRE's contract for this support ended 31 August 1967. These spaces were also approved by the JCS and authorized 1 July 1967.

FY 1968 NORAD/CONAD RECONFIGURATION

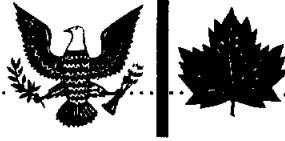
Background. According to planning early in 1967, as part of a Secretary of Defense-directed reduction of forces, two SAGE direction centers were to be closed down on 1 April 1968. At the same time, to accommodate the reduction and to improve the overall configuration, a number of boundary changes were to be made. Back in November 1963, the



Secretary of Defense had directed deletion of four SAGE direction centers in FY 1966 and two SAGE combat centers in FY 1968. This had been changed in 1964 by the Secretary, upon approval of a SAGE/BUIC III plan, to the closing of two combat centers in FY 1966, four direction centers in FY 1968 and certain radars. Then in 1965, the Secretary had approved a USAF proposal to closing two combat centers and two direction centers by the end of FY 1966 and two direction centers by the end of FY 1968. The two combat centers (at the 25th and 30th Regions) and the first two direction centers (at Los Angeles and Reno Sectors) were closed on 1 April 1966.

(U) The direction centers slated for closing in FY 1968 were at Truax Field, Wisconsin (20th NORAD/CONAD Division), and McGuire AFB, New Jersey (21st NORAD/CONAD Division). NORAD Operation Plan 330N-66, 1 November 1966, called for closing these facilities on 1 June 1968. However, in January 1967, NORAD proposed moving the closing date for these centers ahead and making the reconfiguration on 1 April 1968.¹⁷ The reason was to give enough lead time for the orderly deactivation of the two divisions. This was concurred in and a new plan was issued on 1 April 1967 (330N-67 and 330C-67) changing the reconfiguration date.

(U) According to this plan, these actions were to take place on 1 April 1968.¹⁸ The two divisions would phase out. The 30th Division would expand eastward to take over the area and forces of the 20th Division. The 35th Division would expand southward to absorb most of the area and forces of the 21st Division. The 33d Division would expand northward to take in a small part of the area of the Dover AFB fighter-interceptor squadron from the 21st Division. The boundary between the 33d and 34th Divisions would be adjusted to provide a smoother boundary for programming purposes. The 36th Division would expand westward to take over the eastern part of the area and forces of the 41st Division.



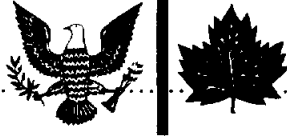
And the 41st would expand westward to absorb the eastern portion of the area and operational control of the forces of the 29th Division. The Central CONAD Region and the 29th CONAD Division were to keep operational control of the area and U. S. forces in the part of the revised 41st Division within the territory of the U. S.

█ Status. The date for the phase out of the two divisions was again moved up, however. In a message dated 24 October 1967, ADC advised that USAF had directed that phase out of the 20th and 21st Divisions be moved ahead to 31 December 1967 (see section on reduction of USAF operating funds, this chapter). ADC said that to meet this date, it would be necessary to phase out the direction center operations at the two divisions as early as possible and set 15 November as the desired date. NORAD/CONAD changed Operation Plan 330-67 to close the 20th and 21st Divisions as of 18 November 1967.¹⁹ Actual discontinuance of both divisions was made effective as of 1 January 1968.²⁰

█ Part of the reconfiguration set for 1 April 1968 was also changed, but back instead of ahead in time. On 1 December 1967, NORAD advised Northern and Central Regions that it was reconsidering changing the date for that part of the reconfiguration affecting the 29th, 41st and 36th Divisions from 1 April to 30 June 1968.²¹ The reason, NORAD said, was the possibility of changes in the U. S. force structure to provide funds for future defense systems which would require further reconfiguration. As finally decided, however, the reconfiguration pertaining to the 29th, 36th, and 41st Divisions was changed from 1 April to 1 November 1968.²²

PROPOSED MANNING REDUCTIONS

█ On 29 September 1967, USAF informed ADC that OSD had directed a reduction of \$35 million in operating funds for ADC defense forces for FY 1968.²³ ADC was also to plan for a possible annual

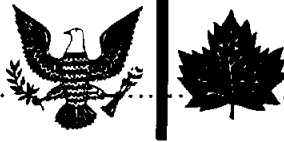


reduction of \$70 million in FY 1969 and future years. The PCD (Z-7-040) directed that the reduction be taken in four program elements: Headquarters NORAD/CONAD, Base Operations (Defensive), Advanced Flying Training, and Command (Defensive). USAF requested a plan from ADC to make the \$35 million cut to these elements for the remainder of FY 1968.

ADC's plan was provided on 9 October 1967.²⁴ In its plan, ADC identified some 13 program reductions. In a message on 20 October, USAF approved six of these: average 10 per cent reduction in Headquarters ADC personnel, average 10 per cent reduction in numbered Air Force personnel, close ADC mission (F-104's) at Webb AFB, early inactivation of 20th and 21st Air Divisions, discontinuance of F-101 deployment to Goose AB, and elimination of 20 gap filler radars.²⁵ USAF said that action on a reduction of NORAD/CONAD headquarters personnel, included in the ADC plan, was being withheld pending a JCS decision.

In the meantime, on 16 October 1967, NORAD objected to the JCS by message to the NORAD manpower cuts. NORAD pointed out that the cuts would result in a loss of about 72 USAF manpower spaces in headquarters, regions and divisions.²⁶ This would degrade NORAD operational and staff capability, NORAD said. It was NORAD's view that no reduction in overall NORAD authorizations was justified at this time. NORAD asked that any changes in the NORAD JTD be approved by the JCS upon the advice of CINCNORAD. The JCS replied with a request for additional comments and analysis on the impact of the proposed changes and noted that the Air Force would not take any action on Headquarters NORAD manpower changes pending a decision by the JCS.²⁷

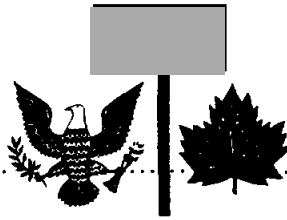
NORAD provided the additional information requested in a letter on 13 November. Among the points brought out were that NORAD region and division headquarters were manned on an austere operational control basis with only token U. S. spaces



authorized on the JTD for each CONUS region and division, that Headquarters NORAD/CONAD had been surveyed in detail in early 1966 by the JCS which had resulted in considerable realignment and reductions, that Canadian Forces Headquarters had proposed significant reductions in Canadian manpower authorizations, and that NORAD's position on both proposed cuts was that no changes should be made pending force structure decisions.²⁸

Meanwhile, on 29 September 1967, NORAD was advised by Canadian Forces Headquarters of possible cuts to be made by Canada.²⁹ The Canadian Government directed defense cuts for FY 1968-69 of \$220 million of which Canadian Forces ADC's share was \$17 million.³⁰ A preliminary proposal to achieve these savings was to close six radars, close the air base at Val D'Or and reduce Canadian co-manning. A number of meetings was held between representatives of NORAD and Canadian Forces Headquarters. In regard to co-manning, it was NORAD's position that there should be no reduction of Canadian spaces assigned to NORAD at this time.³¹

On 27 November 1967, the Chief of Canadian Defence Staff wrote to CINCNORAD pointing out that the Defence Council had directed a reduction of 50 per cent in Canadian co-manning positions.³² NORAD and USAF Headquarters had advised, he said, that a cut of this size would compromise the operational efficiency of the NORAD system. For this reason, the Minister of National Defence had given tacit approval to CFHQ to seek a cut of some 35 to 40 Canadian positions. NORAD's views as to where these cuts might be made were requested. On the 14th of December, CINCNORAD wrote back that he realized the need for early determination of manpower requirements. But, he said, unfortunately DOD was considering some reorganizational proposals which could have quite an impact on U. S. manpower spaces and this in turn would affect Canadian co-manning spaces.³³ CINCNORAD said he expected a DOD decision by the end of the year and asked if he could wait until the DOD matter was finalized before he made recommendations on Canadian positions.



CONAD SUBORDINATE UNIFIED COMMANDS

(U) A JCS paper in February 1967 on service support of unified command headquarters stated that the Atlantic Command and Pacific Command were the only unified commands with subordinate unified command headquarters. CONAD felt that this implied that its regions and divisions were not subordinate unified headquarters. In a letter on 7 April 1967, CINCONAD pointed out to the JCS the implication of the latter's statement and that the structure of CONAD had been approved by the JCS in 1961.³⁴ It was CONAD's view that this approval satisfied the requirements of UNAAF for establishment of subordinate unified commands. However, because of the JCS statement, CONAD asked that authorization be given for designation of existing CONAD regions and divisions as subordinate unified command headquarters.

█ The JCS then asked for rationale for requesting designation of the divisions as subordinate unified commands.³⁵ This was provided by message and by personal briefing in Washington.³⁶ On 17 June 1967, the JCS granted authority to designate the CONAD regions as subordinate unified commands, but turned down the request for designation of divisions as subordinate unified commands. In regard to the divisions, the JCS said that designation of a subordinate unified command subordinate to another subordinate unified command was not provided for in UNAAF.

REDUCTION OF SPACES IN NNR HEADQUARTERS

█ In May 1966, Canada's Minister of National Defence directed the move of the headquarters of the Canadian Forces Air Defence Command from St. Hubert, Que., to collocate with NNR Headquarters at North Bay, Ont. Because of the collocation and possible dual-hatting of positions, the Minister directed a 30 per cent cut in Canadian spaces in the combined headquarters in a service-wide



economy drive. Collocation was to begin in late 1966. On 4 October, NNR sent organizational and manpower changes to NORAD for approval. Among the changes was a cut in manpower spaces. NORAD withheld approval pending a Manpower Utilization and Organization Survey to be made in March 1967.

(U) The survey report, dated 15 May 1967, did not change the manpower ceiling imposed by higher authority. A new proposed JTD for NNR was sent to the latter on 12 July 1967. NNR requested a number of changes, most of which were accepted by NORAD, and a new JTD was finally issued on the JTD reissue date of 1 January 1968.

(U) There was a total reduction of 62 manpower spaces in the 1 January 1968 JTD for NNR Headquarters. The 1 July 1966 JTD showed a total of 139 spaces, the 1 January 1968 JTD 77 spaces. The 62-space cut involved 25 officer spaces, 19 enlisted spaces, and 18 civilian spaces.

NORAD/CONAD PERSONNEL CHANGES OF NOTE - 1967

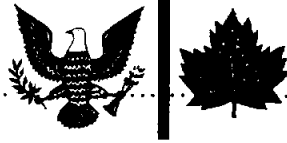
HEADQUARTERS NORAD/CONAD

Air Marshal William R. MacBrien, RCAF, became Deputy Commander-in-Chief of NORAD 25 August 1967, replacing Air Marshal C. R. Dunlap

Major General Ethan A. Chapman, USA, became Chief of Staff 1 June 1967, replacing Major General M. M. Magee, USA

Major General John N. Ewbank, Jr., USAF, became Director, Combat Operations Center, 14 August 1967, replacing Major General Joseph L. Dickman, USAF

Major General Philip H. Greasley, USAF, became Deputy Chief of Staff, Plans and Programs, 16 January 1967



Brigadier General Gladwyn E. Pinkston, USAF, became Assistant Chief of Staff 7 August 1967, replacing Brigadier General Dorr E. Newton, USAF

Brigadier General Joyce B. James, USA, became Deputy Chief of Staff, Communications and Electronics, 10 July 1967, replacing Brigadier General W. M. Van Harlingen, USA

Colonel James S. Smith, USAF, became Deputy Chief of Staff, Personnel, 28 August 1967, replacing Colonel G. F. Ceuleers, USAF

Colonel Daniel J. Sweeney, USAF, became Director, Directorate of Manpower and Organization, 12 July 1967, replacing Colonel Henry A. Kortemeyer, USAF

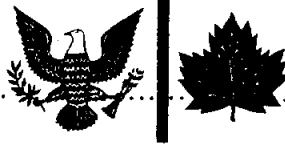
NORAD/CONAD REGIONS

Lieutenant General Robert A. Brietweiser, USAF, became commander Alaskan Region 1 July 1967, replacing Lieutenant General Glen R. Birchard, USAF

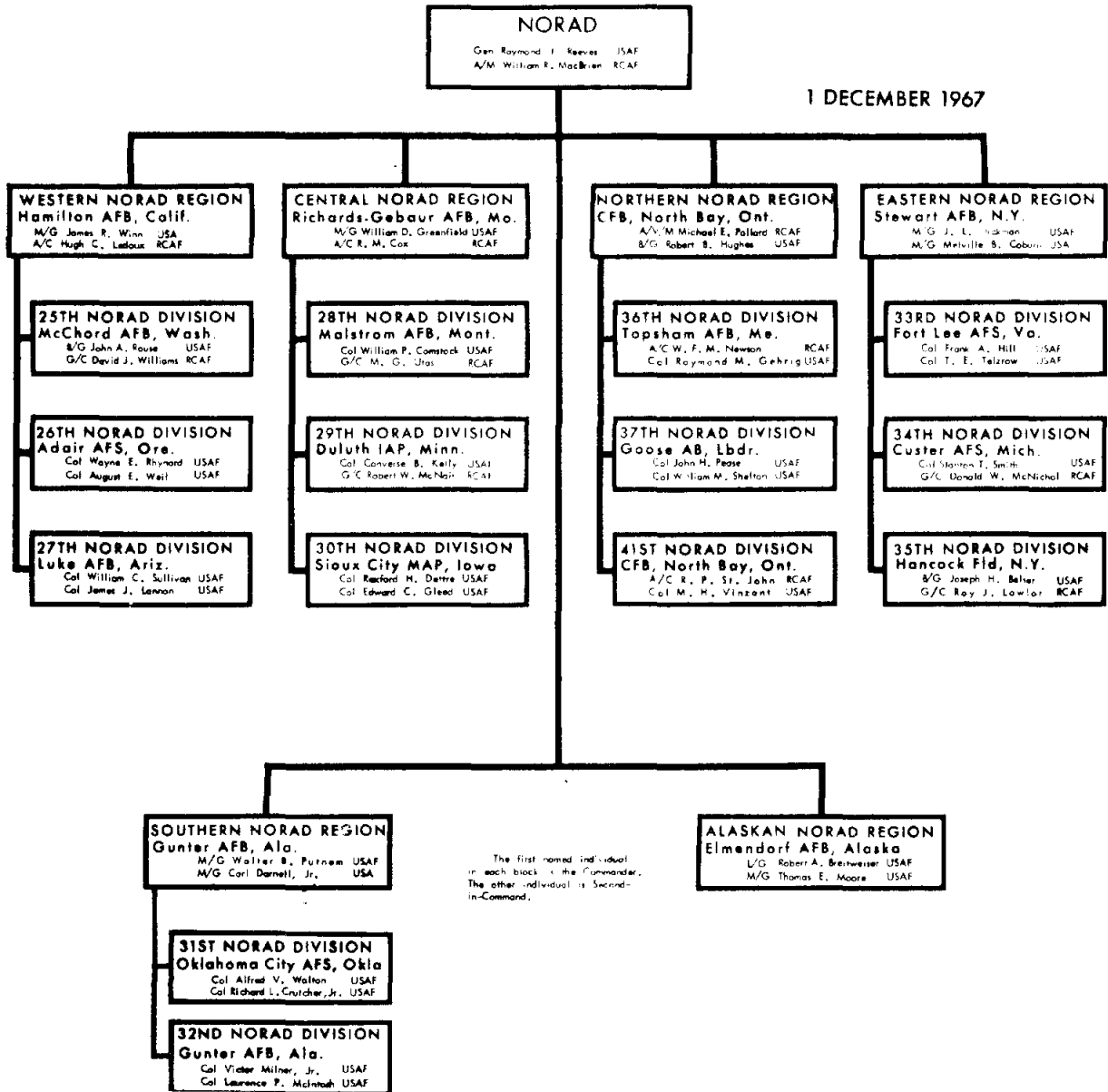
Major General James R. Winn, USA, became commander Western Region 15 May 1967, replacing Major General Ethan A. Chapman, USA

Major General Joseph L. Dickman, USAF, became commander Eastern Region 15 July 1967, replacing Major General James C. Jensen, USAF

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NORAD COMMANDERS



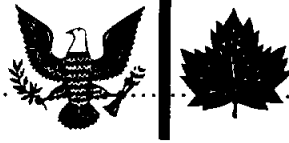


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2. DF, CPAP to Staff, "The Future of NORAD (U)," 30 Dec 1966 (2.5).
3. NORAD to JCS, CDS, "Renewal of the NORAD Agreement (U)," 23 Dec 1966 (2.5).
4. Ibid.
5. CONAD to JCS, "The Future of NORAD (U)," 23 Jan 1967 (2x2.5).
6. NPAP (NPPP-PO), Bimonthly Historical Report, May-June 1967.
7. NPAP Memo for the Deputy CINC, "NORAD Mission," 11 Oct 1967 (2.5).
8. Msg., JCS to CONAD, JCS 4566, 8 Dec 1967 (2.5); NPAP Bimonthly Historical Report, Nov-Dec 1967.
9. Msg., CONAD to JCS, CPPP, 11 Dec 1967 (2.5).
10. NORAD to JCS, "Joint Manpower Program - FY 69 (U)," 28 Dec 1966 (3x4).
11. NINT Bimonthly Historical Report, Jan-Feb 1967.
12. NORAD to JCS, "Priority Request for Manpower Authorizations (U)," 11 April 1967 (3).
13. NORAD to JCS, "Priority Manpower Requirements for Computer Programs (U)," 12 April 1967 (3).
14. NINT (NIIC) Bimonthly Historical Report, Sep-Oct 1967.
15. NHCP Bimonthly Historical Report, May-Jun 1967; NHMO Weekly Activity Report, 8 May 1967.



16. NORAD to JCS, "Request for Increased Manpower Authorizations," 17 April 1967 (3).
17. Msg., NORAD to Components, and CNR, ENR, and NNR, NOOP-E X1-506, 12 Jan 1967 (4x656).
18. NORAD/CONAD Operation Plan 330N-67 and 330C-67, "FY 68 Reconfiguration of NORAD/CONAD," 1 Apr 1967 (4).
19. NORAD Diary #78, 2 Nov 1967; NOPS (NOOP-E) Bimonthly Historical Report, Nov-Dec 1967.
20. CONAD GO 19, 22 Nov 1967; NORAD GO 51, 22 Nov 1967.
21. Msg., NORAD to NNR, CNR, NOOP-E, 1 Dec 1967 (4).
22. Msg., NORAD to NNR, CNR, NOOP-E, 15 Dec 1967 (4x54.1).
23. USAF to ADC, "Operating Fund Reduction - FY 1968 (U)," 29 Sep 1967 (657).
24. ADC to USAF, "Operating Fund Reduction - FY 1968 (Ltr, AFABFG, 29 Sep 67) (U)," 9 Oct 1967 (657),
25. Msg., CSAF to ADC, AFOAP 76444, 20 Oct 1967 (657).
26. Msg., NORAD to JCS, NHMO X031, 16 Oct 1967 (3x4).
27. Msg., JCS to NORAD, JCS 9406, 20 Oct 67 (3x4).
28. NORAD to JCS, "USAF Operating Fund Reduction PCD Z-7-040 (C)," 13 Nov 1967 (3x4).
29. Msg., CANFORCEHED to NORAD, DCONP 84, 29 Sep 1967 (305x402x420).



30. DF, NOPS to NHCS, NHCR, "Reduction in Canadian Military Forces (S)," 1 Nov 1967 (305x4).
31. Ibid.
32. CDS to NORAD, "Manpower Reductions - NORAD Co-Manning," 27 Nov 1967 (3x4).
33. Reeves to Allard, 14 Dec 1967 (3x4).
34. CONAD to JCS, "CONAD Subordinate Unified Commands," 7 Apr 1967 (4).
35. Msg., JCS to CONAD, JCS 2824, 15 Apr 1967 (4).
36. Msg., CONAD to JCS, CHCS 019, 21 Apr 1967 (4); CHMO Memo to C/S, "CONAD Subordinate Unified Commands," 10 May 1967 (4); Msg., JCS to CONAD, JCS 4266, 3 May 1967 (4).



CHAPTER II
 INTEGRATION AND EMPLOYMENT
 STUDIES

CONAD COMMAND AND CONTROL STRUCTURE
 FOR BALLISTIC MISSILE DEFENSE

INTRODUCTION - COEC 1-66

█ The probable advent of new weapons systems, especially the Nike X, made it necessary that plans and concepts be established for controlling and employing these systems. One of the first statements on tying in the Nike X to the CONAD system was made in the CONAD Operational Employment Concept for the Nike X Terminal Ballistic Missile Defense Systems (COEC 1-66), 20 June 1966. In this document, a functional rather than an integrated organizational structure was envisaged. Stated this document:¹

The NIKE X TBMDs will operate directly under a Ballistic Missile Defense Center (BMDC) established as an operational element in the CONAD COC. The BMDC will be the facility within the CONAD COC responsible for exercising operational control of the Ballistic Missile Defense System, and will provide ARADCOM technical and command supervision of the Nike X weapons system. The BMDC will operate directly under the COC command party and on the same command level as the Missile Warning Division, the Space Defense Center, and other operational elements of the COC.

█ It was further stated that the necessity for "fully automatic, instantaneous, and effective



EXCLUDED FROM AUTOMATIC REGRADING;
 DOD DIR 5200.10 DOES NOT APPLY
 (Group 1)

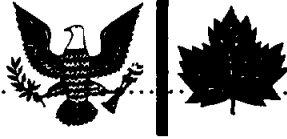


response requires that CINCONAD exercise operational control of the system by issuing orders directly to selected Defense Center Data Processing (DCDP) facilities...." "Thus, firing doctrine must be programmed at DCDP and the Missile Site Data Processing (MSDP) facility levels with provision made for....response to CONAD instructions as the threat changes and the battle progresses."

█ This approach was reaffirmed and reinforced with the issuance of the report of the CONAD Nike X Operational Impact Study Task Force on 27 January 1967 (for further details of this study, see pages 34 to 37). The Impact Study Task Force used COEC 1-66 for Nike X. The second volume of the Phase II Study, Command and Control, described the selected alternative for the CONAD command and control concept and organizational structure for 1975, to include the Nike X system.

█ The internal COC concept and structure was described as "an evolutionary structure similar to that existing...except that a Ballistic Missile Defense Center is established...."² Below the COC, the "Nike X elements are added to the existing air defense structure with the Nike X Coordination Centers (XCCs) and selected Missile Direction Centers (MDCs) given status comparable to those of current subordinate unified commands. A separate space defense organization is established due to the increase in space defense activities."³

█ CONAD also agreed with a functional approach, although hedging somewhat, in a concurrence to an ARADCOM proposal in April 1967. ARADCOM submitted a proposed command and control supplement to a DA-approved QMR for the Nike X system. This supplement described a Ballistic Missile Defense Center which would provide the means by which CINCONAD could exercise operational control of Nike X. The BMDC would be an organic element of the CONAD COC and an integral part of the Nike X system.



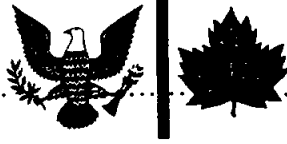
█ CONAD replied to the ARADCOM proposal on 14 April 1967 that it concurred with the documents for use in designing and developing the command and control equipment for the Nike X system.⁴ However, CONAD indicated that there might be changes. CONAD went on to note that it was making studies, at JCS direction, to find the optimum command and control structure for 1975. The use of the term Ballistic Missile Defense Center, CONAD said, should not be construed to require an entirely separate computational facility within or interfacing with the COC.

█ In the meantime, the NCOC Master Plan study effort was underway, see pages 32 to 34. Also of great significance was the establishment of the Joint Continental Defense Systems Integration Planning Staff, see pages 27 to 32.

CONAD POLICY MEMORANDUM NO. 4

(U) While these activities were going on, CONAD took a new look at the command and control concept and changed its position as stated in COEC 1-66, coming up with an integrated concept. The latter was stated in CONAD Policy Memorandum No. 4, dated 11 September 1967.

█) In explaining this memorandum to the Chairman of the JCS in a letter on 15 September 1967, CINCONAD said that a number of factors had caused him concern as to the best method of effecting operational command over the aerospace defense forces.⁵ CINCONAD stated that these factors included an increasing awareness of the many uses of sensors and weapons; a need for improved integration of aerospace defense systems which led to the creation of the integration planning staff noted above; certain unilateral planning by the services that might impede integration; the increasing importance of coordination between offensive and defensive forces in the ABM era; the current Draft Presidential Memorandum; and,

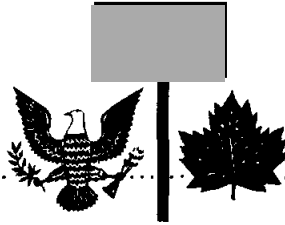


especially, the prospect that the Nike X and perhaps other advanced systems would be deployed.

█ CINCONAD explained that, taking these factors into consideration, he had concluded that the most effective means of meeting his responsibilities as a unified commander was to exercise operational command through commanders of subordinate CONAD forces. This method of operation, he said, was an extension of the method employed with success for a number of years within NORAD and CONAD and it had become increasingly valid for the future in view of the factors he had noted. For this reason, he said, he had published the CONAD policy memorandum as guidance and information for the many agencies contributing to aerospace defense. When the NORAD agreement was settled, CINCONAD said that consideration would be given to extending the policy statement to NORAD forces. CINCONAD stated that related to the concept outlined in the policy memorandum was the work of the NCOC Master Plan currently underway.

█ CONAD also advised the agencies concerned of the policy memorandum. To the JCS, CONAD said that the concept outlined was considered to meet the requirements of Problems 21 and 23 of Phase IV, Nike X Operational Impact Study.⁶ CONAD asked the JCS to make the memorandum available to the integration planning staff so as to provide guidance to the operational requirements of CONAD. CONAD noted that wide distribution of the document had been made to other commands and agencies concerned with aerospace defense planning.

█ To the Nike X Systems Manager, Lieutenant General A. W. Betts, CINCONAD pointed out that the command had spent several months studying the best method of exercising operational control and that the result was contained in the policy memorandum. He said that the memorandum "specified that operational control of aerospace defense forces will be exercised through subordinate CONAD commands, rather than through separate commands devoted to

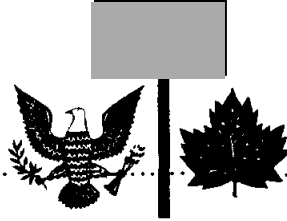


air defense, missile defense, and space defense. ...I believe that the exercising of operational control through subordinate CONAD commands will best meet our operational needs and will facilitate integration and interface of Nike X at the CONAD COC and other levels, as well as with other elements of the national defense structure." 7

█ CINCONAD told General James Ferguson, AFSC Commander, that the integrated structure would be much more operationally effective than the other major alternative which was to establish separate command and control channels for air, missile, and space defense. 8

█ USAF ADC and ARADCOM were also advised of the policy memorandum in letters at this time (15 September). Earlier, on 9 August 1967, in commenting to ADC on its Air Defense Command Aerospace Objectives Plan, 1967-1982, CONAD also advised of its change in concept. CONAD said that the ADCAO contained the concept that the functional forces of air, missile and space defense should be organized as separate managerial entities with operational control exercised through separate air, missile and space elements subordinate to the COC. CONAD pointed out that while the functional force concept was consistent with former guidance in COEC 1-66 and was approved as a basis for study of the impact of Nike X deployment, CONAD had changed its position: 9

...it has now been decided that this concept does not offer the optimum for command and control of aerospace defense forces for the future. Further it is not intended that operational control will be exercised through component commands. Rather, it is intended that command and control in the future will be exercised through subordinate unified commands responsible for all aerospace actions within a given geographic area of responsibility.



ARADCOM was advised on 5 October 1967 that COEC 1-66 was being revised to conform to CONAD Policy Memorandum No. 4.¹⁰ CONAD's comments were made in connection with a review of ARADCOM's draft Nike X Firing Doctrine, Volumes I and II. It was noted that a portion of Volume I was based on COEC 1-66.

The policy memorandum itself was drafted by the DCS/Plans and Programs office. It was originally prepared as a NORAD/CONAD policy memorandum.¹¹ However, it was decided that for a number of reasons relating to renewal of the NORAD agreement, it should be issued as a CONAD memorandum only.¹²

The memorandum stated that the basic concept was that continental aerospace defense activities would be integrated under CINCONAD and a single CONAD commander at each subordinate level where weapons employment and commitment decisions were made.¹³ The highest echelon of the CONAD command and control system was the CONAD COC. Air, ballistic missile and space defense operations would be integrated at subordinate CONAD levels to provide a single integrated chain from the COC downward through the level at which multi-service and multi-purpose system decisions were made and assignment and priorities for employment of weapons and environmental systems were directed. Below this level, aerospace defense weapons and environmental systems of a military service, operated by a component, would be brought to bear in response to a CONAD assignment. This integrated concept, the memo stated, "facilitates coordination of defense functions within the CCCS and provides the optimum interface with external commands and agencies. At least one (and possibly two) echelon(s) would be required below the COC. The first would be designated regions, the second, if required, divisions."

In a letter dated 30 October 1967, ARADCOM's Commanding General, Lieutenant General Robert Hackett, responded to CONAD's policy



memorandum. General Hackett objected to the memorandum, stating that it needed either clarification with an explanation of terms or it should be completely revised.¹⁴ He said he preferred the latter, but he provided both a revision and an explanation of terms. General Hackett declared that, "The Nike X system must interface and exchange data with defense elements in the environment of the defended area, but a single subordinate CONAD command and control structure for the total integration of all air, ballistic missile, and space defense operations within a given defense area presents a command and control problem far beyond that anticipated for Deployment Model 1-67."¹⁵ The policy memorandum, he continued, imposed requirements on the Nike X system over those previously established in COEC 1-66, the impact study, and the command and control supplement to the Nike X QMR which CONAD had concurred with in April, as noted above.

ADC responded to the memo on 13 November 1967 in a letter signed by ADC's Chief of Staff, Major General W. B. Keese. ADC posed no strong objections in this letter, stating only that clarification was needed. General Keese's letter stated that the application was clear down to region level, but the impact on the supporting subsystems of the component commands below this level remained to be determined.¹⁶

A SECOND REVIEW - PROPOSAL FOR A PARTIALLY INTEGRATED STRUCTURE

Before CONAD could respond to ARADCOM and ADC, it became necessary to provide comments to the JCS on the Army Nike X Command and Control Plan DEMOD 1-67. On 22 November, the JCS asked CONAD for its comments and recommendations on this plan, distributed 9 November.¹⁷

In the meantime, a decision had been made to once again examine the alternatives. On



14 November 1967, the Chief of Staff directed that the CONAD Alternatives Task Group be reconstituted.* It met for the first time on 15 November and work was essentially completed on 18 December.¹⁸ Three sub-groups were established to consider an integrated command and control, a component-operated command and control, and logistics, manpower and costs so as to provide CINCONAD with fully-staffed analyses to support selection of an ultimate command and control concept.

Because of the 22 November request from the JCS for comments on the Army plan, the work of the Group was intensified. Since the Group was already engaged in analysis of the command and control relationships of all potential and existing defensive systems, it was decided to use the Group's output to support CONAD's comments on the Army's Nike X Sentinel System command and control proposals.^{19**}

(U) CINCONAD was briefed on the results of the Group's analysis on 1 December 1967. He approved the recommended structure -- a partially integrated organization.

Preliminary CONAD comments on the Army's plan were provided in a message on 18 December.²⁰ CONAD said it generally concurred with the functional operation of the Sentinel System as described in the Army plan, but there were four issues requiring resolution. CONAD said it did

* (U) The CONAD Alternatives Task Group was originally established by a Chief of Staff directive dated 29 August 1967. Its purpose was to provide CINCONAD with various alternative air defense force structures within specified dollar limitations.

** (U) For Sentinel System discussion, see Chapter Three.



not concur with the Army plan for a single and separate operational command structure for Sentinel that interfaced with CONAD only at the COC. CONAD recommended that the Army plan be modified to provide for CONAD operational command through subordinate CONAD regions and for collocation of future CONAD region combat centers at Sentinel XCC sites. Where feasible, CONAD continued, Division level centers should also be collocated with the Sentinel MDC's.

CONAD also recommended that the definition of the Sentinel control element at the COC level not be finalized until CONAD had completed current Master Plan studies. Another recommendation was that requirements for the coordination of ballistic missile defense and strategic missile offense not be finalized until completion of the current CONAD-SAC concept.

CONAD also did not concur with the Army-recommended arrangement for Alaska. CONAD recommended that the plan be modified to provide for Commander, Alaskan CONAD Region to exercise operational command of the Sentinel System in Alaska.

(U) CONAD noted in its message that a detailed description and appraisal of the CONAD recommended operational command structure would be sent separately. This detailed study was not provided by the end of this reporting period.*

JOINT CONTINENTAL DEFENSE SYSTEMS
INTEGRATION PLANNING STAFF

CONAD was advised by the JCS on 7 March 1967 of a draft memorandum from the Director of

* (U) The study, entitled "A Proposed CONAD Command and Control Structure (U)," dated 2 January 1968, was sent by letter dated 8 January 1968.



Defense Research and Engineering on the need for integration of future continental aerospace defense systems. The draft memo was sent to the Chairman of the JCS and the service secretaries, but because of the potential impact on CONAD, the JCS felt that early review and informal comment by the former was appropriate. The problem pointed out by the DDR&E memo was that while there were several studies and design efforts underway on defense systems, there was no mechanism for insuring that these systems would be designed as an integrated defense. As the memo pointed out, any new systems deployed, such as the thin area Nike X, should be integrated to achieve the maximum effectiveness of the total defense. What DDR&E proposed was establishment of a working group to review each study and point out to the service design groups areas of commonality and mutual support or possible interference and recommend ways of achieving an integrated defense.

█ CONAD told the JCS on 17 March that it agreed that future defenses should be integrated and that such integration fell within the purview of CONAD.²² CONAD said it could provide operational or conceptual guidance or criteria to be used in system design, but it could not now perform technical analysis of systems to identify interference between systems or capability of systems to support one another. CONAD suggested that its role might be that of overview on a conceptual basis and that detailed system design modification be done by the services.

█ The final copy of the memorandum from DDR&E was dated 29 April 1967 and was addressed to the services and the Chairman of the JCS. It pointed out, as had the draft of the memo, the problem of new systems being developed without their being consideration of the relationship of one to the other.²³ It was important, the memo said, that these potential defense systems, if implemented, be developed into a truly integrated national defense system. For this reason, DDR&E requested the JCS to establish a group, in cooperation with the services, to review such systems for possible changes to



provide mutual support or prevent interference.

■ The JCS told CONAD that several organizational concepts could be applied but the one that appeared most promising was to set up a joint planning staff in Colorado Springs with General R. J. Reeyes as director in addition to being CINCONAD.²⁴ It would function separately from CONAD, however. It would have service representatives assigned permanently and would report to the JCS which would maintain over-all direction and review recommendations. CONAD was asked to provide its recommendations on organization and terms of reference for the group. CONAD was also asked to give its preliminary views on what would be involved in integration.

■ CONAD replied on 26 May to the request for organizational concepts and terms of reference.²⁵ CONAD said it concurred with the joint planning staff concept suggested by the JCS to be set up in Colorado Springs. Because CINCONAD was the operational commander, the message pointed out, having the integration planning and operational staffs together would facilitate the exchange of information. Then on 7 June 1967, CONAD furnished its views on what would be entailed in accomplishing integration.²⁶

■ DDR&E clarified what was meant by continental defenses in the 29 April memo in a second memo dated 21 June.²⁷ The Director, Dr. John S. Foster, said that the defenses were to be limited to continental defenses against aerospace weapons systems. To be included were those defenses specifically designed for defense missions, such as Nike X, and those systems that could contribute directly to this defense, such as ASW systems that could attrite SLBM and SLCM carriers.

■ In the meantime, CONAD again told the JCS that integration planning could be accomplished by the CONAD staff with personnel and support augmentation from the services and with augmentation to



scientific and technical personnel.²⁸ The JCS, however, was still examining various ways of establishing the integration staff and advised CONAD on 13 July that two broad approaches were being considered.²⁹ These were:

1. The use of existing organizations and staff with CINCONAD tasked with the study and planning aspects and the JCS maintaining over-all direction of CONUS aerospace defense integration.
2. The performance of the integration mission by the JCS either by a specific group set up to do the complete function, or the study-planning part by an agency, such as WSEG, with the JCS maintaining direction.

The JCS asked CONAD and the other unified and specified commands concerned and the services to make an analysis and provide recommendations for the organization and location (JCS versus CONAD) of the integration group.

CONAD furnished its proposed organization for the integration planning staff on 21 July.³⁰ CONAD recommended Colorado Springs for its location:³¹

Evaluation of the task to be performed and consideration of the several alternatives for performing that task lead to the conclusion that an optimum user/developer relationship is the most compelling consideration involved in the decision concerning integration planning, and that location in Colorado Springs best supports such a relationship.

(U) However, about a month later, CONAD learned that the JCS had decided against Colorado Springs, at least for the present, as the location for the integration planning staff. A memo dated 29 August

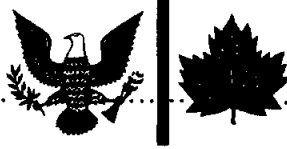


stated that the JCS approved establishment of a separate planning staff in Washington, D. C. The JCS, the following month, recommended to DOD that such a staff be established. On 19 October, DOD approved the recommendation. ADC's DCS/Plans, Major General Arthur G. Salisbury, who had headed the Nike X Impact Study Group, was named Director of the Integration Planning Staff and reported to Washington on 1 November. On 19 October also, DOD advised the JCS that the JCDSIPS should plan to move within two years to a location outside the Washington area.^{32*}

(U) Under the aegis of CONAD's DCS/Plans and Programs, Major General P. H. Greasley, a staff group examined the problem of how CONAD should exert a proper degree of influence on the integration staff on a continuing basis.³³ On the basis of General Greasley's recommendations, the Chief of Staff issued a directive to the headquarters staff on 4 October outlining actions to be taken "in order to insure that CONAD's operational requirements receive due consideration in JADSIG deliberations."³⁴

(U) There was to be CONAD representation, provided by DCS/Plans and Programs or his Assistant, on a Joint Continental Aerospace Defense Systems Integration Board (JADSIB) within the integration staff. There was also to be a full-time CONAD liaison officer in Washington. CONAD was to provide documentary inputs to the integration staff, such as operational plans and programs and policy memoranda, on a continuing basis. The first, urgently needed input to influence the staff, the Chief of Staff's

* (U) The group or staff was first called the Joint Continental Aerospace Defense Systems Integration Group or JADSIG for short. It was then changed to Joint Continental Defense Systems Integration Planning Staff or JCDSIPS. A short title was Joint Defense Systems Integration Staff or JDIS.



directive said, was a CONAD concept for operational control that would expand upon and implement the CONAD command and control system concept. On the CONAD staff, the DCS/Plans and Programs was to be the office of primary responsibility for integration staff matters and was to be the point of contact for CONAD with the staff. The functional responsibilities of the Directorate of Systems Development were to be reoriented more toward systems integration instead of systems development matters.

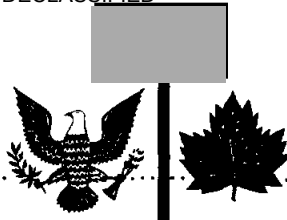
(U) On 8 December, the JCS provided CONAD with draft terms of reference for the JDIS. CONAD's comments were requested.

NCOC MASTER PLAN

(U) On 10 November 1965, the JCS told each unified and specified command that there was a need for an overall plan having the justification, objectives, and requirements for the command and control for each unified and specified command. The JCS asked for comments on proposed guidance for the preparation of a master command and control plan. Further guidance was provided by the JCS in a memo in February 1966. No deadline was set for submission of the plan, however. JCS guidance was purposely left general because of the differences in the various unified and specified commands.

(U) NORAD described the plan, which it termed the NCOC Master Plan, as one that would define and describe the NORAD/CONAD Combat Operations Center configuration and organization for the 1968-1978 time period.³⁵ It would identify and substantiate the incremental improvements required in this period to cope with changing requirements. Among the objectives listed were these (see Nike X Operational Impact Study discussion, this chapter):³⁶

1. Development of a preferred NCOC operational concept for the 1968-1978 time period.



2. To specify methods, equipment technical characteristics, procedures, and schedules for satisfying the requirements for integration of warning information as identified by the Phase I Warning Integration Study.

3. To resolve certain problems still requiring action at the completion of the Nike X Task Force activity.

4. To provide for WWMCCS interface requirements.

5. To define software requirements and broad equipment characteristics for the NCOC during the time period.

6. To publish an OEC for the NCOC applicable to the 1968-1978 time period.

7. To publish an NCOC Master Plan.

(U) The DCS/Plans and Programs (J-5) was given overall responsibility for the master plan.³⁷ The J-5's Directorate of Systems Development (NPSD) was given the task of directing the planning effort under guidelines set down by the NPSD Director and an Executive Council. The latter was made up of colonel or equivalent representatives from various J-staff agencies and the components and was chaired by the Director NPSD. The major activities were done by working groups.

(U) Work officially began on 20 December 1966 with a meeting of the Executive Council. To begin with, publication of the Master Plan was set tentatively for November 1967. As work progressed through 1967, however, problems and delays arose causing several readjustments of the schedules.

(U) There were two main problem areas that had developed during the year. One was lack of assignment of personnel full time to the working panels.



Uncoordinated absences of panel members returning to their staff jobs for outside activities destroyed continuity and diluted the achievements of the group. The second problem was that the task of relating functions to various configurations was much more complex than envisioned. Much greater time was required than expected.

(U) The Operations Committee completed its work on three concepts in mid-November and in late November started work on Concept No. 4 which had been submitted by NCOC/NHCP and presented to the Executive Council on 22 November 1967.³⁸ Work on this concept was completed in late December. The requirement to fully address Concept No. 4 delayed the final presentation of the concept until February 1968. Briefings to the component commands were scheduled for February prior to convening the Conception Selection Board.

NIKE X OPERATIONAL IMPACT STUDY

(U) In November 1965, the JCS asked CINCONAD for an outline plan for a study assessing the effect of Nike X deployment on existing and programmed military systems. CINCONAD appointed a study group for this purpose and a plan was submitted the next month. The JCS took no action, however, because OSD was asking the Army for a similar study. Early in 1966, the JCS asked CONAD to review its plan in view of the OSD-directed Army studies. On 1 April, CONAD reaffirmed its December plan and stressed the importance of such a study.

■ On 9 May 1966, the JCS directed CINCONAD to study the operational impact of Nike X deployment on systems and procedures. The study was to consist of four phases, the fourth phase being a follow-on study of identified problems.

(U) Because the size and length of the study would severely tax the regular staff, it was decided to set up a separate study group. A CONAD general



order of 26 May 1966 established the study group as the CONAD Nike X Impact Task Force as a joint task force under CINCONAD. At the same time, terms of reference were published following the guidelines in the JCS directive of 9 May. As eventually constituted, the task force had 82 full-time personnel (31 Air Force, 23 Army, 2 Navy, and 26 civilians). Most (44) came from CONAD, the next largest group (27) from ADC and ARADCOM, and the rest from six other organizations.

(U) The task force consisted of a director, deputy director, executive officer, administrative staff, and five task groups: command and control, weapons systems, communications, environment, and nuclear effects. Also, a technical advisory group was formed. Until 15 August 1966, the task force director was Major General F. R. Terrell, USAF. He was succeeded by Major General Arthur G. Salisbury, USAF.

(U) The eight-volume Phase II report was published on 27 January 1967 and the Phase III report on 15 February 1967. The abstract of the summary volume (I) of the Phase II report stated that the:³⁹

eight volume report identifies significant operational impacts on CONAD procedures and systems, planned for the 1975 time frame, of the deployment of a NIKE-X antiballistic missile system for the United States, as envisaged in DEPEX Phase II (1 Oct 65 DA study). The report further recommends, wherever possible, measures to minimize the detrimental effects of these impacts.

■ For the follow-on Phase IV study, 30 problems in all were identified and recommended for further study. CONAD recommended problems 21 through 30 (CONAD command and control) for further study by the CONAD staff. Preliminary instructions were provided by the JCS on 14 March 1967. The JCS said that study of problems 21 through 30 by the CONAD staff should continue, with SAC collaboration on



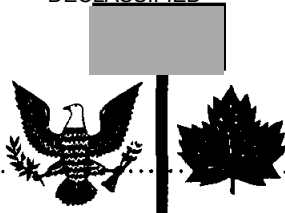
problem 28 (see below).⁴⁰ The CONAD studies should take cognizance of a very light Nike X deployment as well as DEPEX II deployment. A JCS SM on 20 May 1967 confirmed authority for CONAD to continue study on problems 21 through 30, with the exception of problem 24 which was withdrawn. This directive also assigned other problems to various agencies for study.

As requested by this JCS directive, on 28 June 1967, CONAD provided the JCS with information on what it was doing on the Phase IV problems. CONAD stated that work on problems 21 through 30 had begun in February and was being done concurrently by a joint NORAD/CONAD staff working group charged with the development of an optimum concept for the future COC.⁴¹ This was the NCOC Master Plan Working Group (see above). CONAD pointed out that the work being done corresponded to problems 21 and 22 and would result in the NCOC concept development phase of the master plan. The rest of the command and control problems, CONAD said, were inter-related with problems 21 and 22 and were being studied concurrently. The solution to some of the problems might not be found by the time the NCOC concept was completed, CONAD continued, but should require further study. Both the Master Plan and a schedule for study of remaining problems would be furnished to the JCS.

PROBLEM 28

As noted above, problem 28, identified in the Impact Study, was to be worked on by CONAD in collaboration with SAC. The Impact Study revealed that the Nike X system missile warhead bursts could interfere seriously with outbound Minuteman missiles.⁴² Problem 28 specifically concerned the coordination required between CONAD and SAC for the most efficient battle management of offensive and defensive forces to reduce the interference problem to a minimum.

A Joint Ad Hoc Study Group, with representatives from CONAD, SAC and ARADCOM, was formed to



work on the problem. SAC and ARADCOM made a technical analysis to find the extent of the interference to be expected. This analysis was essentially completed by 30 November 1967. The analysis, using a "worst-case" situation, showed considerable possible interference requiring development of a concept for integration of offensive and defensive operations.

At the December meeting of the Group, attended also by representatives from the JCS, DA, Sentinel Systems Command, and Bell Telephone Laboratories, a proposed concept was developed. This had been sent to the major agencies concerned for study and comment by the end of the year. Replies were due by mid-January and a final coordinating conference was set for late January. Submission of a concept to the JCS was tentatively set for February 1968.

At the December meeting, the Group also identified several future tasks, such as communications requirements, war-gaming, etc. It was expected that work on these would extend through 1968 and possibly beyond.

DRAFT PLAN
FOR THE IMPLEMENTATION OF EXECUTIVE ORDER
11161 (DOD/FAA RELATIONSHIPS)

(U) On 7 July 1964, the President signed Executive Order 11161 which directed the Department of Defense and the Federal Aviation Agency to develop plans and procedures for the probable transfer of the FAA to the DOD in time of war. A Memorandum of Understanding was signed by the DOD and FAA (7 March 1966/13 April 1966) to facilitate implementation of the executive order. On 9 June 1966, the Secretary of Defense requested the JCS to develop proposed directives to implement the provisions of the executive order and the DOD/FAA Memorandum of Understanding. On 17 February 1967, the JCS directed CINCNOAD to develop, in consultation with the FAA and in coordination with other commands, a basic plan to implement the executive order and memo.⁴³



(U) On 20 March 1967, a NORAD (NOOP-E) study group was formed to develop a draft plan. A draft was sent on 28 June to the unified and specified commands, the services, and interested governmental agencies for comment and concurrence. By the end of 1967, replies had been received from all agencies except the Army. During November, the NORAD Study group rewrote the draft plan, incorporating comments received. The revised plan was sent out again for review. A meeting with FAA was proposed at NORAD Headquarters for January 1968.

(U) The following are highlights of the draft plan:

1. Its purpose is to provide a basic plan that will permit CINCNORAD and other commanders of U.S. forces in the U.S., Puerto Rico and the Panama Canal Zone to develop, with FAA, plans and agreements for services and the exercise of operational control over FAA operational elements during war.
2. Establishes command channels for exercising operational control over FAA operational elements in the event the FAA becomes an adjunct of the DOD.
3. Provides for the exchange of certain military and FAA personnel, should an exchange become necessary to accomplish the military mission during wartime.
4. Assumes that CINCNORAD will function as executive agent for the plan and, as such, will coordinate military requirements for support and services required of the FAA during war or emergencies short of war.
5. Provides for the development of basic plans/agreements between military commands



and the FAA which identify services and support required of the FAA during war and emergencies short of war.

6. Assigns these tasks:

a. FAA is to respond, within statutory responsibilities and resources, to military requirements in the areas of logistics, air traffic control, communications, air surveillance and reporting.

b. USAF is to develop plans for wartime logistics assistance to FAA facilities, wartime flight inspection of air navigation aids, operational control of FAA-owned aircraft, and terminal area ATC functions and activities.

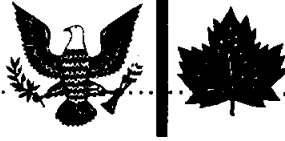
c. NORAD region commanders are to exercise operational control over navigable airspace within respective area of responsibilities during wartime.

d. DIA is to develop plans for the operation of the National Flight Data Center.

e. Chief of Staff Army is to develop plans to safeguard communications and air traffic control facilities.

CONAD JSOP SUBMISSION AND POSTPONEMENT
OF NADOP PUBLICATION

█ The CONAD submission to the Joint Strategic Objectives Plan (JSOP), 1970-77, dated 16 October 1967, was made a CONAD-only publication. In its letter of transmittal to the JCS, CONAD stated that for the past three years, the JSOP input had also been used as the submission to the Canadian Defence Staff under the title of the North American Aerospace Defense Objectives Plan (NADOP).⁴⁵ The 1967 JSOP submission



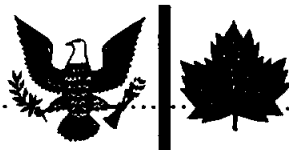
included specific reference to deployment of an ABM defense in Canada and the F-12 and AWACS for Canada. Because of the political sensitivity of ABM deployment to Canada, explained CONAD, and the restrictions imposed by NSAM 197, the impact of the Draft Presidential Memorandum, and the lack of statutory determination on the release of U. S. atomic information on Nike X to Canada, distribution of the 1967 submission was confined to the JCS, CINCAL, ADC, and ARADCOM.

■ The 1966 issue of NADOP (1969-76) was to remain in effect for NORAD planning for the time being. For CONAD planning, however, the JSOP submission superseded NADOP 69-76. On 13 October, NORAD informed all interested agencies that publication of NADOP 70-77 had been deferred pending resolution of certain government actions.⁴⁶



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CHAPTER III

WEAPONS

INTERCEPTOR PROGRAM CHANGES

AIR DEFENSE FORCE MODERNIZATION PROGRAM

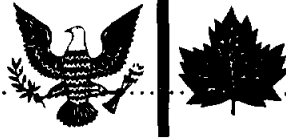
■ Near the end of 1967, a decision was made by DOD for transition of the present air defense system to a new system by 1974 that would include, as currently envisaged, a modified F-106 interceptor (the F-106X), AWACS, and Over-the-Horizon (OTH) radar. The decision was based on a Development Concept Paper for Improved Air Defense prepared by Mr. Norman R. Augustine of Defense Research and Engineering. The Augustine study had been directed by the Secretary of Defense following Air Force efforts to get the Secretary's approval for modernization of air defenses with the F-12/AWACS/OTH (detailed in a memorandum of 30 January 1967). The Augustine study presented several options and recommended a system having the F-106X/AWACS/OTH radar. It was noted in the paper that the major shortcoming of the current F-106 was lack of a look-down capability to engage low-altitude targets. This capability could be achieved in the F-106 by providing a modified fire control system and new air-to-air missile.

■ The transition of the system was to be in two phases, many details of which were still under study and subject to many changes. As currently planned, the first phase, beginning in mid-1968 and to be completed by 1970, would constitute a phase down to an intermediate force from the current force structure. Phase II, to be completed by 1974, would bring in the new system.

UNCLASSIFIED

EXCLUDED FROM AUTOMATIC REGRADING;
DOD DIR 5200.10 DOES NOT APPLY

Group 1



█ Program Change Decision Z-7-096, approved 16 December 1967, included among its provisions the following:¹

1. A directive to USAF to conduct a competitive study to provide the F-106 with a down-looking capability and to start development of the new or modified FCS and missile thus identified. Phase out of 12 UE in FY 1970 and start of F-106X modification program in FY 1973 and approval of a 198 F-106X force. (Modifications to the F-106 to create the F-106X were to include a new radome and new radar, modification of nose for FCS and antenna, missile bays, simplified logistics and improved maintenance, and new AIM-47-type missiles).²

2. Continued development on CONUS OTH (back-scatter) radar with production release decision in September 1970 and approval for a programmed force of two sites beginning in FY 1973. (The final configuration was still under study, but current thinking called for two sites located 500 miles inland, looking east and west in 160-degree arcs).³

3. A directive to begin engineering development of AWACS, if the ORT program was successful, on a schedule that permitted a system demonstration before substantial production funds had to be committed. Demonstration of a reasonable level of AWACS survivability was a prerequisite to procurement. Approval of a force of 42 UE AWACS beginning in FY 1975.

4. Phase out of existing force to Intermediate Level beginning in July 1968 and consolidation where possible of SAGE/BUIC, NAS, and Nike Hercules radars.

5. Approval of a force of 66 UE C-130 aircraft. (C-130's would be introduced coincident with F-106X IOC. On the basis of 66 C-130's there would be one per three F-106X's).⁴



USAF ADC F-101/F-106 FORCE PROGRAM CHANGES

█ In early 1966, the ADC interceptor force was programmed to phase down to a total of 20 squadrons (334 aircraft) by FY 1969, as indicated below:

	<u>FY 67</u>	<u>FY 68</u>	<u>FY 69</u>
F-101 Squadrons -	15	11	6
F-106 Squadrons -	13	13	13
F-104 Squadrons -	1	1	1

█ In September 1966, the Air Staff asked ADC to comment on a proposed PCR for FY-68/69, 66-61. This PCR proposed phasing out three F-106 squadrons instead of three of the F-101 squadrons that were programmed to phase out. The F-106's from the inactivated squadrons would be placed in ADC's remaining 12 UE, and some 18 UE, F-106 squadrons. By doing this, ADC's fleet would be increased by about 54 aircraft above the FY 69 program and result in nine F-101 squadrons and ten F-106 squadrons instead of six F-101 and thirteen F-106 squadrons. The proposed program would have had the following F-101/F-106 force:⁵

	<u>FY 67</u>	<u>FY 68</u>	<u>FY 69</u>
F-101 Squadrons -	15	13	9
F-106 Squadrons -	13	11	10

█ This would still leave a total of 20 squadrons (counting the one F-104 squadron). It was assumed by USAF and ADC that if the PCR was approved by OSD, it would be approved as a whole, that is not piecemeal, but as a package. ADC concurred in a message on 6 October 1966 and submitted its plan for unit inactivations and placing of F-106's. ADC noted that its proposal would result in an end position of a 20-squadron force and a net increase of 56 aircraft.⁶

█ The Secretary of the Air Force approved PCR 66-61 on 18 November 1966 and submitted it to



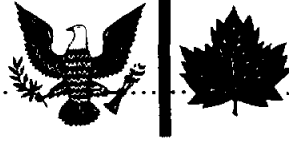
OSD. On 22 November 1966, the Deputy Secretary of Defense approved the FY 68 portion of the PCR, but deferred a decision on FY 69 and beyond.⁷ The FY 68 portion of the PCR provided for phase out of two F-101 squadrons and two F-106 squadrons instead of four F-101 squadrons as originally programmed, as noted above. On 8 February 1967, USAF provided ADC with a listing of the new approved force levels for the F-101/F-106 through FY 73.⁸ As a result of OSD approving only the FY 68 portion of the PCR, ADC stood to lose two squadrons more than were programmed to be cut. Here is how it worked. The F-101 force would go down to six squadrons in FY 69 as programmed previously, but the F-106 force would be cut to 11 squadrons in accordance with the FY 68 portion of the PCR. The new force level as listed by USAF was as follows:⁹

	<u>FY 67</u>	<u>FY 68</u>	<u>FY 69</u>
F-101 Squadrons -	15	13	6
F-106 Squadrons -	13	11	11

Thus, the ADC force would be cut to 18 squadrons in FY 69, two less than programmed before and two less than the minimum wanted by USAF, ADC or NORAD. The total UE would remain the same as the total programmed before the PCR action.

█ The ADC Commander, General Herbert B. Thatcher, immediately sent a message to USAF stating that he was concerned over the OSD F-101/F-106 force structure for FY 69 and beyond. "My position on the interceptor force required for FY 69 and subsequent, continues to be a minimum of 20 squadrons, 20 main operating bases, with 18 UE or 24 UE (390 acft) as set forth and justified in Program Change Request 66-61."¹⁰ General Thatcher's message urged that USAF get early OSD approval of the complete PCR 66-61 package and that USAF withhold revision of its program documents pending this approval.

█ USAF fully supported ADC's position and submitted a memo to this effect to the Secretary of



Defense on 16 March 1967. However, the original decision was upheld. On 4 May 1967, the Deputy Secretary of Defense approved a PCD in response to USAF PCR 66-61 establishing a new force level for the F-101/F-106 squadrons (all 18 UE) from FY 68 through FY 72 as follows:¹¹

	<u>FY 68</u>	<u>FY 69</u>	<u>FY 70</u>	<u>FY 71</u>	<u>FY 72</u>
F-101 (UE/Sq) -	234/13	108/6	108/6	108/6	108/6
F-106 (UE/Sq) -	210/11	210/11	210/11	204/11	204/11

█ The OSD decision statement said that the decrease of two squadrons in FY 69-72 compared with the previously approved force was somewhat offset by additional F-106's.¹² The marginal increase in fighting effectiveness that could be achieved by adding two more F-101 squadrons was not considered worth the cost and was overshadowed by a possible decision on force modernization. The costs and manpower for the F-106 squadrons were unchanged by this decision. F-101 manpower and operating costs for FY 69-72 were cut from previous authorizations by around 981 personnel and \$9.5 million each year.

█ USAF directed ADC to submit by 31 May its recommended bed-down for the approved FY 69 force of 18 squadrons. The ADC recommendation called for elimination of Richards-Gebaur AFB and Paine AFB as main operating bases, plus additional shifts of squadrons between bases to adjust between the current disposition of forces and the final mix of F-106 and F-101 squadrons. In the DOB program, ADC would eliminate Grand Island, Nebraska (see also section on dispersal, this chapter).¹³ In regard to the cut from 20 to 18 squadrons, ADC said this was a matter of great concern to NORAD and itself and that it wished to reiterate that the cut would seriously degrade the CONUS defense posture.¹⁴

█ On 17 May 1967, CINCNORAD, General R. J. Reeves, wrote to the Chairman of the JCS, General Earle G. Wheeler, that he was seriously concerned



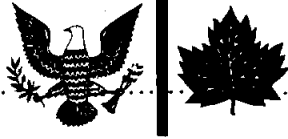
over this action taken directly by OSD to USAF without reference, apparently, to NORAD or the JCS.¹⁵ General Reeves said that he strongly urged the JCS to recommend to the Secretary of Defense that he fully approve USAF PCR 66-61. The decision, he said, to approve only the FY 68 portion weakened the defense posture. In an attachment to the letter, it was pointed out that CINCNORAD had consented to PCR 66-61 as a package only and that he would never have consented to it had there been reason to believe that it would not be treated as a package.

General Wheeler replied on 6 June that the phase down of Century-series interceptors without the introduction of a modern interceptor was of major concern to the JCS.¹⁶ He said that the JCS had supported the objectives of the USAF PCR and that the JCS had been consistent in their view that there should be no cut in FY 68 force levels until deployment of the F-12 was approved. He said the effect of the recent decision was recognized, but thought it more appropriate for the JCS to withhold comment on the interceptor program until August when the 1967 Draft Presidential Memorandum was addressed.

At the end of 1967, Program Change Decision Z-7-096, discussed earlier, approved the previously programmed phase out of seven F-101 squadrons in FY 69 and retained the remaining six squadrons through FY 1974.¹⁷ Program Budget Decision 388, signed 18 December 1967, required the phase out of the seven F-101 squadrons in the first quarter of FY 1969.¹⁸

PROPOSED EXCHANGE OF CF-101'S FOR F-101'S

In June 1967, the commander of the Canadian Air Defence Command recommended to the Chief of the Canadian Defence Staff that the RCAF CF-101's be replaced by USAF ADC F-101's being phased out of the latter's inventory.¹⁹ The reasoning behind the proposal was that it made little sense to retire



the USAF aircraft with their sophisticated, improved fire control system and to keep the unimproved Canadian aircraft. Even though the Air Force F-101's were slated for conversion to a reconnaissance mission, the airframes of the Canadian and USAF aircraft were alike so the Canadian planes could be converted to a reconnaissance mission.

At any rate, on 1 August 1967, NORAD concurred with the proposal in a letter to the USAF Chief of Staff.²⁰ NORAD asked that the latter recommend to DOD that favorable consideration be given to the exchange. The Air Force Chief of Staff answered that he agreed with the reasoning behind the proposal and that he would recommend the exchange if asked by DOD.²¹

ANG FIGHTER INTERCEPTOR CONVERSION PROGRAM

There were twenty-one ANG fighter-interceptor squadrons assigned an ADC mission. Nineteen of these squadrons were equipped with F-102 aircraft. The ANG F-102 conversion was completed on 6 November 1967 when the last of the nineteen squadrons, the 186th FIS, Great Falls, IAP, Montana, became operational.²²

Two squadrons, the 124th FIS, Des Moines MAP, Iowa, and the 132d FIS, Dow AFB, Maine, remained equipped with F-89J's. Originally, all 21 of the squadrons were to convert to F-102's -- the 124th in April 1967 and the 132d in June 1967. But in February 1967, USAF submitted to DOD a PCR proposing keeping F-89's in two squadrons for two more years, through FY 4/69.²³ The reason stemmed from an OSD-levied requirement to furnish F-102's to Turkey and Greece during 1968 and 1969 under the Military Assistance Program. The PCR (66-79) was approved by OSD on 7 April 1967.²⁴

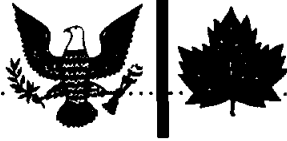


INTERCEPTOR DEPLOYMENT

COLLEGE SHOES

█ Background. In March 1963, two Soviet aircraft overflew the Alaskan NORAD Region. CINCAL then repeated a request he had made the previous year for a replacement for his F-102's, stating that this aircraft was not adequate to cope with cold-war overflights of Alaska by high-performance Soviet aircraft. CINCNORAD recommended that a portion of ANR's aircraft be replaced with F-4C's diverted from Tactical Air Command or with F-106/F-101 aircraft rotated from ADC. The JCS concurred in the need for an immediate improvement, but ruled out the F-4C because it would not be available soon enough to solve the immediate problem. USAF then asked ADC, NORAD and ALCOM to develop a plan to solve the near-term problem. The result was an operations plan calling for augmentation of the F-102's with eight ADC F-106's on a rotational basis. The plan was first called "Eye Ball," but was later nicknamed WHITE SHOES. It continued under this name until publication of ADC Operations Plan 17-66, 15 August 1966, when the name was changed to COLLEGE SHOES. Alert commitment by F-106's was first assumed on 17 July 1963.

█ Status. Deployment of eight F-106's to Alaska continued during 1967. Deployment was in accordance with ADC OPLAN 17-66 which provided for two squadrons to share the COLLEGE SHOES commitment with four aircraft and five crews each, rotating every four months (eight squadrons were involved at some time during 1967). This sharing of the load by two squadrons at a time for a four-month period was developed by ADC in the spring of 1966 to ease the burden on any one unit. The aircraft were deployed to Elmendorf AFB. The ADC OPLAN provided for subsequent redeployment by AAC, if necessary, to meet operational needs. Detachment 1, 325 Fighter Wing, at Elmendorf, provided support.



█ In the meantime, efforts and study continued on getting F-4C's for Alaska. In mid-1964, a USAF study group had concluded that an F-102/F-4C combination would best serve the air defense mission in Alaska. At that time, the JCS directed continuation of the F-106 deployment until the first quarter of FY 1966 when the F-106's would be replaced by a rotational TAC squadron of 18 F-4C's. The F-102 squadron in Alaska, the 317th, was to be cut from 44 aircraft to 26 aircraft. In August 1965, this cut was made and the following month, the 389th TFS, with 18 F-4C's deployed to Elmendorf.

█ But the latter deployment was short-lived. In December 1965, the TAC F-4C deployment was suspended to meet SEA requirements and USAF approved continuation of the ADC F-106 deployment.

█ The 317th FIS, Elmendorf, was originally programmed for inactivation in FY 4/67. In June 1966, USAF said that through informal discussion with OSD it had learned that the 317th would probably be extended until the mission could be assumed by a TAC squadron. On 5 August 1966, the Secretary of Defense approved extending the 317th to FY 1/69, with the UE to remain at 26 F-102's. On 21 September 1967, an Air Force PCR (67-94) was submitted to OSD calling for extension for one more year (to FY 1/70).²⁵ The PCR stated that F-4's would not be available for Alaska in FY 69 because of SEA requirements being extended for one year.²⁶

█ Program Change Decision Z-7-096, 16 December 1967, extended the Alaskan F-102 squadron through FY 1969.²⁷

COLLEGE GOOSE

█ The 59th FIS (F-102's), Goose AB, Labrador, had been scheduled for inactivation at the end of FY 1967. ADC had sought to keep an interceptor capability there until the AWACS/IMI were available and had pushed for this during 1965 and 1966.

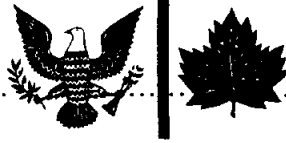


NORAD, however, had not fully supported stationing interceptors at Goose in view of the programmed cut in interceptor force strength. The OSD-set level at that time was a 20-squadron force. In August 1966, ADC asked NORAD's backing for its position of keeping interceptors at Goose until AWACS/IMI were available. This was in connection with a USAF reclama of the 20-squadron force. If the reclama was successful, ADC wanted to station F-101's at Goose. If not, ADC wanted to deploy a detachment of F-106's. NORAD replied that it could not support permanent deployment but had no objection to intermittent deployment of small units of CONUS-based interceptors. In the meantime, the UE of the 59th FIS was cut from 33 to 18 aircraft.

█ Late in 1966, USAF proposed early inactivation of the 59th to obtain resources for Southeast Asia. ADC objected but USAF recommended early inactivation to the JCS. NORAD told the JCS it had no objection but that the action should be coordinated with Canada. On 11 November 1966, the 59th inactivation was moved up to January 1967. The squadron was relieved from alert on 17 November 1966.

█ Meanwhile, the ADC commander told CINCONAD that he wanted to deploy a detachment of CONUS-based aircraft to Goose Bay. CINCINORAD concurred on 12 December 1966 with placing a detachment of six aircraft at Goose. ADC established a deployment program called COLLEGE GOOSE. Six F-106's from the 27th FIS, Loring AFB, Maine, were to be sent to Goose and placed under Northern NORAD Region operational control. The latter limited the F-106 alert requirement at Goose to three-hour status. The in-place date of the detachment (Detachment 2, 27th FIS) was originally set for 7 January 1967, but was delayed to 17 January to allow time for State Department coordination with the Canadian Government.²⁸

█ In a message on 20 January 1967, ADC asked if Goose AB met the requirements of a Dispersed Operating Base for the 27th FIS, if additional 27th



FIS aircraft were to be deployed to Goose at increased DEFCON's, and if prepositioning of nuclear weapons at Goose AB was a requirement.²⁹ NORAD replied on 14 February that Goose was not considered a desirable dispersal base for survivability at increased DEFCON's.³⁰ In answer to the second question, NORAD said it had concurred with the intention of the Commander NNR to move the interceptors from Goose to Loring at increased DEFCON's. In view of the above, NORAD said that positioning of primary weapons at Goose was not required.

ADC proposed to replace the F-106's at Goose with F-101's. On 1 April, NORAD pointed out to NNR that the F-106 fleet was heavily involved in activities in addition to COLLEGE GOOSE, but that the force of F-101's was not involved in a major deployment and not facing a major modification program. For this reason, NORAD said it was felt that F-101 units could better support COLLEGE GOOSE.³¹ NORAD asked NNR if F-101's, if deployed to Goose, would be left to fight in place or redeployed within NNR at increased DEFCON's, if nuclear storage and loading would be required, and what alert status would be required.

NNR answered that if the deployed aircraft were those planned for augmentation of NNR at increased DEFCON's, these aircraft would redeploy in accordance with the NNR Operations Plan, i.e., F-101's would redeploy to Bagotville at DEFCON 3.³² But if the aircraft were from other sources that were not committed to NNR at any time, NORAD should decide on whether the aircraft would fight in place or be returned to their home base. NNR said that if the decision was made to fight out of Goose AB, then nuclear weapons would have to be stored at Goose AB or a quick reaction airlift capability developed. NNR answered, in reply to the third question, that the alert status should be that which would meet USAF ADC requirements as the initiating agency for the deployment commitment. NNR stated that, as it had said in the previous message, it considered an ID capability no longer necessary in the 37th NORAD Division.



█ In a message to ADC and NNR on 4 May 1967, NORAD concurred with the substitution of F-101's for F-106's.³⁵ NORAD told NNR that the six F-101's at Goose AB would be considered part of the programmed NNR deployment force in lieu of six aircraft from the 60th FIS, Otis AFB. NORAD also stated that provision of nuclear weapons at Goose AB would give NNR increased flexibility in the employment of forces.

█ The initial 90-day deployment of F-101's to Goose AB was made on 1 June 1967 by 2d FIS, Suffolk County AFB, New York.³⁴ Earlier, on 1 April 1967, the detachment had been made a permanent detachment of the 37th Air Division and designated Detachment 1.³⁵

█ Because of reductions in ADC operating funds (see Chapter I), however, the detachment and the deployment of F-101's were discontinued. Early in October, ADC proposed certain cuts among which was the discontinuance of the Goose F-101 deployment. USAF approved this recommendation on 20 October.³⁶ On 27 October, USAF said to discontinue the deployment to Goose effective FY 2/68 in accordance with an ADC Air Staff Board presentation of 11 October and a NORAD/USAF/RCAF meeting of 26 October.³⁷ At the latter meeting, it was also recommended that NORAD advise Canadian authorities. On 2 November 1967, NORAD notified Canadian Defence Command and NNR, and on 3 November Canadian Forces Headquarters for the attention of the Minister of National Defence and the Chief of Defence Staff.³⁸ The latter message stated that Detachment 1, 37 Air Division at Goose AB would be discontinued on 31 December 1967. All interceptor operations were to cease on 30 November with the return of the F-101 aircraft and crews to their home base.

COLLEGE KEY

█ CINCONAD, in a message dated 11 June 1963, and CINC NORAD, in a letter dated 26 January 1965, established a requirement for a continuous all-weather interceptor alert capability at Key West,



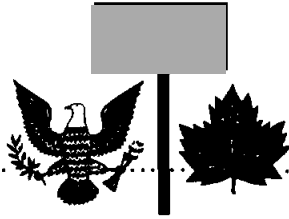
Florida. The alert commitment was to be as specified by CONAD through the Commander of the Southern Region and the CONAD Commander at Key West, but not less than two aircraft on 5-minute readiness. This was to be met by a detachment at Key West of enough aircraft to support the currently-established alert commitment. The UE authorized was established at first at eight F-102's. From 1 August 1965 to 1 July 1966, the 326th FIS, Richards-Gebaur AFB, met the requirement through rotational deployments of its F-102's and aircrews.

On 1 July 1966, the 326th was released from the commitment and it was taken over by the 4756 Air Defense Wing, 14th Air Force. The alert was supported by a detachment of the 4756th permanently stationed at Key West. In August 1966, USAF informed ADC that OSD felt that the alert could be met with less than eight aircraft.³⁹ ADC and USAF defended the need for eight aircraft, but on 4 January 1967, USAF advised that OSD had approved six F-102's for the alert detachment at Key West.⁴⁰

Guidance for implementing the Key West mission during 1966 and up to September 1967 was provided by ADC Operation Plan 38-66. The plan was called "Key West Alert" in the 1 January 1966 issue. But a revision issued on 1 July 1966, to provide for the change from the 326th to the 4756th, nicknamed the mission COLLEGE KEY. The latter plan was rescinded, however, by ADC letter dated 11 September 1967.⁴¹ After this date, 14th Air Force mission directives provided instructions. ADC reconfirmed the alert requirement in a message on 27 October 1967.⁴²

COLLEGE CADENCE

) In the spring of 1965, following the deployment of ADC F-104's to Puerto Rico at the time of the Dominican Republic crisis, ADC gave thought to the desirability of creating a special force for such contingencies. An August 1965 study proposed three squadrons of F-4's for this purpose. The plan



called for a Mobile Air Defense Package (MADPAC). USAF considered the idea valid but did not want to transfer F-4's from TAC to ADC. A later 1965 MADPAC plan then proposed an initial MADPAC force of three F-102 squadrons. F-106's were also suggested for a MADPAC force and ADC asked that they be equipped for in-flight refueling. ADC, with NORAD backing, wanted the MADPAC force additive to a regular force of 29 squadrons. While no force for MADPAC was approved, some F-102's were fitted for in-flight refueling and approval came in early 1966 for fitting F-106's with in-flight refueling.

█ In May 1967, ADC sent a draft of its Aerospace Objectives Plan 1967-82 to CONAD for review. The plan included an anticipated USAF requirement for a world-wide Mobile Air Defense force created with F-106's on the assumption that USAF would make up the deficit with F-4's.⁴³ CONAD objected to the dilution of capability entailed in the proposal unless replacement forces were made available. In a letter to ADC on 9 August 1967, CONAD stated that the:⁴⁴

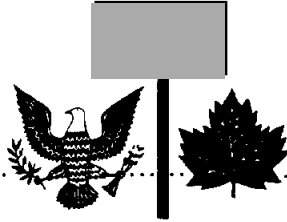
proposals for the early and rapid phase out of F-106's prior to introduction of the F-12 and utilizing the F-106's as a Mobile Air Defense Force in lieu of modernization of the Air National Guard squadrons committed to the air defense mission, are unacceptable dilutions of the air defense capability NORAD/CONAD considers the minimum essential for air defense of the North American continent....NORAD/CONAD cannot concur with proposals to establish mobile air defense forces for contingency deployments to other theaters unless the Joint Chiefs of Staff specifically designate forces to perform this mission and those forces so designated are in addition to those this headquarters considers the minimum essential for the air defense of North America.



█ In the meantime, on 1 August 1967, ADC published Operation Plan 76-67, COLLEGE CADENCE. It was prepared in response to a USAF request to prepare a draft Air Force manual to provide guidance for mobile air defense world-wide and an ADC mobility plan.⁴⁵ The concept of operations in the OPLAN stated that ADC's role in the USAF mission of projecting tactical air power into any contingency or conflict situation was to provide air defense forces. This would involve deploying interceptors and, if necessary, in austere operating conditions, AEW&C aircraft or mobile radar and command and control.

█ The plan stated that it was assumed that use of NORAD forces would be under low intensity situations where tensions between major powers were not significantly increased. It was further assumed, the plan said, that the decision to deploy interceptors to overseas areas would be approved by the JCS. Under such conditions, the forces could be safely detached, subject to quick recall if growing tensions indicated a threat to the CONUS. The plan tasked in-flight-refuelable F-106 units (four squadrons) to be prepared to deploy elements of six aircraft overseas on 24 to 72 hours notice. Deployment was to be on a rotational basis with a maximum TDY period for personnel of 179 days.

█ A draft of the proposed Air Force manual for World-Wide Employment of Air Defense Forces was sent by ADC to CONAD for review. In a letter dated 13 November 1967, CONAD replied that it generally concurred in the manual.⁴⁶ However, CONAD recommended that the relationships between the JCS, unified commanders and ADC be made clear. CONAD wanted it stated that decisions to deploy air defense units would be made only by the JCS and that recommendations to the JCS would be made by CINCONAD. Further, CONAD stated that it was assumed that air defense forces required for mobility purposes would be properly evaluated and programmed so as not to compromise the CONAD primary mission.

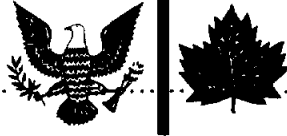


█ Meanwhile, at USAF's request, ADC planned a training deployment of six F-106's to USAFE in February 1968 for fifteen days under COLLEGE CADENCE. CINCONAD did not concur.⁴⁷ It was CONAD's position that such a deployment was premature, that forces programmed for world-wide deployment should be additive to the programmed NORAD force, that any deployment outside the CONUS should be approved by the JCS, and that the JCS were not officially aware of the ADC proposals and so could not give any approvals. On 21 November, ADC sent the training deployment proposal to USAF, stating the CONAD did not concur and that the latter stated that any deployment must be approved by the JCS.⁴⁸

█ USAF's reply on 24 November suggested a shorter deployment to Hickam AFB, Hawaii.⁴⁹ USAF said that perhaps CONAD would not object to a deployment of a week or less.

█ In a letter on 6 December 1967, CONAD advised the JCS of the Air Force actions on world-wide defense deployment including COLLEGE CADENCE and the proposed training deployment and the proposed Air Force manual. CONAD said it did not object to ADC planning for world-wide air defense but was deeply concerned with the potential effect on the mission if ADC was tasked to provide world-wide deployment forces.⁵⁰ CONAD said that full implementation of COLLEGE CADENCE would mean a considerable cut in its forces. CONAD explained that while the ADC forces were to come back to the CONUS during a worsening world situation, it was possible that during rapid escalation of tensions these forces would be in transit and not responsive to anyone. CONAD concluded that it agreed with the concept of a world-wide ADC mission if the forces for such were made available and that the decision to deploy was made by the JCS in coordination with CONAD.

█ On 20 December 1967, ADC recommended to USAF that the training deployment not be made at this time.⁵¹ ADC said that after discussion with



CONAD, it believed that it was more propitious to demonstrate and further develop the capabilities of the AAR-modified F-106 to improve CONUS defense.

RETENTION OF 57th FIS IN ICELAND

■ In August 1966, ADC pointed out to NORAD that the 57th FIS at Keflavik, Iceland, was programmed to be inactivated in FY 1/68 but might be extended to FY 3/68. ADC recommended that the 57th be extended indefinitely and asked for NORAD's concurrence. On 6 September, NORAD replied that it did not object to indefinite extension as long as this caused no further reduction in CONUS forces. OSD approved retention of the 57th through the 3d quarter of FY 1968.

■ In February 1967, at the request of the JCS, CINCLANT submitted additional justification for further retention of the 57th.⁵² CINCLANT stated that keeping the squadron beyond March 1968 was essential and vital to the U. S. and NATO defense posture. The CINCLANT letter said that rising Soviet air, surface, and submarine operations, and USSR interest in the Norwegian Sea and North Atlantic, pointed up the need for a continued air detection, identification and interception capability over those areas.

■ At mid-1967, a JCS recommendation for keeping the squadron was sent to OSD.⁵³ And on 9 September 1967, OSD stated a decision to retain the 57th in Iceland through FY 1969.⁵⁴

WEAPONS DISPERSAL

■ The weapons dispersal procedures and facilities of 1967 evolved from a June 1961 JCS directive to NORAD to develop plans to increase survivability of the air defense system. The plans were to provide for protection of interceptors by dispersal and other means. The first dispersal plan, ADC OPLAN 20-61, was issued on 30 November 1961, providing guidance and assigning tasks and



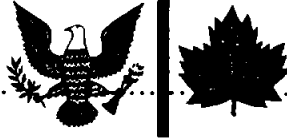
listing some 40 U. S. and Canadian bases desired for dispersal.

(U) Guidance during 1967 was provided by NORAD Operations Order 300N-67, 1 January 1967, Air Defense of the North American Continent (ADNAC); CONAD Operation Order 300C-66, 2 May 1966 (CONAD ADNAC 300C-66); and ADC Operation Order 300-65, 1 February 1965, Fighter Dispersal, until superseded by ADC Operation Plan 300-67, Weapons Survival and Reconstitution, 15 June 1967.

U. S. DISPERSAL BASES

█ In 1962, an interim dispersal program was established and late in the year, DOD approved ADC's proposed permanent dispersal plan. This was initiated on 1 July 1963 when ADC rescinded the interim dispersal plan and directed implementation of the permanent program. The initial program called for 21 dispersal bases in the U. S. and nine in Canada. In 1964, only 17 of the 21 bases were approved, however, for construction by DOD. Then at the end of 1964, the programmed interceptor force was to be cut to 20 squadrons and ADC changed its dispersal requirement to 18 U. S. bases and two Canadian bases. In 1965, USAF approved 17 U. S. bases. Three Canadian bases were to be negotiated with Canada. NORAD and ADC wanted two more Canadian bases, but agreed with USAF on a requirement for four (see discussion below). Of the 17 CONUS bases, 16 were to be developed to a Phase III capability and one to a Phase II (Stewart).

█ Fifteen bases in the U. S. were developed to a Phase III capability by May 1967. The planned 16th Phase III base, Key West, was never developed. By this time, however, there had been a further cut in the programmed ADC interceptor force to 18 squadrons. In a message to USAF on 26 May 1967, ADC provided its proposed bed-down for the 18-squadron force and recommended discontinuance of one Dispersed Operating Base, Grand Island, Nebraska, in FY 69.⁵⁵ This would cut the DOB's in the CONUS to 14.



None of the 15 Phase III DOB's in the U. S. in 1967 had full Phase III capability, but were Phase III (Modified) bases. The reason was that personnel resources were inadequate to support full Phase III operation. One thing this meant was that the number of aircraft continuously dispersed and on alert at the DOB was cut from four to two.

In 1967, there were also four other bases in the U. S. established as dispersal bases, three with a Phase II capability and one with only a Phase I capability. In the ADC OPLAN 300-67, noted above, ADC stated that one permanent DOB had been programmed for each of the 18 squadrons remaining throughout the current 5-year programming period. As long as more than 18 squadrons remained in the ADC force, certain interim actions were necessary to provide for survival of the units lacking a Phase III dispersal capability. More than one squadron was assigned to certain of the permanent bases.

CANADIAN DISPERSAL BASES

As discussed above, in 1964, ADC had stated a minimum requirement for 18 CONUS and two Canadian DOB's under its 20-squadron force. In January 1965, USAF had approved 17 CONUS bases, and three Canadian bases for negotiation. NORAD felt that two more bases in Eastern Canada were needed. ADC agreed and so advised USAF. The latter said that five could not be obtained but that four might be approved and both NORAD and ADC concurred. NORAD and ADC chose Namao, Cold Lake, Portage La Prairie, and Val D'Or and with Canadian approval site surveys were made by ADC in the spring of 1965.

USAF concurred in these bases and the JCS agreed with the requirement and forwarded it to DOD in late 1965. DOD requested more information and alternative plans. In 1966, NORAD stated its concern at the delay and the JCS reaffirmed the requirement to DOD. In June 1966, the State Department sent instructions to the U. S.



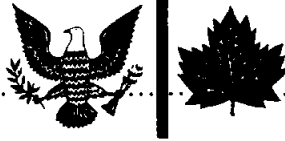
Ambassador to Canada to propose a governmental agreement on dispersal. For diplomatic reasons, the proposal was not officially submitted until September 1966. No decision or agreement had been made by the end of 1967. It was possible that nothing would be done until after negotiation had been completed on the NORAD agreement.

PLAN FOR ANG, AUGMENTATION FORCE AND REGULAR FORCE DISPERSAL AND DEPLOYMENT

With the cut in the regular ADC interceptor force to 18 squadrons by FY 1969, it was seen that the ANG fighters would come to play an increasingly important role in air defense operations. In its OPLAN 300-67, ADC provided an ANG interceptor dispersal plan to give these units increased survivability. The plan did not call for permanent dispersal facilities similar to those for the regular units, but for development of an ANG mobility capability to support deployment of eight interceptors to selected bases upon declaration of DEFCON 1.

ADC's OPLAN provided a tentative deployment base for each ANG squadron. On 10 July 1967, ADC advised NORAD of the plan and requested approval for DEFCON 1 strategic warning deployment of ANG F-102 units based along the northern border to Canadian bases other than those listed in the NORAD ADNAC.⁵⁶ NORAD replied on 17 July that it did not fully concur with the concept or alignments, primarily from the standpoint of survivability and the use of Canadian bases.⁵⁷ The upshot was that NORAD and ADC agreed to set up a joint working group to examine all planned regular and augmentation dispersal/deployments. By 14 August 1967, the group had developed an ANG base alignment that was acceptable to both commands.⁵⁸ ADC was to request USAF approval to make surveys at the selected bases.

In the meantime, the ADC-NORAD working group considered the entire problem of fighter



dispersal because it found that dispersal of the ANG or Category II augmentation forces could not be considered in isolation. A detailed proposal for fighter dispersal and deployment in the 1969-79 time period came out of the study and was forwarded to region commanders for comment on 16 October 1967.⁵⁹ It was noted that the recommendations were based on operational considerations only and were not, at the time, the official position of CINCNORAD or Commander ADC.

**PROPOSED AIRBORNE ALERT
AND PROPOSED EDICT PLAN**

On 14 April 1967, NORAD asked the regions and ADC to comment on a proposal to establish an airborne survivable alert. NORAD explained that current procedures provided for flushing aircraft on BMEWS warning, actual missile attack, or an actual NUDET. The procedures were based on some type of detection timely enough for reaction. But now there were weapon systems available or in development that would not give time for flush. NORAD cited as examples sub-launched cruise or ballistic missiles (SLCM/SLBM) and fractional orbital bombardment satellites (FOBS).

Procedures were needed, NORAD continued, that permitted selective, precautionary flushing based on intelligence information. Intelligence could indicate the probability of an attack that would not give enough reaction time. This could be used to scramble aircraft in the threatened area, thus, an "airborne survivable alert."

NORAD decided to abandon the plan, however, after all the comments were received. On 23 August 1967, NORAD advised the regions and ADC that there was a consensus of concern over two points.⁶¹ These were the capability of the intelligence system to produce timely and valid warning of an impending SLBM/SLCM/FOBS/MOBS attack, and the effect of a prolonged airborne alert.



█ NORAD said that the probability of getting strategic intelligence of the launching of this type of attack was very low. Detection of a potential attack threat would probably result in an extended liability period and a graduated increase in DEFCON's. Also, it was expected that the interval between an SLBM/SLCM/FOBS/MOBS attack and impact of a major ICBM attack would be extremely short. This would result in flushing selected groups of interceptors to airborne alert almost simultaneously with normal flushing on BMEWS warning or known detonations. NORAD concluded that a more practical solution to intelligence warning of an SLBM/SLCM/FOBS/MOBS attack would be greater dispersal of the force to non-time sensitive bases where it could respond to normal flush orders generated by BMEWS or known detections.

█ On 18 October 1967, NORAD instructed region and division commanders by message to formulate plans to execute a plan called Evacuation and Dispersal of Interceptors from Critical Targets (EDICT).⁶² Interim procedures were provided that were issued as an attachment to a letter on the EDICT plan issued on 19 October. In this letter, it was pointed out that it had been determined that increased dispersal to survivable bases provided the only viable solution to the problem.⁶³ NORAD said that the current dispersal program was designed to achieve an optimum posture between tactical positioning and maximum survivability. There was increased dispersal at DEFCON 3 with a maximum at DEFCON 1. Because of the inability to effectively flush to cope with the sub-launched or FOBS/MOBS type of threat, dispersal beyond the current maximum seemed warranted.

█ NORAD said it had developed a tentative procedure for this embodying elements of both flush and dispersal. The basis of the procedure was the idea that any pre-ICBM attack would be concentrated on critical time-sensitive command control/retaliatory targets and that interceptor forces at these targets would be vulnerable to an SLBM/SLCM/FOBS/MOBS attack. To reduce this vulnerability,



dispersal would be fully implemented and also aircraft at pre-selected critical targets would be evacuated to more survivable main or dispersal bases. This would be done after CINCNORAD decided it was warranted by a submarine or FOBS/MOBS threat.

During JCS Exercise High Heels 67, 24 October through 1 November 1967, EDICT was implemented after other dispersal had been ordered. ADC reported to NORAD on this in a message on 22 November. ADC said that no problems were noted.⁶⁴ The support staff, ADC said, received no requests from NORAD for special assistance even though some interceptors were deployed to non-dispersal bases. ADC recommended, however, that interceptors not be deployed to locations where air defense communications, fuel, etc. had not been prepositioned, except in extreme emergencies. It was ADC's recommendation that maximum use be made of DOB's and main bases until the proposed ANG dispersal and TAC augmentation deployment bases became fully operational.

(U) NORAD asked its regions to comment on EDICT also. These comments were still coming in and being evaluated at the end of 1967.

MISSILE PROGRAMS

SENTINEL SYSTEM

One of the most significant developments in aerospace defense was the go-ahead given by the Secretary of Defense on 18 September 1967 for production and "thin" deployment of the Nike X in what was to be called the Sentinel System. This was ten years after the old Nike Zeus project was established. The Zeus project, established on 14 March 1957, came out of a study made on a grant given in 1955 by the Army to Bell Telephone Laboratories and Douglas Aircraft on ground-to-air missile systems capable of engaging the threat in the 1960-70 period.



■ The Zeus program never got beyond a research and development stage, however, and in 1963 it was replaced by the Nike X program. By 1967, the Nike X system was being developed to combat various threats including ICBM's, SLBM's, ERBM's, de-orbiting satellites, and fractional orbit-re-entry vehicles. The basic system consisted of Perimeter Acquisition Radars (PAR), Multi-function Phased Array Radars (MAR), Missile Site Radars (MSR), data processing equipment, and Spartan and Sprint missiles. The Spartan was to be used primarily for long-range, high altitude intercepts. The Sprint was a short-range, high-acceleration missile.

■ From 1958 on, NORAD had stated a requirement for an active AICBM in each of its annual objectives plans as a primary requirement. Starting in 1960, NORAD placed an AICBM capability in first priority for allocation of resources. In the 1962 NADOP, NORAD said that Zeus was the only system available and placed its deployment in first priority. With the dropping of Zeus, NORAD backed development of Nike X. The current NORAD requirement was stated in NADOP 1969-76, 1 November 1966. NORAD stated that the most serious deficiency in aerospace defense was the lack of an active ballistic missile defense weapons system. NORAD recommended placing the highest priority on attaining a terminal ballistic missile defense. Seven Nike X defenses were required by end FY 72 and 25 by end FY 76.

■ In the meantime the Army was developing a number of deployment plans. One of these was the Light Attack Defense Option (LADO). This was proposed to the Secretary of Defense in October 1965, but was disapproved in January 1966 and a deployment decision postponed for another year. The Army went ahead with its deployment studies, known as DEPEX. Based on LADO, DEPEX proposed deployment in phases.

■ Early in December 1966, the Secretary of Defense made an oral request to DA to provide a



plan for a thin Nike X deployment.⁶⁵ A number of constraints were laid down by the Secretary: an expenditure of around \$3.5 billion, defense against an early Chinese Communist threat, defense of existing Minuteman to some degree, and provisions for safeguard against accidental launch.

On 20 December 1966, DA presented a plan for limited deployment to the Secretary of Defense. This plan or model was designated Nike X Deployment Model 1-67 (DEMOM 1-67). The deployment consisted of PAR's and MSR's only along with Spartan and Sprint missiles. It would provide for a thin area defense of CONUS and also Alaska and Hawaii, protect to some degree existing Minuteman sites, and safeguard against an accidental launch of a small number of ICBM's by a foreign power. The addition of defense of Alaska and Hawaii raised the cost to around \$5 billion (versus the \$3.5 billion constraint of DOD).

On 15 August, the Montgomery Committee (Mr. Montgomery was a former Assistant DDR&E for Offense Systems) which was formed to validate the DEMOM 1-67 threat and verify that it would be effective against the threat, reported to the Secretary of Defense.⁶⁷ It reported that the DEMOM 1-67 threat was realistic and achievable and that a 1-67 deployment would be effective against such a threat.

The Secretary of Defense made the decision on 18 September 1967 for production of Nike X based on the DEMOM 1-67 deployment.⁶⁸ The objectives of the deployment were to provide protection of U. S. cities to some degree against the CPR threat and protection of Minuteman squadrons to some degree against a postulated Soviet threat. Damage denial was to be provided against the early CPR threat and damage limiting against a later Chinese threat and survival of Minuteman against the Soviet threat.

A review was made of the 1-67 deployment, dated 5 July 1967, to align this deployment with



the time-oriented threat and defense objectives. Two changes in the 1-67 deployment were recommended:⁶⁹

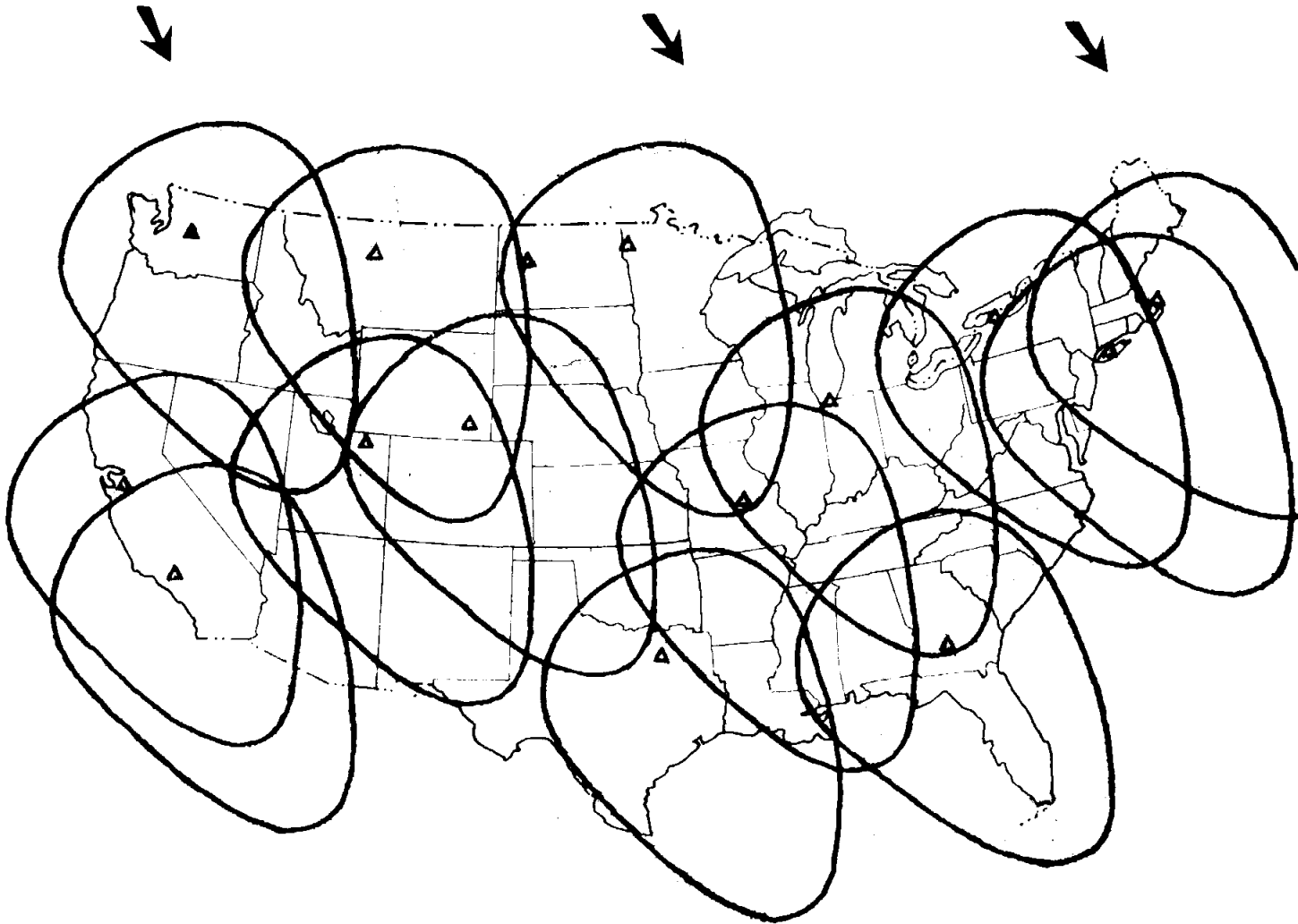
1. Acceleration of the production schedule by nine months. This would add \$200 million cost to the current program and would more closely match the postulated threat build-up. This schedule called for the first site to be operational in April 1972 and the last in October 1973.

2. Addition of two faces (for four in all) to all MSR's at the Minuteman sites. By providing 360-degree coverage, the MSR's would be protected from a FOBS or SLBM attack from the south.

■ The organization for establishing the new system was announced by the Secretary of Defense on 3 November 1967. The system, once called Thinex, DEMOD 1-67, etc., was named the Sentinel System.⁷⁰ Lieutenant General Alfred D. Starbird was named the Army's Sentinel System Manager. Nike X R&D was to continue at nearly the current funding level. The former Advanced Development Group of the Nike X Project Office was to now become the Nike X Project Office. The remainder of the old NXPO was to be the Sentinel System Command. The latter was being augmented by elements of the Corps of Engineers, Army Materiel Command, Strategic Communications Command, and the Continental Army Command.

■ In the CONAD submission to JSOP 70-77, 16 October 1967, which was prepared too soon to reflect information on the DOD deployment decision, CONAD recommended deployment of Nike X in a DEPEX-type configuration and addition of coverage of Minuteman fields. CONAD also recommended use of the Canadian deployment option to obtain a significant defense in depth; expansion of Nike X deployment as rapidly as possible, consistent with the threat; and acceleration of R&D programs

MINIMUM ENERGY
(23°) ATTACK FROM
EAST CHINA



AREA COVERAGE FOR DEPLOYMENT MODEL 1-67

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for boost and mid-course ABM systems and DICBM defense capability. CONAD said it required by end FY 1977, four Canadian sites, 25 U. S. area sites, and 32 U. S. terminal sites.

■ As matters stood at the end of 1967, the Sentinel System was in a state of flux.* There were almost constant deployment, budget and other changes being made. At this time, there were to be a total of 17 sites and IOC was set for around the fourth quarter of FY 1972.⁷¹ But there were to be many changes resulting from such matters as the FOBS threat; changes in site priorities; command and control matters; expansion; advanced development; normal, accelerated or stretched out deployment; etc.

■ As a result of an OSD design review during November, a number of changes were made. A Spartan defense was to be provided for Washington, D. C. Minuteman defense units were to be rescheduled to be deployed after urban and area defense units to make it possible to delay the Minuteman defense decision without disrupting the rest of the deployment.⁷² The system production schedule was cut from a rapid build-up to a normal build-up which would lengthen the production time by nine months and save some \$200 million.

SURFACE-TO-AIR MISSILE DEVELOPMENT (SAM-D)

■ In support of its objectives stated in NADOP 69-76, NORAD issued a Qualitative Requirement for a Follow-On Surface-to-Air Missile System (NQR 2-67), 15 March 1967. In the NQR, NORAD stated that a requirement existed for a new weapon

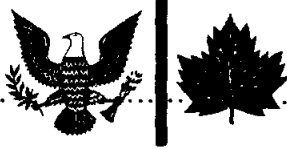
*(U) See Chapter II for a discussion of CONAD views of Sentinel System command and control structure.



system to replace Hercules and Hawk. The follow-on system would be deployed within the NORAD area of responsibility. It would defend designated targets, such as Nike X sites, against the post-1970 air-supported threat and would complement other aerospace defense systems against the ballistic missile and cruise missile.

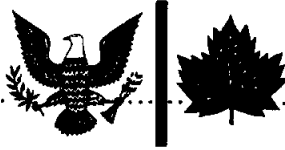
█ The JCS responded that the SAM-D, under development, appeared to satisfy NQR 2-67.⁷³ The JCS said that the NQR had been forwarded to the Chief of Staff, U. S. Army, for consideration in connection with development of the SAM-D system.

█ The Contract Definition Phase for the SAM-D was completed on 3 January 1967 and a Source Selection Board was convened the next day to choose a contractor. On 18 May 1967, Raytheon was chosen as prime contractor for the advanced development of SAM-D.⁷⁴ The initial funding was by letter contract providing \$2.1 million to cover the remainder of FY 67. On 16 November 1967, the final contract was signed for the first 28 months of advanced development.⁷⁵

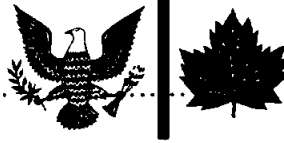


SOURCES FOR CHAPTER III

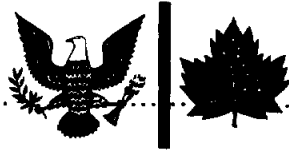
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7. Staff Summary, ADLPP-G to ADC Staff, "F-101/F-106 Force Structure (U)," 16 Feb 1967 (403).
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28. Msg., ADC to CSAF, ADODC 00009, 3 Jan 1967 (402x420); Msg., ADC to MAC, ADOOP 00117, 13 Jan 1967 (402x420); Msg., NORAD to NNR, NHCS X001, 13 Jan 1967 (402x420).
29. DF, NOPS to NHCS, "27 FIS Dispersal/Deployment (U)," 13 Feb 1967 (402).
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61. NORAD to Rgns, ADC, "Airborne Survivable Alert (U)," 23 Aug 1967 (420).
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CHAPTER IV
MANNED BOMBER DETECTION
SYSTEMS

GROUND ENVIRONMENT PLANNING

CANADIAN RADAR SITES

On 29 September 1967, Canadian Forces Headquarters advised NORAD that its 1968-1969 budget ceiling might result in reductions to forces assigned to NORAD. CF Headquarters said it was thinking about reducing co-manning positions and closing the base at Val d'Or and the following six radar sites:¹

C-2 Lac St. Denis, Que.
C-9 Falconbridge, Ont.
C-17 Beausejour, Man.
C-21 Beaverlodge, Alta.
C-25 Gander, Nfld.
C-53 Alsask, Sask.

CF Headquarters said it required NORAD's views on these proposed cuts before any decisions were made. In addition to this information, NORAD learned that this reduction was being proposed because CF ADC's FY 1968-1969 funds would be cut by \$17 million.²

NORAD asked its Northern, Central, and Western Regions to send details of the impact on operations if these sites were closed. NORAD wanted this information to prepare for a meeting at CF Headquarters on 17 October to discuss the proposed cutbacks.³

At this first meeting, in Ottawa, Canadian representatives said a decision on the site closures

EXCLUDED FROM AUTOMATIC REGRADING;
DOD DIR 5200.10 DOES NOT APPLY

Group 1



had to be made soon. NORAD's position was that a way had to be found to keep these radars in operation to prevent lessening of NORAD's capability. NORAD said it wanted to keep a strong radar fence along the U. S.-Canadian border.^{4*}

Two other meetings, held in Washington, D. C. on 20 and 26 October, were attended by representatives of NORAD, CF Hq, CF ADC, Canadian Department of External Affairs, JCS, USAF, USAF ADC, and the U. S. State Department. After considering various ways to prevent these cuts, it was agreed that Canada would ask the U. S. for negotiations on a new cost sharing agreement.⁵

37TH NORAD DIVISION

Background. In March 1965, USAF asked ADC to evaluate the need for radars in the 37th NORAD Division (called Goose Sector at that time) in light of the programmed phase out of manned interceptors in that area in 1967. This evaluation was necessary, USAF said, because further cuts could be expected and it had to be ready to justify keeping needed facilities and/or to recommend closing facilities no longer required. Seven sites, one Canadian and six USAF, were operating.

* NORAD officials recognized that this radar fence already had serious limitations. One Operations official said, "In examining the six sites proposed for closure by the Canadians, in an ECM environment, which can be expected during a wartime environment, it becomes very plain that even with the retention of these sites there would be large holes where enemy aircraft could penetrate between the US and Canadian industrial areas without detection. The closure of these sites would further degrade our capability to defend the US and Canada against air attack in an ECM environment."



ADC asked NORAD in May 1965 for comments. NORAD replied the following month that it was against reducing the operational capability of the air defense environment before new systems, such as AWACS, were acquired and proven. However, NORAD said that a study had shown that if the interceptors were withdrawn and the bases were not used for dispersal, there were no operational requirements for keeping all of the radars. NORAD's position was that two USAF radar sites, C-23, Stephenville, and C-24, Melville, and the Canadian radar at C-25, Gander, would meet its needs after the interceptors were withdrawn. However, on 12 August 1965, ADC told NORAD that it could not support closing any radars or withdrawing interceptors until new systems, such as AWACS and IMI, were operational.

ADC's thinking on the subject changed somewhat, but the commands still were not in agreement. On 11 May 1966, NORAD commented on an unofficial ADC study which recommended deploying interceptors to Goose Air Base regardless of the number of squadrons left in ADC, and the continued operation of the seven radar sites. NORAD told ADC that in view of the programmed cuts in interceptor forces, it did not recommend deploying interceptors to Goose Air Base. NORAD again noted its position that after the interceptors were withdrawn radar needs could be met by operating sites C-23, C-24, and C-25.

By the end of 1966, however, ADC found a way to keep interceptors at Goose Air Base and the radars in operation. On 10 November, ADC's commander, Lt. General Herbert B. Thatcher, wrote to CINCONAD urging support for a permanent deployment of six F-106's from the CONUS. Also, General Thatcher recommended keeping all of the radars. This force, he said, would complicate enemy targeting and attack routing, enhance air sovereignty and identification capability, and give training to radar site personnel. In a letter to General Thatcher on 12 December, CINCNORAD, General R. J. Reeves, said he concurred at this time in keeping facilities at



Goose Air Base to support a detachment of six interceptors. Except for a cut in controller personnel as proposed by ADC, the ground environment was to remain intact. General Reeves said he had talked with representatives of both the PJBD and the JCS and they supported keeping facilities in the 37th Division at this time.

█ The 59th Fighter Interceptor Squadron at Goose Air Base, flying F-102's, was inactivated on 1 January 1967. Personnel were assigned to a TAC unit at Bergstrom AFB, Texas. The F-102's were transferred to the Air National Guard. This unit was replaced at Goose by a detachment of six F-106's from the 27th FIS, Loring AFB, Me. (Later in 1967, the F-106's were replaced by F-101's from the 2d FIS, Suffolk County AFB, N. Y.)

█ NORAD Study. This interceptor deployment and operation of the seven radars was not a permanent solution as far as NORAD was concerned. On 30 September 1966, NORAD had asked Northern NORAD Region for proposals on the future configuration of the ground environment in the 37th Division, assuming that interceptors would be withdrawn. NORAD said it was thinking about reducing the mission of the division to surveillance and identification by flight plan. Some of the radar sites could then be closed, NORAD said, and the rest could possibly be data-tied to the 36th Division. NNR sent its study to NORAD on 7 December 1966 recommending action generally in line with NORAD's thinking. In short, NNR recommended deleting the division and data-tying sites C-23 and C-24 for automatic surveillance inputs to the 36th Division.

█ NORAD then made its own study and in a letter of 3 May 1967 to Canadian Forces Headquarters, made its position known. One of the main factors in this study was OSD's decision to cut the ADC regular interceptor force to 20 squadrons by July 1969. The remaining squadrons would then be assigned to defend major critical target areas which did not include the Goose area. NORAD

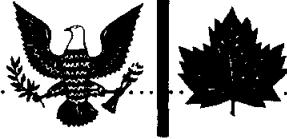


now said that after the interceptors were withdrawn, four radar sites would be needed. The study found that C-23, C-24, and C-25, in a surveillance role, would give adequate surveillance and tracking coverage and help in the commitment and use of weapons in the Eastern and Northern NORAD Region areas. A fourth site, C-29, at Saglek, Labr., was to be kept because, in addition to early warning coverage, it would help to keep an enemy from routing his forces past Greenland and between the coverage of the continental terminal of the DEW Line and the coverage of C-24.⁶

█ The actions recommended by the NORAD study were:⁷

1. Inactivate C-26, C-27, and C-28 radars as soon as possible after interceptor withdrawal from Goose Air Base.
2. Tie C-23, C-24, C-25, and C-29 in a manual configuration to the 36th NORAD Division Direction Center at Topsham AFS, Me., for Mode I operations.
3. Update these radars to the required automated SAGE configuration as soon as possible, preferably with the installation of common digitizers.
4. Inactivate the 37th Division Direction Center and expand the 36th Division Direction Center area of responsibility to include the area of coverage of the four remaining 37th Division radars.

█ NORAD sent this study to ADC on 16 August 1967. In an accompanying letter, NORAD pointed out the recommendation on closing the three radar sites. Also, NORAD said the remaining sites, C-23, C-24, C-25, and C-29 were to be automated in accordance with the study's recommendation. It was possible, NORAD said, to automate the radars by using AN/FST-2 data-processing equipment already on hand. However, NORAD said it wanted to use common digitizers and



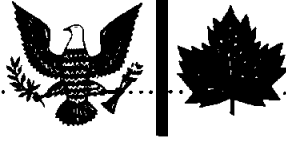
asked ADC whether it would be practical, and what the operational impact would be, to buy and install common digitizers at the four sites. Also, NORAD wanted information on the installation of ground-to-air transmitter receiver (GATR) sites at C-23 and C-24.⁸

ADC replied on 31 August that from a system improvement standpoint, automating certain functions in the 37th area had merit. ADC said it was still evaluating the proposal but felt it would not be economical to install FST-2's because most of them were in poor condition. The cost of one common digitizer, ADC said, was \$126,000, plus about \$20,000 for installing it. Annual operating and maintenance costs were expected to run about one-third of that for the FST-2.⁹

On 29 September, ADC told NORAD that it was holding up action on the automation proposal until it received guidance on the recent Continental Air Defense Strategic Draft Presidential Memorandum (DPM). ADC said the DPM and the supporting Program Change Requests being prepared by USAF would have a direct bearing on the force structure. Until the results were known, ADC said no sound planning could be done on reconfiguring the 37th Division.¹⁰

ADC Study. Because of a cut in ADC's operating funds for FY 1968, ADC proposed on 9 October to withdraw the interceptors from Goose Air Base. USAF approval of this proposal on 19 October led to the withdrawal of interceptors on 30 November. In the meantime, on 26 October, USAF had asked ADC to make a study to find if it was practical to eliminate the 37th Division and reduce the number of radar sites in that area.* In

* Also, USAF asked ADC to consider the manpower implication of the elimination of the peacetime requirement for manning EC-121 stations on the East and West Coasts. See page 91.



asking for this study, USAF was apparently looking for ways to save manpower. ADC asked for NORAD comments. NORAD replied on 2 November saying its position was unchanged from the one it had sent ADC on 16 August 1967.¹¹

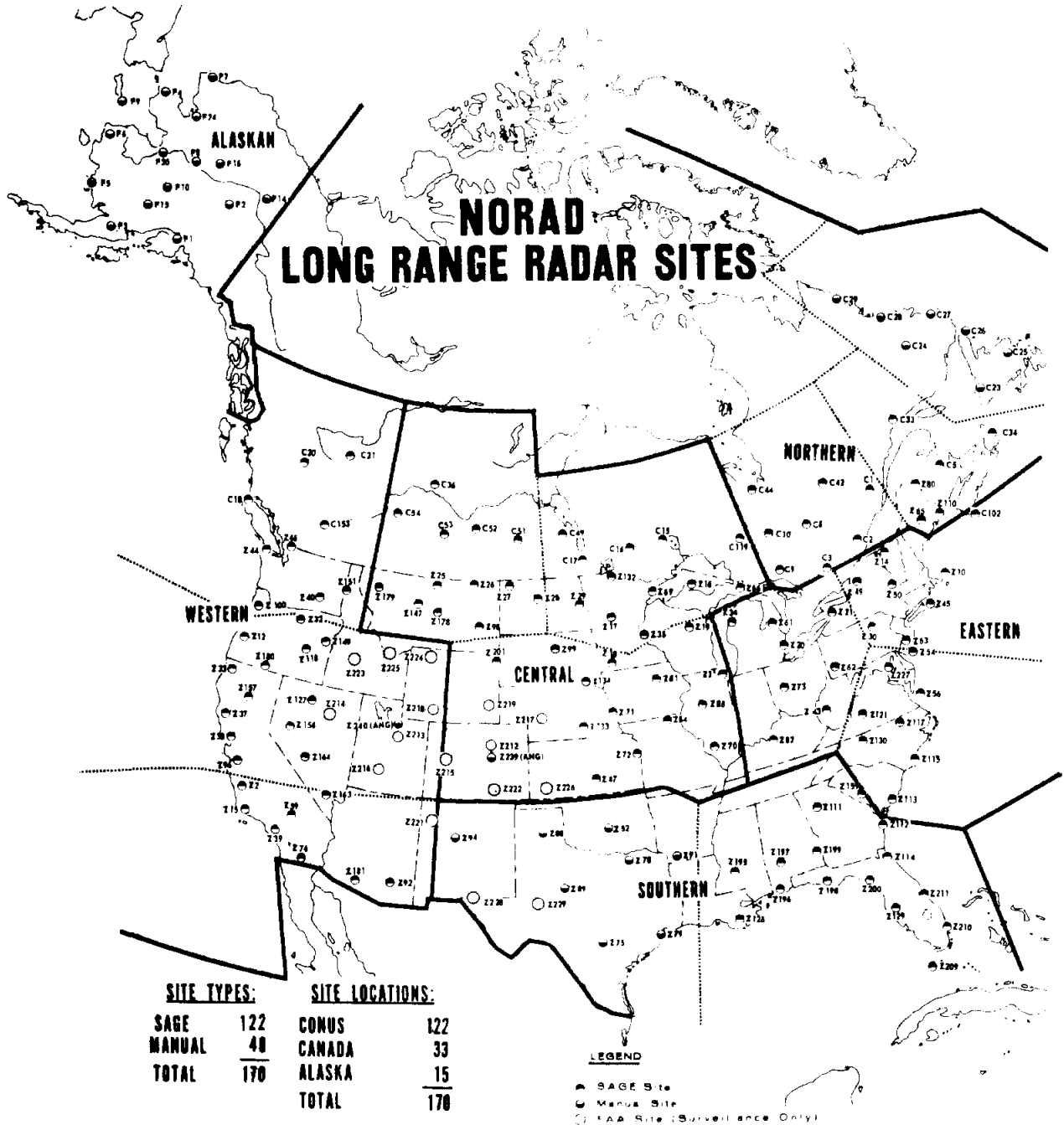
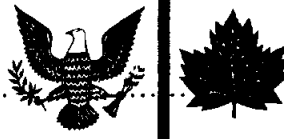
ADC's reply to USAF was not in line with NORAD's previous position on the 37th Division configuration, but was informally coordinated with and concurred in by NORAD on 8 November. ADC recommended that the six USAF radar sites be kept until common digitizers were available to data-tie three sites to SAGE. The three remaining manual sites could then be closed. Furthermore, ADC recommended keeping the 37th Division until the three sites were connected to an appropriate SAGE Direction Center.¹²

Mission Change. On 6 December 1967, NORAD changed the mission of the 37th Division to surveillance only. This change was brought about by the withdrawal by ADC of the detachment of interceptors at Goose Air Base on 30 November. In a message to all concerned, NORAD said the Manual Direction Center at Melville would continue to operate but the NORAD Control Centers at Stephenville, C-23, and Melville, C-24, were reduced to surveillance stations.¹³

GAP FILLER RADAR CLOSURES

On 29 September 1967, USAF told ADC that the Secretary of Defense had directed a \$35 million cut in operating funds for Strategic Defensive Forces (ADC) for FY 1968. The Program Change Decision said this cut was to be made in money for support elements and it was felt that such a cut would not hurt ADC's ability to carry out its mission. USAF asked ADC for a plan showing where reductions could be made.¹⁴

The ADC commander, Lt. General Arthur C. Agan, replied on 9 October that he wanted to keep



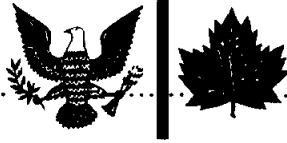


support strength on an austere but efficient basis. To do this, ADC proposed cutbacks in certain other elements. One such proposal was the elimination of 20 of the 88 operational gap filler radars. ADC estimated that this single action would save about \$630,000 in FY 1968 and twice that amount in the following years.¹⁵

On 19 October, USAF approved the proposal to close 20 sites. USAF said that OSD also had to approve this cut but ADC was to continue planning on eliminating the sites in the second quarter of FY 1968. USAF asked for a list of the sites to be deleted.¹⁶ After coordinating with NORAD, ADC sent USAF on 27 October the following list of sites:¹⁷

Z-17A	Elbow Lake, Minn.
Z-28D	Regan, N.D.
Z-29C	Valley City, N.D.
Z-35B	Northfield, Minn.
Z-35F	La Crescent, Minn.
Z-40C	Okanogan, Wash.
Z-43A	Bainbridge, Ohio
Z-43E	Lewisville, Ohio
Z-62G	Thomas, W. Va.
Z-65A	Topsfield, Me.
Z-65B	Sedgwick, Me.
Z-70C	Vichy, Mo.
Z-70G	Bowling Green, Mo.
Z-80B	Bridgewater, Me.
Z-81A	Dallas Center, Iowa
Z-81B	La Motte, Iowa
Z-81E	Washington, Iowa
Z-112E	Jeffersonville, Ga.
Z-130B	Allen, N.C.
Z-157A	Janesville, Calif.

In November 1967, these sites stopped operations and were put in caretaker status awaiting OSD approval to phase them out.¹⁸



AIRBORNE EARLY WARNING AND CONTROL FORCES

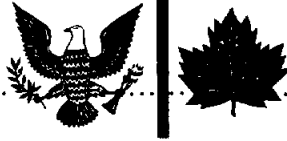
EAST COAST OPERATIONS

(U) On 25 April 1967, an ALRI-equipped EC-121H aircraft of the 551st AEW&C Wing, Otis AFB, Mass., crashed near Nantucket Island killing all but one of the crew members, which included the commander of the 551st. This was the third EC-121H crash for the 551st within 21 months. Flying operations of the 551st were suspended almost immediately after the accident so that the entire fleet of these aircraft could be thoroughly inspected.¹⁹

(U) While the aircraft were being checked, the USAF Inspector General was making a safety survey of the 551st. Also, Congressional interest was aroused when Senator Edward Kennedy and Congressman Hastings Keith, both from Massachusetts, asked the House Armed Services Committee to make an investigation. Members of a sub-committee visited Otis AFB on 1 May to investigate the background of the three crashes and to find out the value of the Wing's mission.²⁰

Before the USAF investigation was finished, temporary inboard ALRI stations were set up to let the aircraft operate at lower altitudes and carry less fuel by cutting travel time to stations. Station manning on a very limited basis resumed on 6 May.²¹ On 15 May, the USAF Inspector General briefed ADC on the results of its safety survey. The adverse findings of the investigation caused ADC to again suspend ALRI station manning temporarily. Also, the action taken by ADC's commander in connection with the 551st included:²²

1. Ordering the replacement of key staff officers and enlisted men;
2. Providing help by his staff and by other personnel from ADC to restore sound operating and maintenance practices and procedures;
3. Directing that a complete quality control inspection be made of each aircraft before its next flight;



4. Asking USAF to help in getting qualified key maintenance personnel.

█ NORAD's requirement for manning the four East Coast ALRI stations had been set up on a 30 per cent random manning basis for normal readiness conditions. However, the stations were manned at two per cent during May and at seven per cent during June 1967.²³ By message on 12 July, NORAD asked its Eastern NORAD Region to estimate when station manning requirements could be met. ENR answered on 14 July that 30 per cent manning could be resumed by about 15 November 1967 and, until that time, wanted authorization to man the stations at 20 per cent. There were two main limiting factors. One was a requirement for the 551st Wing to train personnel of the 553rd Reconnaissance Wing, whose mission had precedence over that of the 551st. The other was a shortage of qualified flight engineers because of transfers from the 551st to the 553rd Wing, and the need to use 551st flight engineers as instructors to train unskilled engineers in both its own unit and the 553rd.²⁴

█ Although NORAD had concurred on 15 May 1967 with a 552d AEW&C Wing plan to reduce station manning to 19 per cent on the West Coast from mid-June to mid-October for training about 30 pilots, NORAD did not agree to ENR's proposal to man the ALRI stations at 20 per cent. In a message to ENR and ADC on 24 July, NORAD said it recognized the factors that limited current station manning but wanted ALRI capability restored as soon as possible. By the end of September, station manning was at 24 per cent. In October, it rose to 35.6 per cent and then was reduced to 31.6 in November. On 11 December, ENR told NORAD that the minimum random station manning of 30 per cent would now be kept up.²⁵

CHANGES TO OPERATION ORDER 300N-67

█) In a message of 9 May 1967, the Southern NORAD Region told NORAD about a problem in operational control of the AEW&C forces assigned to the



Southern Region. Aircraft from the 552d AEW&C Wing on the West Coast were based at McCoy AFB to man the station off the southern coast of Florida. The problem was that the aircraft remained under the operational control of the Western NORAD Region until they were actually on station. The Southern Region wanted operational control of these forces to start automatically upon declaration of a DEFCON 4.²⁶

█ NORAD replied on 16 May that it was reviewing command and control provisions for AEW&C aircraft in Operation Order 300N-67, "Air Defense of the North American Continent," and proposed changes would be sent to the regions concerned and ADC for comments. These proposed changes, sent on 31 May, were to do the following:²⁷

1. Give full operational control of AEW&C resources in SNR to the Southern Region commander.
2. Authorize the establishment and peacetime use of inboard AEW&C/ALRI stations.
3. Permit the establishment of augmentation stations by region commanders in addition to those directed by CINCNORAD. These augmentation stations could be manned after NORAD station requirements had been fulfilled, consistent with available resources and providing there was no lessening of the capability to perform NORAD-directed manning.
4. Make station manning requirements -- 100 per cent primary station manning during DEFCONs 3, 2, 1 or Delta alert status -- the same as those in NORAD/CONAD Reg. 55-3, "Defense Readiness Conditions, Air Defense Emergency, Air Defense Warnings, and Alert Requirements."

█ On 19 June, the Western NORAD Region recommended that the Southern Region assume operational control of the AEW&C aircraft assigned to



the latter only after the declaration of a DEFCON 3 or a higher DEFCON. This proposal was rejected by NORAD on 24 July. NORAD told the Western Region commander that such a limitation would not be desirable because of the merits of having continuity of operational control while changing from a peacetime to a wartime environment. NORAD said the Southern Region commander would be given operational control of all AEW&C aircraft in his area for active air defense functions. 28

(U) These changes were published in Change 2, dated 9 October 1967, to NORAD Operation Order 300N-67.

PEACETIME REQUIREMENT STUDY

As noted before, USAF was looking for ways to save manpower. On 26 October 1967, USAF asked ADC to study the manpower implications if the peacetime requirement was eliminated for manning the AEW&C and ALRI stations. In turn, ADC asked NORAD to comment on the subject. On 2 November, NORAD replied. NORAD did not comment on the manpower side of the matter except to say that manning was ADC's responsibility. 29

However, NORAD had much to say about the operational impact of elimination of peacetime manning of the stations. NORAD pointed out that 30 per cent peacetime random manning was essential to maintain combat readiness. In addition, NORAD said the AEW&C force contributed to contingency and special mission requirements and was a pool for support of AEW&C forces deployed to Southeast Asia (the 552d Wing had 11 aircraft in SEA on College Eye operations). Also, NORAD called attention to the document that set up both peacetime and wartime station manning requirements and outlined the additional seaward radar and communications coverage provided by the airborne stations. One other item noted by NORAD was the importance of an in-being AEW&C/ALRI force as a cadre for transition to AWACS. 30



On 8 November, NORAD informally concurred with ADC's answer to USAF. ADC recommended to USAF that no changes be made to the AEW&C/ALRI forces.³¹

PASSIVE DETECTION FOR NON-SAGE/BUIC AREAS

BACKGROUND

In May 1965, the JCS approved NORAD's qualitative requirement (NQR 3-65) for a passive detection capability in non-SAGE/BUIC ground environment areas. In the NQR, NORAD said it wanted by the end of 1966 a manually operated system put in five areas capable of detecting, tracking and controlling weapons against aircraft under ECM conditions. Three areas were in the CONUS and the other two were the 37th NORAD Division (formerly Goose Sector) and the Alaskan NORAD Region.

USAF told NORAD in August 1965 that its Air Force Systems Command had made a preliminary analysis and a system was feasible, but the requirement could not be completely met by using existing equipment. Also, AFSC had said that further studies should be made and without a high priority the system could not be operational by the time NORAD wanted it.

In October 1965, USAF directed AFSC to make an engineering study, including cost schedules and technical/operational advantages of the various system options available. However, because of other commitments, AFSC delayed starting the engineering study until July 1966. By mid-September, AFSC's Electronic Systems Division and MITRE had worked out tentative techniques and equipment. To verify and validate their conclusions and recommendations for a system, tests were held at radar sites in the 37th Division in November 1966.

The results of the study were published on 30 December 1966 in a MITRE technical report.

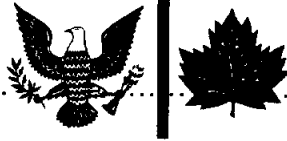


It recommended equipment, configuration, and operational employment for a manual passive triangulation system in the Alaskan NORAD Region and the 37th Division.³² The manual areas in the CONUS were not covered by the study. NORAD, ADC, ESD, and MITRE agreed to drop these areas from the study because plans were underway to tie them into an automated National Airspace System. The NAS had not been defined yet and design of a passive tracking system for it was felt to be premature.

STATUS

On 2 March 1967, representatives from ESD and MITRE briefed NORAD officials on the MITRE report. An analysis of the threat to the areas under study had indicated that the system should be rather austere. It was estimated that total equipment costs would be \$275,000 for the ANR and \$128,000 for the 37th Division, plus cost of communications, personnel, etc. In a letter to USAF on 16 May, NORAD concurred with the MITRE report and suggested that USAF approve it for implementation. Also, NORAD recommended that some changes in the operational concept and procedures in ANR be made to the report.³³

Information from USAF indicated that a passive tracking system as outlined in the MITRE report might eventually be installed in ANR. Currently, there were no funds available but attempts were being made to get the money in FY 1969.³⁴



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3. Msg., NORAD to NNR, et al., NOOP-E X10-766, 5 Oct 1967 (305x402x4).
4. DF, NOPS to NHCS, "(S) Reduction in Canadian Military Forces," 1 Nov 1967 (305x4); NPAP (NPPP), Historical Report Sep-Oct 1967.
5. As in Note 4.
6. NORAD to CDS, CFHQ, "(U) Reconfiguration of the 37th NORAD Division," 3 May 1967, with Atch Hq NORAD Study (4x304).
7. Ibid.
8. NORAD to ADC, "(U) 37th NORAD Division Common Digitizer-Procurement and Installation," 16 Aug 1967 (304).
9. ADC to NORAD, "(U) 37th NORAD Division Common Digitizer-Procurement and Installation (NOOP-E Secret Ltr, 16 Aug 1967)," 31 Aug 1967 (304).
10. ADC to NORAD, "(U) 37th NORAD Division Common-Digitizer Procurement and Installation (NOOP-E Secret Ltr, 16 Aug 67)," 29 Sep 1967 (304).
11. ADC to USAF, "(U) Operating Fund Reduction - FY 1968 (Ltr, AFABFG, 29 Sep 67)," 9 Oct 1967, with Atch (657); Msg., CSAF to ADC, AFOAP 76643, 20 Oct 1967 (302.1); Msg., CSAF to ADC AFXOSN 77523, 26 Oct 1967; ADC to NORAD, "(C) Feasibility of Eliminating the 37 Air Div and the Peacetime Requirement for Manning AEW&C/ALRI Stations," 26 Oct 1967 (304x302.12); NORAD to ADC, "(U) 37th NORAD Division and EC-121 Station Manning," 2 Nov 1967 (302.12x304).

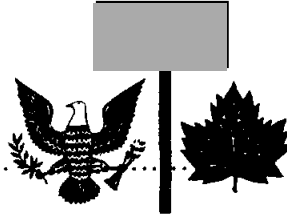


12. DF, NOPS to NHCS, "(U) 37th NORAD Division and EC-121 Station Manning," 16 Nov 1967, with Atch ltr, ADC to CSAF, "(U) Studies Relating to Air Defense Command," undated (304x302.12).
13. NOPS (NOOP-E), Historical Report, Nov-Dec 1967; Msg., NORAD to CANDEFCOM, et al., Secret NOOP-O, 2 Nov 1967 (402x5.5).
14. USAF to ADC, "(U) Operating Fund Reduction - FY 1968," 29 Sep 1967, with Atchs (657).
15. ADC to USAF, "(U) Operating Fund Reduction - FY 1968 (Ltr, AFABFG, 29 Sep 67)," 9 Oct 1967, with Atch (657).
16. Msg., CSAF to ADC, AFOAP 76444, 19 Oct 1967 (657); Msg., CSAF to ADC, AFOAP 76643, 20 Oct 1967 (302.1).
17. Msg., ADC to CSAF, ADLPP 03058, 27 Oct 1967 (302.1); NOPS (NOOP-E), Historical Report, Nov-Dec 1967.
18. NORAD Forces and Program Change Summary (U), 1 Dec 1967 (718).
19. Msg., 551CMBTSPTGP to OSAF, 551BEX 30134, 2 May 1967 (302.12).
20. Ibid.
21. Memorandum, Crawford to Taylor, "(U) Status of East Coast ALRI Aircraft," 24 May 1967 (302.12); Msg., ADC to CSAF, ADOOP-EI 01328, 15 May 1967 (302.12).
22. Memorandum, as in Note 21.
23. Interview with Major F. Qvale, NOOP-E 20 Oct 1967.
24. Msg., NORAD to ENR, NOOP-E X7-668, 12 Jul 1967 (302.12); Msg., ENR to NORAD, ENOOE-O 20654, 14 Jul 1967 (302.12); Msg., ADC to NORAD, ADCCS 02035, 19 Jul 1967 (302.12).

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25. Msg., ADC to CONAD, ADOOP-EI 01175, 27 Apr 1967 (302.12); Msg., CONAD to ADC, COOP-E X5-599, 15 May 1967 (302.12); Interview, as in Note 23; Msg., ENR to NORAD, Secret ENOOE-O, 11 Dec 1967 (302.12).
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27. Msg., NORAD to SNR, NOOP-E X5-600, 16 May 1967 (302.12); NORAD to ADC, et al., "(U) NORAD Operation Order 300N-67 (ADNAC)," 31 May 1967 (302.12); NOPS, Wkly Staff Act Sum, 28 May 1967 (743).
28. NORAD to WNR, "(U) NORAD Operations Order 300N-67 (ADNAC)," 24 Jul 1967 (302.12x656).
29. Msg., CSAF to ADC, AFXOSN 77523, 26 Oct 1967 (304x302.12); ADC to NORAD, "(C) Feasibility of Eliminating the 37 Air Div and the Peacetime Requirement for Manning AEW&C/ALRI Station," 26 Oct 1967 (302x302.12); NORAD to ADC, "(U) 37th NORAD Division and EC-121 Station Manning," 2 Nov 1967 (302.12x304).
30. NORAD to ADC, as in Note 29.
31. DF, NOPS to NHCS, "(U) 37th NORAD Division and EC-121 Station Manning," 16 Nov 1967 (304x302.12).
32. MITRE Technical Report 333, "(U) Passive Detection for Manual Areas," 30 Dec 1966 (150).
33. NPAP, Wkly Act Rpt, 5 Mar 1967 (747); MITRE Report, as in Note 32; NORAD to USAF, "(U) Passive Detection in Non-Automated NORAD Areas," 16 May 1967 (302.1x150).
34. ANR to NORAD, "(U) FPS-87A Antenna Modification - OA3424 (Your Ltr, NORAD Directorate of Operation Staff Visit to ANR, 27 Sep 1967)," 8 Nov 1967 (303); Msg., CSAF to AFLC, AFRDQSD, 27 Nov 1967 (303x150).



CHAPTER V

BALLISTIC MISSILE AND
SPACE WEAPONS DETECTION
SYSTEMS

SLBM DETECTION & WARNING SYSTEM

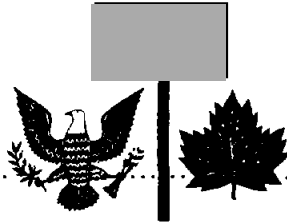
BACKGROUND

■ In November 1964, DDR&E approved a concept for a system that would give NORAD part of the ability it wanted for detecting missiles launched from submarines. The thinking was that the current threat (short-range missiles) should be met with an inexpensive modification to line-of-sight radars. NORAD felt that such a system would serve as an interim system and that funds should be limited to the minimum needed to insure warning for SAC. NORAD's goal of a system to warn against a future threat (long range SLBM's), as expressed in several letters to the JCS, was for an over-the-horizon (OTH) radar system.

■ DDR&E made \$20.2 million available for development of a line-of-sight system. Included in the guidance from DDR&E for developing a system was that consideration should be given to using two SPADATS sensors: the FPS-49 radar at Moorestown, N. J., and the FPS-85 phased-array radar being built at Eglin AFB, Fla. Later, however, the FPS-49 was dropped from consideration. In July 1965, DDR&E approved the AVCO Corporation's plan to modify FPS-26 height finder radars at six sites and to install one at Laredo, Texas. The Laredo site was to be designated Z-230. AVCO was awarded the contract in December 1965.

EXCLUDED FROM AUTOMATIC REGRADING;
DOD DIR 5200.10 DOES NOT APPLY

Group 1



EMPLOYMENT CONCEPT

■ The system was designated the AN/GSQ-89. The modified radars, termed AN/FSS-7s, were to give seaward coverage out to about 850 nm. These radars were to be able to give inputs to SAGE but they could be used only in one mode (SAGE or SLBM) at a time. NORAD's position on using these radars was that after they gave warning of SLBM launches they should be available to SAGE -- except for the non-SAGE radar at Laredo -- for use against the manned bomber threat. In case of a simultaneous attack by bombers and SLBM's, CINCNORAD would decide which threat the system would be used against.

■ On 24 February 1967, NORAD published an operational employment concept (NOEC 3-67) for the SLBM Detection and Warning System. As described in that document, the system was to be able to recognize (with probability greater than 95 per cent) a SLBM attack of five or more missiles launched within a five-minute period from off the coasts of the CONUS. It was to give up to nine minutes of warning of a mass attack based on performance of current Soviet SLBM's, and would give launch-point data to anti-submarine warfare forces assigned to CINCPAC and CINCLANT. In addition to the FPS-85 phased-array radar, the system was to have one FSS-7 radar at the following sites:

Z-38 Mill Valley AFS, Calif.
Z-65 Charleston AFS, Me.
Z-76 Mount Laguna AFS, Calif.
Z-100 Mount Hebo AFS, Ore.
Z-115 Fort Fisher AFS, N. C.
Z-129 MacDill AFB, Fla.
Z-230 Laredo, Tex.

■ The FSS-7 radars were to be on constant surveillance for SLBM's. When a site detected a ballistic missile which could impact within the CONUS or southern Canada, a launch/impact message would be sent automatically to the NORAD COC. The NORAD Display Information Processor (DIP) would



evaluate the threat and, if validated, would display the alarm level, threat value, and predicted impact information in the NCOC and at user locations within one minute of SLBM penetration of the radar coverage. User locations included the National Military Command Center, the Alternate NMCC, the National Emergency Command Post Afloat, and SAC.

█ The system had been expected to become operational in February 1968 but that date was slipped to about December 1968. This slippage was caused by the lack of spare parts and a delay in setting up a training course for technicians. Effective 1 July 1967, ADC organized detachments of the 71st Missile Wing to operate the FSS-7 sites.¹

AN/FPS-85 SLBM CAPABILITY

█ As noted above, the Space Detection and Tracking System (SPADATS) sensor at Eglin AFB, Fla., -- the AN/FPS-85 phased-array radar -- was also to contribute to the SLBM Detection and Warning System. NORAD comments on an ADC concept for operating the FPS-85 were sent to ADC on 28 February 1967. NORAD did not agree with those portions of the concept which covered the SLBM capability. NORAD said that certain design changes had been made which lessened the radar's capability to an undesirable degree. One of these changes, NORAD said, delayed detection time up to two minutes. Another change extended the minimum detection range to 250 nm when there was a potential launch area of less than 50 nm. Also, NORAD expressed concern that certain space tracking missions would take precedence over the SLBM mission without prior notification to either the Space Defense Center or the NCOC Missile Warning Division.²

█ To settle these problems and to answer several questions it had, NORAD asked ADC to arrange a meeting with representatives of ESD and the contractor. NORAD followed up these comments with a letter of 3 March. NORAD said that possibly the problems could be traced to limitations of the



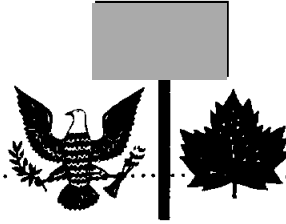
equipment, but it believed a more comprehensive computer program design would solve the problems. NORAD questioned whether it was wise to accept the current design concept and suggested that the matter be studied further. When it received no response by the end of April 1967, NORAD again wrote ADC asking for early answers to the problems and questions because several related projects were being delayed.³

On 2 June, ADC sent CONAD a Statement of Work (SOW) it had received from ESD for adding the SLBM capability to the FPS-85. On 1 June, ADC had sent a message to ESD criticizing the SOW because of its many unclear statements and improper design goals. ADC asked ESD not to make any contract commitments until ADC and NORAD had analyzed and formed a position on the SOW.⁴

CONAD sent its comments and recommendations to ADC on 20 June. CONAD said that because of limitations and deficiencies of the FPS-85 SLBM capability, it did not meet the CONAD operational requirements. CONAD recommended that work continue on putting the SLBM capability in the FPS-85. The work was to include on-site equipment, computer programming, and communication links to the NCOC, in accordance with a corrected SOW. CONAD said this work should be done as a research and development project. CONAD further recommended that the FPS-85 have a follow-on operational capability based on requirements drafted by a CONAD/ADC working group.⁵

In addition, CONAD gave guidance for correcting those areas which did not meet its requirements:⁶

1. The satellite function and the SLBM detection and warning function must be able to operate simultaneously, continuously, and without mutual interference.
2. The system parameters such as detection fence, elevation angles, and minimum detection



ranges must meet previously stated system specifications.

3. The program specifications must be definitive enough to insure that the sensor discrimination programs will meet stated false report rates.

4. There must be available enough empirical system data to insure that the system will operate within specified design values.

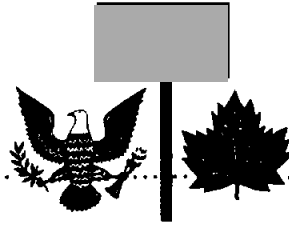
5. The SLBM and the satellite computer programs must perform as separate entities so that changes to one area will have a minimum effect on the other area.

OTH FORWARD SCATTER
MISSILE DETECTION SYSTEM (440L)

BACKGROUND

■ In January 1964, NORAD sent to the JCS a qualitative requirement (NQR 1-64) for a system to detect missile launches from the Sino-Soviet area. At that time, CINCNORAD told the JCS that a serious situation existed because BMEWS, facing northward, was unable to detect missiles that could be launched from the Sino-Soviet area in a south-polar trajectory to hit North America.

■ To partially satisfy NORAD's requirement, in December 1964 USAF authorized its Systems Command to design, develop, and acquire an over-the-horizon (OTH) forward-scatter missile detection system. USAF said this system, called 440L, was to complement and/or backup BMEWS and give missile launch and attack warning in semi-automated real



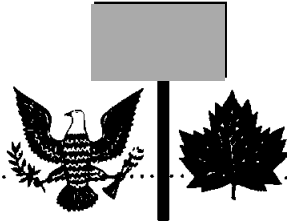
time to the NORAD COC.* In addition, the system was to give intelligence data on nuclear detonations and missiles in the research and development stage.

█ The system, under development for some time by the Rome Air Development Center, was taken over by the 440L System Program Office when that office was set up on 1 July 1965. At that time, the system consisted of two transmitter sites in the Far East and five receiver sites and a data correlation center in Europe. Planning got underway to expand the system. It was felt that the complete 440L System, using two different detection methods, would detect missiles launched in either north or south trajectories. The system was to detect missile launches by observing "irregularities" on high frequency transmissions between sites on opposite sides of Soviet launch complexes.

█) On 31 December 1965, a secure teletype circuit became operational for reporting system development data on launches from Soviet missile test complexes. This circuit was routed from the data correlation center at Aviano, Italy, to the data reduction center at Rome, N. Y., and from there to the NCOC.

* █ NORAD told ADC in February 1967 that the terms "complement BMEWS" and "backup" were inaccurate and misleading when used to describe the mission of 440L. NORAD, recommending a revised mission statement, said the system was to:⁷

1. Provide early warning of mass missile attack originating from the Sino-Soviet land mass.
2. Provide knowledge of research and development, and operational testing by the USSR and Communist China of ICBMS, space vehicles, and nuclear explosive devices.



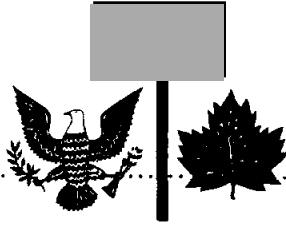
█ In April 1966, USAF directed Systems Command to revise the 440L site plan so the system would meet operational requirements. The initial operational date was set for FY 1968. Later in 1966, however, DOD deferred \$13.2 million in production funds and this action was expected to delay the initial operation of the system one year.

INTERIM LIMITED OPERATION

█ However, in October 1967, NORAD learned that USAF had directed a speed-up in 440L development to reach an interim limited operational capability on 1 March 1968. On that date, the system was to have three transmitter sites. In addition to the research and development sites in the Philippines and in Okinawa, a third site was to be near Tokyo, Japan. This latter site, located farther north, would give some coverage of Soviet operational missile fields. It was expected that a fourth transmitter site, in Japan, would be installed by April 1969, giving complete coverage of Soviet operational missile fields.⁸

█ This increase of activity leading to an interim limited operational date for 440L was caused by launches of a weapon system -- called the Fractional Orbital Bombardment System (FOBS) -- which the Soviets were thought to be developing. A JCS study of the FOBS threat, dated 13 September 1967, had recommended accelerating the 440L System to give a near-term and partial solution to counter this new threat. The JCS approved USAF's proposal for an accelerated program. The system had shown its capability to detect FOBS launches. Out of 11 such launches that were reported by intelligence sources, 440L had detected and reported eight of them and had correctly identified two as FOBS launches.⁹

█ Starting at 1700 MST, 31 December 1967, with direct teletype communications from the correlation center in Aviano, the NCOC began a two-month "shakedown" period for evaluating 440L equipment



and operating procedures. Furthermore, until initial computerized operations started in March 1968, 440L data would be routed through the NCOC to SAC and the NMCC without delay. NORAD would contact SAC within one minute after receiving a 440L message to confirm its accuracy and to correlate information from other warning systems.¹⁰

█ NORAD had told ADC on 22 December that it wanted an interim 440L display in the NCOC identical to interim displays which were to be put in the SAC Command Post and the NMCC.* NORAD said it wanted the display by the time computerized operations started.¹¹

MISSILE DATA PROCESSING AND DISPLAYS

BACKGROUND

█ In May 1966, at a meeting called by the Joint Command and Control Requirements Group, it had been decided that the Central Data Processor, made up of three Philco 212 computers in the NORAD COC, would serve as the only source of SLBM data to all users. But NORAD's thinking changed and in a message of 5 July 1966 to the JCS, NORAD proposed that the BMEWS Display Information Processor (DIP) be modified to serve all users as the primary display processor for both BMEWS and SLBM warning data. The details of this proposal were given by NORAD representatives on 7 July at another meeting of the JCCRG. Also attending this meeting were representatives from DDR&E, DCA, ADC, SAC, ESD and MITRE. NORAD based its proposal on the DIP's five and a half years of reliability, its good performance compared to the 212 computer, and the relatively low cost to modify the DIP and its supporting

*(U) The proposed displays were called "interim" because action was already underway to buy a Missile Warning Display Subsystem.



equipment. The DIP would be modified by adding a memory core and input/output devices. Also, NORAD believed that these changes would permit the DIP to process warning data from the OTH Forward Scatter Missile Detection System (440L). The Central Data Processor was to serve as a backup to the DIP.¹²

█ The meeting resulted in all agreeing to the NORAD proposal to modify the DIP to drive BMEWS and SLBM displays. JCCRG approval came in a message of 13 July 1966.¹³ Almost immediately, NORAD took action to get the modification started. On 21 July, NORAD asked ADC to help evaluate RCA's proposal for putting the SLBM program in the DIP.

(U) Action also progressed on getting displays for showing SLBM missile warning information. An engineering study in July 1966 resulted in a new design for the current BMEWS threat summary display because of space limitations in the NCOC, and a design for a SLBM system display. In September 1966, USAF directed its Systems Command to start work on getting displays for the NCOC, SAC, the NMCC, and other users.¹⁴

DIP/DISPLAY INTERFACE PROBLEMS

█ In a message to the JCS on 20 January 1967, NORAD said that since approval in July 1966 of its position to expand and keep the DIP as the primary data processor for all NORAD missile warning systems, it had not been informed of any progress. NORAD asked for details on the status of the program and repeated its intention to keep the DIP, in its modified form, as the primary missile warning computer. USAF, at the direction of the JCS, answered NORAD's request on 27 January. USAF said it was expecting feasibility and cost analysis studies from its Logistics Command by 1 February. If the findings were favorable, USAF said the DIP modification requirement would be issued. Apparently they were favorable because the modification requirement was issued on 15 March and AFLC started action on the project.¹⁵

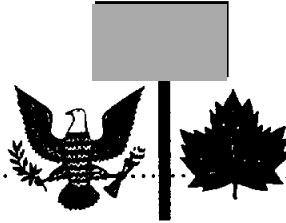


However, on 2 May, NORAD pointed out to ADC some shortcomings in the planning for modifying the DIP. The main problem was that RCA's fixed-price proposal did not specify certain modifications which would be necessary for SLBM detection and warning functions. NORAD said it had discussed these modifications with the concerned military agencies and RCA representatives, but the proposal had not been updated. One example of the several problems NORAD pointed out was that certain design criteria would not work with the DIP and its display system. NORAD asked ADC to inform those concerned so that the problems would be solved in time to assure the required operational capability and compatibility of the equipment when the DIP modification was finished.¹⁶

Acting on information that Logistics Command's Sacramento Air Materiel Area would process the modification as USAF had approved it, ADC told the agencies responsible on 18 May that some changes were necessary or complete integration (interface) between the DIP and the display system was not possible. ADC recommended a way to correct the situation.¹⁷

NORAD took action along different lines, however. On 24-25 May, NORAD sponsored a meeting with representatives from ADC, SAC, ESD, SMAMA, MITRE, and RCA. The purpose was to define and document all unresolved technical problems of the missile warning systems in the NCOC. Included in five main problem areas was the DIP/Missile Warning Display Subsystem (MWDS) interface. ADC and ESD were to send cost estimates and solutions to the problems to USAF, and NORAD was to inform the JCS. As a result of this meeting, on 15 June 1967, USAF made Systems Command (ESD) the manager for both the DIP modification and the MWDS.¹⁸

NORAD informed the JCS of the problems discussed at the 24-25 May meeting and on 26 June, sent a message to the JCS to insure that NORAD requirements were recognized. NORAD again said it



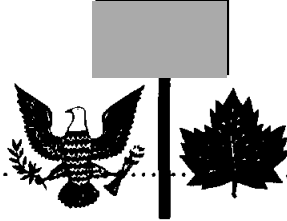
wanted to keep the DIP as the primary data processor for missile warning, outlined the technical problems involved, and asked that USAF correct them.¹⁹

(U) At a meeting at ESD on 16 November, attended by NORAD representatives, a new and different concept was suggested for solving the interface problem. This approach would use a small standard computer instead of two specially designed AVCO decoders. Such an arrangement would enable the NCOC to process and display both real and test data for BMEWS, SLBM, and 440L using either the Central Data Processor or the DIP. It was agreed that this new approach should be taken.²⁰

Because of the delay in solving the interface problem, the operational date for the DIP modification slipped an undetermined number of months, possibly to late 1968. Earlier, in May 1967, NORAD had told ADC that the DIP modification should be completed and checked out by 15 November 1967 but in any case not later than the IOC date (at that time, February 1968) of the SLBM Detection and Warning System.²¹

440L DATA PROCESSING

At a meeting at ESD to discuss displays for the 440L System on 9 November 1966, NORAD representatives accepted the responsibility for having the DIP modified to process 440L data. NORAD asked ADC on 5 June 1967 to have RCA's contract for the SLBM modification to the DIP expanded to provide for automatic and manual insertion of 440L data into the DIP. This was the only modification to equipment that was needed, NORAD said, because other jobs were already being done to permit processing and display of 440L data. NORAD explained that the modification to the DIP for processing SLBM data, which called for adding data storage capacity to the DIP, would enable it to process 440L data. Also, the new missile warning display subsystem would provide for transmission, decoding, and display of 440L data as well as SLBM and BMEWS data.²²



SPACE DEFENSE CENTER OPERATIONAL STATUS

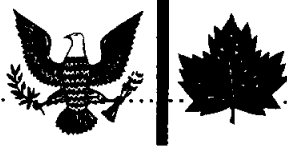
■ The 425L System portion of the NORAD Combat Operations Center became fully operational in Cheyenne Mountain on 20 April 1966. The Space Defense Center operational date fell behind, however, and it did not meet the desired operational date of 1 July 1966. The equipment was installed and operating but the computer programs of both the communications processor (the automatic digital relay) and the Delta I program of the ADR did not meet the scheduled dates. The ADR and Delta I problems continued through 1966 and the SDC operational date kept being delayed. By the end of 1966, the Delta I program was ready for testing but program fixes for the ADR were still delaying the SDC.

(U) In January 1967, the ADR completed a successful ten-day test. The Space Defense Center and the ADR became jointly operational in Cheyenne Mountain on 6 February 1967. NORAD stated in its 31 March 1967 NCMC implementation progress report to the DOD that the NORAD COC became fully operational in the Cheyenne Mountain Complex at 060001Z February 1967. This was the tenth such report submitted as directed by the Secretary of Defense in September 1964 and NORAD advised that it would now end the reports, the reporting objectives having been met.²³



SOURCES FOR CHAPTER V

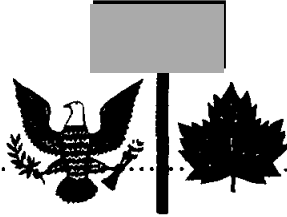
1. Msg., SAC to NORAD, DOCO 11213, 27 Oct 1967 (233); Msg., ADC to ESD, ADCCR 01081, 19 Apr 1967 (233); ADC GO G-50, 9 Jun 1967 (728); Interview with Capt J. E. Donley, NOOP-S, 20 Feb 1968.
2. NORAD to ADC, "(U) ADC AN/FPS-85 Concept of Operations," 28 Feb 1967 (233x228); CPAP (CPSD), Historical Report, Mar-Apr 1967.
3. NORAD to ADC, "(U) The SLBM Mission in the AN/FPS-85 Phased Array Radar at Eglin AFB," 3 Mar 1967 (233); NORAD to ADC, "(U) AN/FPS-85 SLBM Capability," 26 Apr 1967 (233).
4. Msg., ADC to ESD, ADLMD-S 01575, 1 Jun 1967 (233).
5. CONAD to ADC, "(U) AN/FPS-85 Statement of Work Addendum for SLBM Implementation," 20 Jun 1967 (228x233); CPAP (CPSD), Historical Report, May-Jun 1967.
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7. NORAD to ADC, "(U) Mission of 440L Forward Scatter Detection and Warning System (AN/GSQ-93)," 17 Feb 1967 (226.1).
8. Memorandum for the Commander-in-Chief, "(U) 440L Forward Launch Detection System," 22 Sep 1967 (226.1); DF, NOPS to NHCS, "(U) 440L Interim Operations," 30 Oct 1967 (226.1); Interview, as in Note 1.
9. Memorandum, as in Note 8; DF, CPAP to CHCS, et al., "(U) Program Change Request - 440L Forward Scatter OTH," 21 Dec 1967 (226.1).



10. Msg., NORAD to CSAF, et al., SECRET NOOP-S, 5 Dec 1967 (226.1); NORAD to ADC, "(U) 440L Circuit Terminations, 1 January 1968," 11 Dec 1967 (226.1); NCOC (NCOC-O), Historical Report, Nov-Dec 1967.; NPAP (NPSD), Historical Report, Nov-Dec 1967.
11. NORAD to ADC, "(U) Interim NORAD Combat Operations Center (NCOC) Displays for 440L," 22 Dec 1967 (226.1); NOPS (NOOP-S), Historical Report, Nov-Dec 1967.
12. Msg., NORAD to JCS, NHCS X-002, 5 Jul 1966 (226x233); DF, NOOP-S to NOOP, et al., "(U) Staff Visit Report, 7 Jul 1966, Washington, DC," 13 Jul 1966 (226x233); NOPS (NOOP-S), Historical Report, Jul-Aug 1966.
13. DF, as in Note 12; Msg., JCS to CONAD, JCS 656, 13 Jul 1966 (226x233).
14. Msg., CSAF to NORAD, AFSPDEM 87584, 23 May 1967 (226x233).
15. Msg., NORAD to JCS, NOOP-S X1-802, 20 Jan 1967 (226x233); Msg., JCS to CSAF, JCS 4409, 24 Jan 1967 (226x233); Msg., CSAF to NORAD, AFSPDEM 78785, 27 Jan 1967 (226x233); Msg., CSAF to AFSC, et al., AFSPDEM 92449, 15 Jun 1967 (226x233).
16. NORAD to ADC, "(U) Display Information Processor (DIP) Modification," 2 May 1967 (233).
17. Msg., SMAMA to ADC, SMNL 32699, 24 May 1967 (226x233); Msg., ADC to SMAMA, ADLMD-A 01637 6 Jun 1967 (226x233).
18. Memorandum for the Record, "(U) Meeting on Missile Warning System Discrepancies, 24-25 May 1967," 2 Jun 1967 (226x233x226.1); Msg., CSAF to AFSC, et al., AFSPDEM 92449, 15 Jun 1967 (226x233); NOPS (NOOP-S), Historical Report, May-Jun 1967.



19. Msg., NORAD to JCS, NOOP-S X6-834, 26 Jun 1967 (226x233); NOPS (NOOP-S), Historical Report, May-Jun 1967.
20. NOPS, Wkly Staff Act Sum, 19 Nov 1967 (743); NOPS (NOOA), Historical Report, Nov-Dec 1967.
21. Memorandum for CPSD, "(U) 440L Working Group Meeting," 2 Feb 1968 (226.1); NORAD to ADC, "(U) DIP-SLBM Category II Testing," 3 May 1967 (233).
22. ESD to NORAD, et al., "(U) Minutes of Meeting on 440L Displays," 22 Nov 1966 (226.1); NORAD to ADC, "(U) Display Information Processor (DIP)," 5 Jun 1967 (226x233x226.1).
23. NELC, Historical Report, Jan-Feb 1967; NCOC, Quarterly Report of NCMC Implementation Progress, 31 Mar 1967 (51); NORAD to Sec/Def, "(U) NORAD Cheyenne Mountain Complex (NCMC) Progress Report," 7 Apr 1967 (51).



CHAPTER VI COMMUNICATIONS

SATELLITE COMMUNICATIONS

DCSP

■ The Secretary of Defense had authorized an interim military communications satellite system for research and development and limited communications for the 1966/69 time period. A follow-on system was also planned. NORAD submitted requirements to the JCS for both systems in December 1964. In the interim system, the Initial Defense Communications Satellite Program (IDCSP), NORAD requested channels to projects 437 and 505 and the Diyabakir, Turkey, site. In the follow-on system, the Advanced Defense Communications Satellite Program (ADCSP), NORAD submitted requirements to the JCS on 28 November 1966. NORAD asked for 131 channels which included circuits to the National Command Authorities, Canada, SPADATS sites and other unified commands.¹

■ Also on 1 December 1966, NORAD issued NQR 3-66 for a Satellite Communications Capability. This NQR superseded NQR 1-65, 11 January 1965. On 13 January 1967, the JCS approved NORAD's requirement for a satellite communications capability. This requirement was to be fulfilled by the DCA DCSP (Defense Communications Satellite Program) planned for use by the services, the DCA, and the Tri-service Tactical Satellite Steering Group in the development of satellite communications systems.²



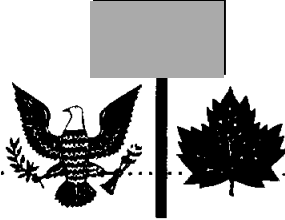
█ The Secretary of Defense redesignated the IDCSP and the ADCSP as the "DCSP," with three phases: Phase one was fairly well established with 17 satellites in orbit with several types of fixed and transportable terminals; phase two would provide synchronous satellites; and phase three would build upon the previous two phases with improvements as available.³ This system might interface with a tactical satellite communications program (see below) to provide the ultimate satellite communications network envisioned by DOD.

█ The JCS validated the NORAD requirement in the IDCSP to serve Project 505 and Diyaakir. Project 505 was deleted, however, and the terminal was transferred to Shemya, Alaska, which the JCS approved. In phase one of the DCSP, NORAD had satellite communications links to: Shemya, Alaska, and Diyaakir, Turkey. Information was received that the Diyaakir terminal had been reallocated to the Washington area because of higher priority commitments and political difficulties with the Turkish General Staff. Later in 1967, the second terminal scheduled for Asmara was shifted to Diyaakir. The operational date for this facility was unknown at the end of 1967.

█ On 22 November 1965, the JCS approved installation of a communications satellite terminal in the Colorado Springs area. An interim site at Peterson Field was selected until a permanent location was approved and funded.⁵ By the end of 1967, construction on the Peterson Field site was 90 per cent complete awaiting arrival of the satellite terminal and the power and operation trailers.⁶ The operational date for the facility was set for February 1968. The CEIP for the Site No. 3 (Lamar) permanent facility was approved in the amount of \$321,070,000. The operational date was estimated for FY 4/69.

TACTICAL SATELLITE COMMUNICATIONS

█ In addition to the DCSP, a tactical satellite communications program (TSCP) was being developed.



The tactical satellite was being designed primarily for mobile users (man pack, vehicular, aircraft, shipboard, etc.). The TSCP was scheduled for activation in the 1969-73 period. After discussions with NORAD, ADC submitted TSCP requirements in March 1966, as did many other agencies. In all, approximately 8,000 requirements were submitted by the various agencies to the JCS. NORAD/ADC requirements included satellite terminals for some SAGE/BUIC sites, all interceptor aircraft, and AWACS.

█ The currently-operating communications satellites and research and development were oriented toward near-equatorially-orbiting satellites. Equatorial orbits did not provide adequate coverage of the far northern or north polar regions which were of interest to SAC, NORAD/ADC, and some Navy operations.

█ SAC submitted a Required Operational Capability (ROC) on 15 September 1966 for a tactical communications satellite system. SAC's ROC recommended development of a system with satellites in inclined, elliptical orbit. Such a system would also improve NORAD's far north operations communications. A harmonization copy of the ROC was sent to NORAD. The latter told the JCS on 30 November 1966 that a northern area satellite communications capability would improve the reliability and flexibility of its far north warning function as well as the command and control of remotely operating systems, such as AWACS/IMI, and if an inclined, elliptical orbit system was approved, it wanted to participate. On 19 December 1966, the JCS validated the SAC ROC.

█ During 1967, an R&D program was in progress with the LES (Lincoln Earth Satellite).⁷ LES-5 was launched at mid-year and LES-6 late in the year. TACSAT I was scheduled for launch in mid-1968.⁸



AUTOMATIC SWITCHED VOICE NETWORK (AUTOVON)

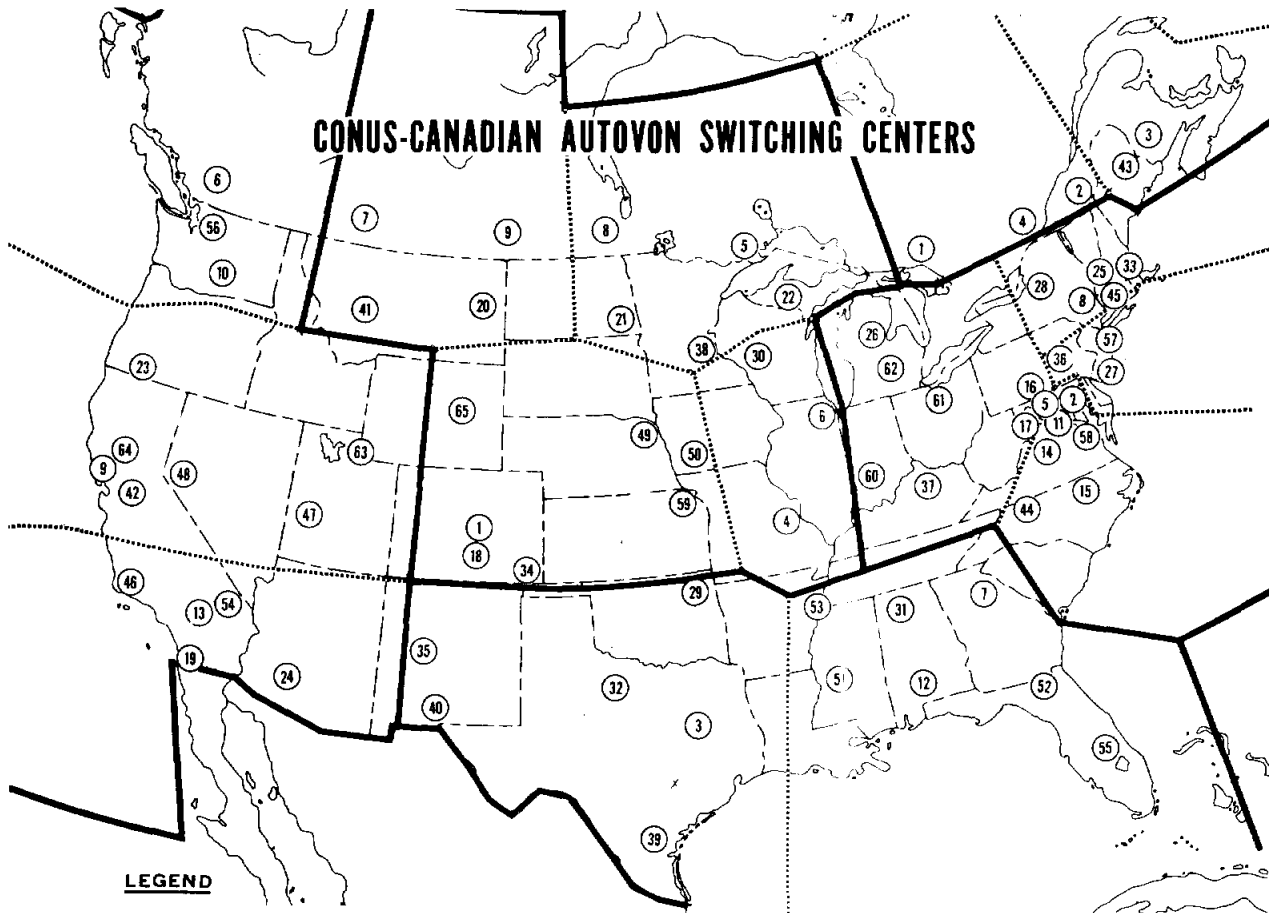
BACKGROUND AND STATUS

■ In 1960, NORAD, ADC and commercial communications companies developed a concept for an automatic dial telephone switching network. The first phase, nine switching centers to serve NORAD regions, was approved in July 1961. On 4 May 1963, OSD approved the combining of the four Army SCAN centers with five of the NORAD first phase centers to become the initial CONUS AUTOVON system being developed by the Defense Communications Agency. A world-wide AUTOVON system was being set up by the latter agency as the single long-haul system for all elements of the DOD. Integration of the SCAN-NORAD/ADC centers was on a phased basis with two centers integrated first and then tested. The first integration was on 1 November 1963 and a test held in December of the Hillsboro, Missouri, and Monrovia, Maryland switches. Combining of the SCAN-NORAD/ADC networks was completed on 20 April 1964, becoming the initial CONUS AUTOVON. One additional center at Faulkner, Maryland, for a total of ten, was added by the end of 1964.

■ The CONUS AUTOVON network programmed was for a total of 65 switches, 62 by 1970 and three more in 1972. By the end of 1966, the integrated network had been expanded from the original ten switching centers to 28. Eight additional switches were cut into operation in 1967, bringing the total to 36.

AUTOVON ANALYSIS/TEST PLAN

■ On 23 February 1966, the JCS directed DCA, in conjunction with NORAD, to prepare an analysis/test plan for AUTOVON performance after SAGE/BUIC integration. The basic purpose of the test was to determine if AUTOVON would satisfy user requirements when degraded by general war. The military services and unified and specified commands were to support DCA/NORAD in planning and execution of the analysis/



LEGEND

LOC NO	OFFICE
1	COLORADO SPRINGS, COLO
2	FAULKNER, MD
3	ENNIS, TEXAS
4	HILLSBORO, MO
* 5	MONROVIA, MD
6	NORWAY, ILL
7	ROCKDALE, GA
8	ROSENDALE, NY
9	SANTA ROSA, CALIF
10	YAKIMA, WASH
#11	ARLINGTON (PENT.), VA
12	BREWTON, ALA
*13	MOJAVE, CALIF
*14	CHARLOTTESVILLE, VA
*15	CHATHAM, NC
*16	HAGERSTOWN, MD
*17	LEESBURG, VA
*18	CHEYENNE MTN COMPLEX
19	ANAHEIM, CALIF
#20	BILLINGS, MONT
#21	FARGO, ND
22	IRON MTN, MICH
23	MEDFORD, ORE
#24	PHOENIX, ARIZ
#25	PITTSFIELD, MASS
26	ROSCOMMON, MICH
#27	WAYNE, PA
*28	SYRACUSE JCT, NY
29	MOUNDS, OKLA
30	STEVENS PT, WIS
31	JASPER, ALA
32	SWEETWATER, TEX
*33	LITTLETON, MASS
*34	LAMAR, COLO
*35	SOCORRO, NM
1967	
* 36	POTTSTOWN, PA (OCT)

TOTAL: 36

1968	
* 37	WILLIAMSTOWN, KY (JAN)
38	WYOMING, MINN (JAN)
39	SEGUIN, TEX (APR)
40	FAIRACRES, NM (APR)
41	HELENA JCT, MONT (APR)
42	LODI, CALIF (APR)
43	DOVER-FOXCROFT, ME (AUG)
*44	CHARLOTTE JCT, NC (AUG)
*45	HARTFORD JCT, CONN (AUG)
*46	SAN LUIS OBISPO, CALIF (AUG)

TOTAL: 46

1969	
47	DELTA, UTAH (JAN)
* 48	TOPAZ LAKE, NEV (JAN)
* 49	LYONS, NEBR (JAN)
* 50	DES MOINES JCT, IOWA (JAN)
51	JACKSON JCT, MISS (JAN)
* 52	JACKSONVILLE JCT, FLA (JAN)
53	MEMPHIS JCT, ARK (JAN)
54	TURQUOISE JCT, CALIF (JAN)
55	POLK CITY, FLA (JAN)
56	NORTH BEND, WASH (JUL)
* 57	NEW YORK JCT, NJ (JUL)
* 58	RICHMOND JCT, VA (JUL)
59	FAIRVIEW, KAN (OCT)
60	TERRE HAUTE, IND (OCT)
61	TOLEDO JCT, OHIO (OCT)

TOTAL: 61

1970	
62	PARMA, MICH (JAN)

1972	
* 63	LOGAN JCT, UTAH (UNCHED)
* 64	BAY AREA JCT, CALIF (UNCHED)
* 65	CASPER JCT, WYO (UNCHED)

TOTAL CONUS SWITCHES: 65

CANADIAN SWITCHES

1968	
2	SHERBROOKE, QUEBEC (APR)
3	FREDERICTON, NEW BRUNSWICK (AUG)
4	SMITH FALLS, ONTARIO (AUG)
5	FORT WILLIAM, ONTARIO (NOV)

1969	
1	SIOBURY, ONTARIO (APR)
6	HANEY, BRITISH COLUMBIA (JAN)
7	LETHBRIDGE, ALBERTA (JUL)
8	PORTAGE, MANITOBA (JUL)
9	REGINA, SASKATCHEWAN (JUL)

TOTAL CANADIAN SWITCHES: 9

*** HARD BUILDING**

#11	DRANESVILLE, VA (HARD) REPLACES ARLINGTON, 1969
19	SAN DIEGO JCT, CALIF (SOFT) REPLACES ANAHEIM, 1968
20	GLENDALE JCT, MONT (SOFT) REPLACES BILLINGS, 1970
21	WHEATLAND, ND (SOFT) REPLACES FARGO, 1970
24	APACHE JCT, ARIZ (SOFT) REPLACES PHOENIX, 1968
25	CHESTERFIELD, MASS (HARD) REPLACES PITTSFIELD, 1967
27	CEDAR BROOK, NJ (SOFT) REPLACES WAYNE, 1968



test. Also, NORAD was to assist DCA with the scenario for the test which DCA hoped to hold in November 1966.

█ The AUTOVON analysis test was held in October 1966 combined with Exercise High Heels/Desk Top VIII. All traffic data were furnished DCA, Washington, for evaluation. DCA advised that the results of their analysis of the test would not be available until August 1967.⁹ Analysis results were received on 14 September 1967. The JCS directed NORAD to evaluate the analysis and provide comments.¹⁰ Completion of the project was expected by 15 March 1968.¹¹

NORAD ATTACK WARNING SYSTEM (NAWS)

█ An attack warning system had been placed into operation on 1 September 1964. But because of numerous malfunctions, it had been removed from use a month later. Improved equipment was installed in 1965 and tested in early 1966. In the meantime, by March 1966, AT&T had installed equipment at 61 locations, the total programmed for the initial NAWS configuration. Included were installations at the NCOC, four regions, 14 sectors, and 42 combat alert centers. The final NAWS configuration would be attained when equipment was installed in the Alaskan and Northern Regions. Following successful testing, NORAD accepted NAWS on 22 April 1966.

█ NORAD planned to provide NNR and ANR with the NAWS capability by 22 July 1967 to complete the system. However, because of communication lead times and financial staffing at CANFORCEHED, the target date for NNR slipped. The equipment was installed in NNR during October 1967. The target date for ANR also slipped due to procurement lead times and installation in a government-owned environment.¹² Equipment was delivered during late October.

█ On 1 November 1967, NNR, 36th Division, Loring AFB, and Dow AFB were added to the NAWS.¹³



The circuits were tested prior to final acceptance. The NAWS equipment at NNR became operational on 3 December 1967.¹⁴

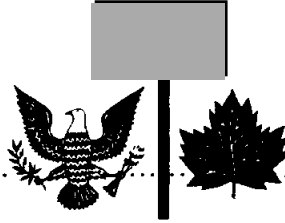
■ A request to GEEIA to install NAWS in Alaska was withdrawn because of a delay that would be met in programming the job and in financing.¹⁵ AAC decided to do the work with its own resources. Installation of the ANRCC terminal began in mid-December. Completion was scheduled for February 1968. The installation of the two site terminals was to start on completion of installation of the region equipment.

TELEVISION LINK BETWEEN NORAD CMC AND ENT AFB

■ Back on 15 September 1964, NORAD submitted a requirement to the JCS for an intersite cable communications link between Ent AFB and the Cheyenne Mountain Complex. Shortly thereafter, NORAD recognized a need for a secure television link between the two areas for the exchange of intelligence and other information and on 19 November 1964 submitted a request to the JCS. At a conference in Washington the next month it was decided that the cable requirement would be canceled and another requirement written to satisfy both the television and communications needs of NORAD. Thus, a whole new requirement submission was made on 10 February 1965 to the JCS for an intersite TV and communications link.

■ The Secretary of Defense deferred a decision on the requirement until NSA gave technical approval for the use of microwave links for the transmission of intelligence and SSO traffic, and until the NORAD requirement was revalidated. In May 1966, the JCS asked NORAD to review its requirement for possible cost reductions.

■ NORAD's DCS/Intelligence prepared a requirements study revalidating the requirement for the intersite secure TV link. This was submitted to the JCS with a letter signed by CINCNORAD on 8



February 1967.¹⁶ CINCNORAD's letter pointed out that he had to be kept up to date on all available intelligence regardless of security level. The TV link, he said, would give him the intelligence on which to base decisions in the shortest possible time.

█ In the accompanying requirements study, it was explained that the NCMC and the Ent complex were twelve miles apart. The concept of operations required that Intelligence support requirements of CINCNORAD and staff and the component commanders at either or both places. The TV link would make it possible to provide information immediately to either site, eliminate the need for continuous travel between sites to get briefings, and minimize the facilities and personnel needed.

█ In April, the JCS recommended to OSD approval of the requirement. The Secretary of Defense responded with a memo to the JCS and Air Force on 5 June 1967 deferring a decision until an engineering plan and a cost effectiveness analysis could be made and considered.¹⁷ The Air Force, together with NORAD and other concerned agencies, was requested to prepare this plan and analysis. These were to be submitted to DOD within 90 days. After receiving the above memo, the Air Force gave the job to AFLC in collaboration with NORAD and other appropriate agencies.¹⁸ AFLC then tasked GEEIA to perform the study.

█) The plan for the system was submitted to DOD in mid-September. Additional cost figures and other information was requested by OSD. On 22 January 1968, in a memorandum to the Secretary of the Air Force, the Secretary of Defense approved the TV link on a field-test basis.¹⁹ The Air Force was tasked to implement the system with funding to be accomplished within resources currently available to the Air Force.

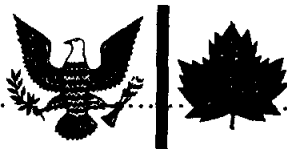


VLF/LF MINIMUM ESSENTIAL
EMERGENCY COMMUNICATIONS NET (487L)

■ A Defense Communications Agency (DCA) plan prepared in late 1965 for the Minimum Essential Emergency Communications Net (MEECN) allocated eight receivers in the SAC network to NORAD. According to the DCA plan, these eight receivers were to be located at the NORAD COC, the NORAD ALCOP, the CONAD ALCOP, Johnston Island, Alaskan NORAD Region, and the three BMEWS sites. NORAD felt that having only receivers at the BMEWS sites would serve no useful purpose and sent an alternate proposal to the JCS on 16 August 1966. NORAD recommended that the receivers allocated to the BMEWS sites be located at the Western, Eastern and Southern Regions instead. NORAD pointed out that this change would give each region a receiver capability.

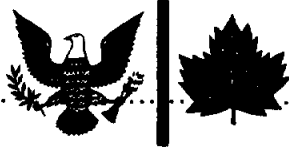
■ In September 1966, DCA sent the JCS a revised plan which incorporated the change recommended by NORAD. The JCS-approved plan for the MEECN was contained in a memo dated 7 October 1966. Five MEECN's were to be established, with NORAD assigned to MEECN Bravo Two (SAC net). NORAD was to have eight receive terminals equipped with 487L AN/FRR-77 receivers. These were to be located at the NORAD COC; the combat centers at NNR (NORAD ALCOP), CNR (CONAD ALCOP), ENR, WNR, and SNR; the ANR alternate combat center; and Johnston Island.²⁰ To implement the JCS plan, USAF tasked ESD to provide NORAD's eight receivers. NORAD designated ADC as the action agency for coordinating the installation of the receivers.

■ Site surveys were expected to be completed in December 1967 and installation of equipment to begin in May 1968.²¹ A target date of February 1969 was set for completion of all NORAD installations.²² Action on the NNR receiver site was being delayed, however, pending completion of a network review by JCS of all Canadian sites.²³

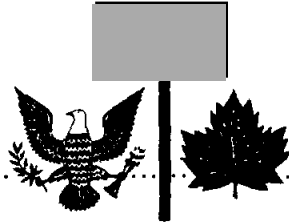


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CHAPTER VII

NUCLEAR DETONATION DETECTION
AND B/C REPORTING SYSTEMSNUCLEAR BIOLOGICAL CHEMICAL WARNING
AND REPORTING SYSTEM

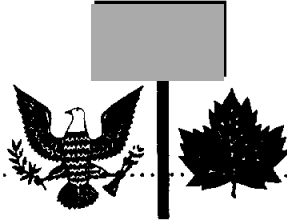
BACKGROUND

Effective 1 January 1966, the NORAD Nuclear Biological Chemical Warning and Reporting System went into operation. This system was made up of two separate manually-operated systems which had been known as the Nuclear Detonation and Radioactive Fall-out Reporting System and the Biological/Chemical Interim Warning System. Both of these manual systems originally had been set up on an interim basis awaiting the development of automated systems. However, the follow-on automated systems ran into technological and cost problems and it seemed that any operational use of such systems was a number of years away.

(U) To put the NBC Warning and Reporting System into use, NORAD published Operation Order 303N-66, 26 November 1965 (this order was replaced on 31 October 1966 by 303N-67). The mission of the system was to detect, identify, and report all nuclear detonations (except tests) and the enemy use of biological/chemical weapons and the resulting contamination in or adjacent to the CONUS, Alaska, the DEW Line and its extensions. The system was to evaluate the reported data and send out appropriate warning reports.

(U) Detection and warning teams were to make observations and report data on NBC activity to

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Group 1



reporting stations. Reports from these teams were to be relayed through the NORAD communications system (voice and SURTAC) to the NORAD COC. Data from these reports would be evaluated and, if appropriate, warning would be sent by teletype and voice-told to the JCS and other headquarters. Procedures and techniques for collecting and reporting data were published in NORAD Manual 55-10.

NBCWRS/NSAWS INTERFACE

On 13 February 1967, Canada's Chief of the Defence Staff, General J. V. Allard, sent CINCNOAD a proposal for exchanging nuclear detonation and radiation fallout data. General Allard said his staff had made a study of the Canadian National Survival Attack Warning System (NSAWS) and the Canadian Nuclear Detonation and Fallout Reporting System to examine their efficiency and economy. The study showed, he stated, that the job could be done better by exchanging data between Canadian warning facilities in Ontario and the NORAD COC by routing data through Northern NORAD Region Headquarters. A duplicate SURTAC circuit between the NCOC and NNR would provide communications. This arrangement would allow deletion of three Canadian Army Warning Centres in the United States. (These three centers, operating since 1959, were currently at the 25th and 29th NORAD Division Direction Centers and at the Central NORAD Region Combat Center.) General Allard asked that appropriate staff members meet to implement his proposals.¹

After meeting with staff members of Canadian Forces Headquarters, NORAD representatives came up with an alternate proposal. On 24 March, Deputy CINCNOAD, Air Marshal C. R. Dunlap, sent NORAD's comments and recommendations to General Allard. NORAD agreed to disband the Canadian Warning Centres in the United States and to install the duplicate data circuit. However, NORAD felt that routing the data through NNR would put an excessive workload on that headquarters. Until it completed studies on ways to improve and expand the NBC



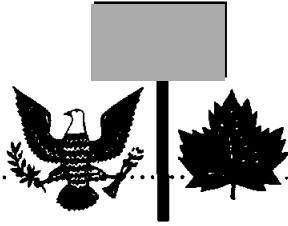
Warning and Reporting System, NORAD recommended exchange of data between NORAD Divisions and Canadian Provincial Warning Centres (of the NSAWS), as follows:²

- 25th Division - Nanaimo, B.C.
- 28th Division - Penhold, Alta.
- 29th Division - CFB Shilo, Manit.
- 34th Division - CFB Borden, Ont.
- 35th Division - CFB Borden, Ont.
- 36th Division - CFB Valcartier, Que.

As far as Canada was concerned, this exchange of information applied only to nuclear detonations and fallout. By this exchange of correspondence, NORAD proposed that the Canadian Forces also take part in reporting biological and chemical attack data. (CF ADC units participated in B/C coverage on an informal basis only.) In this letter of 24 March, NORAD asked that the Canadian Forces participate in the NBCWRS to the extent of exchanging biological and chemical attack data, adopting the NORAD NBC reporting format, and taking part in NORAD exercises of the reporting systems. A/M Dunlap said these measures were "pointed toward development of an integrated North American-wide warning and reporting system which would be very valuable."³

General Allard replied on 28 April, accepting the NORAD proposal for cross-telling nuclear data between the NORAD Divisions and Provincial Warning Centres. But he said that the proposed participation in the biological and chemical fields had to be studied in depth before an answer could be given.⁴ After this study was made, General Allard told CINCNORAD on 16 June that Canadian participation in the biological and chemical fields to the extent proposed was not possible. He did agree, however, to use the NBC reporting format and to exchange biological and chemical data between NORAD and the Canadian Forces on this basis:⁵

Biological and Chemical incidents will be reported during



exercises as scripted. Live B and CW incidents will be reported as battle damage and/or through military medicine and public health channels, according to circumstances and agents used.

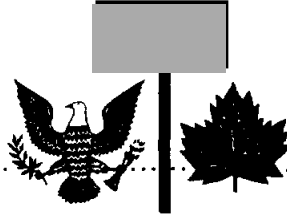
General Allard explained that Canada did not believe the threat justified setting up special biological and chemical warfare detection and reporting systems. This position, he said, would be reconsidered if such a threat to North America became a major consideration.

(U) NORAD agreed to these conditions. Arrangements were made for teletype communications circuits, financed under the CADIN Agreement, between the above listed NORAD Divisions and Provincial Warning Centres. Interface between the NBCWRS and the NSAWS was accomplished on 30 August 1967.⁶

NORAD STUDY OF NBC REPORTING

At the time NORAD was trying to improve techniques and procedures for gathering and reporting data within the NBC Warning and Reporting System, it was also concerned about responsibilities for reporting data to the JCS. Currently, NORAD sent nuclear detonation reports by teletype and voice to the National Military Command Center (NMCC) and the alternate center (ANMCC). Biological and chemical attack data were not reported to the NMCC/ANMCC because the JCS had not stated a need for such data.⁷

In a letter of 28 July 1967, NORAD recommended that the JCS approve a concept for automatic reporting of NBC attack data from the NORAD COC to the NMCC/ANMCC. Also, NORAD asked that CINCNORAD be appointed to make a study to find the best way for automatic reporting of NBC data from the COC and unified and specified commands to the NMCC/ANMCC and other users.⁸



On 11 September, the JCS directed CINCNOAD to make a study as outlined by NORAD. On 30 December, the JCS added another requirement to the study. They said the National Military Command System (NMCS) required timely information on probable areas of radioactive contamination. The JCS asked CINCNOAD to include in the study plans and procedures for predicting and reporting radioactive fallout in the CONUS, including off-shore, to the command centers of the NMCS. Because the findings of this study could have an impact on the world-wide reporting system (the Joint Operational Reporting System), the JCS instructed unified and specified commanders to respond to the study as requested by CINCNOAD.⁹

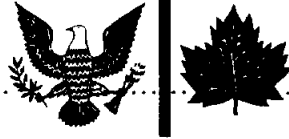
(U) NORAD planned to host a meeting of all concerned in mid-January 1968. The purpose was to establish the principles for an NBC reporting doctrine, to find the degree to which world-wide standardization of NBC reporting was practical, to find common elements of information needed by all users, and to reach preliminary agreement on reporting methods (transmission, frequency, coding, formats).¹⁰

BOMB ALARM SYSTEM

ATTACK ASSESSMENT STUDY

(U) The Bomb Alarm System, developed by the Western Union Telegraph Company, was designed to automatically report nuclear explosions to the NORAD COC and other key military and civilian agencies. It became operational on 1 September 1962 with sensors at 100 sites: 98 in the CONUS, one at Thule BMEWS site, and one at Clear BMEWS site.

During 1965, a JCS group studied changing the system to serve as an attack assessment system which would show the character of a nuclear attack, that is, urban industrial targets only, military targets only, or a combination. The study group

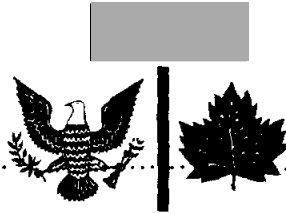


found that the BAS, if set up properly, was one of the few potential systems that might give valid information on the weight and nature of an attack under all but the most severe general war conditions. The JCS sent a study to DOD recommending expansion of the BAS, and at about the same time, September 1965, asked the Defense Communications Agency to give NORAD technical assistance to reconfigure the system, expanding it to design capacity (120 sites). USAF was to help NORAD by preparing a plan to reconfigure and improve the BAS.

USAF prepared a plan for expanding the system to 120 sites. In March 1966, DCA asked for NORAD's recommendations on this plan. CONAD replied to DCA on 14 June 1966 recommending against expansion but for relocating a number of sites. CONAD's recommendation was in line with the results of a meeting held at the Pentagon on 13 June. Attended by representatives from NORAD, USAF, and DCA, the JCS held the meeting to review a USAF Program Change Request for reconfiguring and expanding the system. It was found there was not enough justification to expand the BAS to its capacity because 34 sites were at military bases which were either to close or had lost some importance as targets.* As replacements, 34 new sites were added to the BAS site list. The total number of sites was to remain at 100.

A minor change in the replacement sites, based on a NORAD recommendation to DCA on 27 July 1966, substituted two high-priority Canadian military centers, Canadian Forces Headquarters and North Bay, and the Alaskan NORAD Region Combat Center at Elmendorf AFB.

* Actually there were 33 military bases, instead of 34, with BAS equipment. The equipment at Chennault AFB, La., had been removed from operation in 1963 and dismantled.



■ In August 1966, DCA asked USAF to prepare a revised plan using the new list. The system was to serve as an attack assessment means for the National Military Command System and was to be consistent with NORAD's recommendations. The system was to continue serving NORAD as an automatic way of detecting nuclear detonations. (The manual system for detecting such explosions, covered in the front of this chapter, was the NBC Warning and Reporting System.)

■ On 9 November 1966, the Secretary of Defense approved a USAF request (PCR 66-7) to reconfigure and improve the BAS to give it an attack assessment capability. This decision called for relocating 34 of the 100 sites, improving the NMCS display system, and improving the sensitivity of the sensors. Western Union presented its proposal for carrying out these instructions to NORAD and ADC in November 1966.¹¹

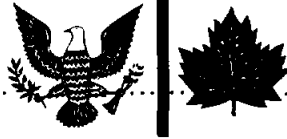
STATUS

■ USAF, on 9 February 1967, asked NORAD to comment on Western Union's proposal. USAF said it had JCS and DCA concurrence on the proposal which would give a better system for about the same annual leasing cost. It was estimated that it would cost about \$1.1 million to reconfigure the system and the annual leasing cost was estimated at \$4.4 million.¹²

■ NORAD sent its concurrence to USAF on 10 March but said that certain conditions had to be met. These were:¹³

1. The modified sensors were to detect nuclear detonations with yields between two kilotons (the lower detection limit of current sensors was 400 KT) and 50 megatons at all altitudes from the surface to 20,000 feet.

2. Canadian concurrence was required for the inclusion of four sites in Canada (Montreal, North Bay, Ottawa, and Toronto were on the list of sites).



3. The name of the modified system was to be changed to show that it was a nuclear attack assessment system.

At a meeting on 28 March, attended by representatives of NORAD, USAF, ADC, and Western Union, NORAD's conditions were discussed. It was agreed that a test program should be held to find the lowest nuclear detonation the sensors could detect, starting at two kilotons and progressing upwards if necessary. USAF was to get Canadian Forces' approval for putting sensors at the Canadian sites. Also, when the system was completed, the name was to be changed to Attack Assessment System. (Later, however, USAF approved a NORAD/ADC request to rename it the Attack Assessment/Bomb Alarm System. Until work was completed, it was to be called the Bomb Alarm System 210A (Modified Interim), effective 1 July 1967.) NORAD was to send a list of priority sites to the JCS, USAF, ADC, and Western Union, for the order of implementation.¹⁴

NORAD sent out the list of priority sites on 24 April. Testing of the modified sensors was done at MacDill and McCoy AFBs in Florida and at Clinton-Sherman AFB, Oklahoma, from July to 11 October. These areas were selected because of the usually intense thunderstorm and lightning activity. Some officials felt that lightning would trigger sensors set to detect low-yield nuclear detonations. However, testing showed that lightning had little effect on the sensor and both NORAD and ADC were satisfied with its overall performance.¹⁵

Planning was also underway to make the system more survivable. In addition to diverse and redundant communications routing, NORAD guidelines directed that communications not be routed through primary target areas. The communications criteria, coupled with reconfiguration of the system, made practically all existing routings obsolete. Consequently, new routings had to be determined. In December 1967, NORAD told the JCS that, of the six Master Control Centers, four centers located at



Albany, N. Y., Indianapolis, Tulsa, and Salt Lake City would be moved to lesser target areas to ensure maximum survivability.¹⁶

█ In a message of 15 December to the JCS, NORAD said that recent discussions with the agencies concerned had shown that no one was sure what effect electromagnetic pulse (EMP), caused by high yield nuclear detonations, would have on the system. NORAD said its viewpoint was that "total reliance on this system to provide attack assessment should not be made because it may not survive the first minutes of a mass nuclear attack." Also, NORAD said if the contract were given to Western Union by 1 January 1968, the reconfigured system should be operational by June 1969.¹⁷

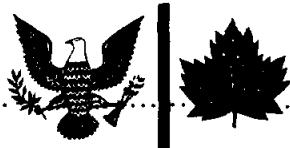
█ In the meantime, some thought was being given to extending the system to cover the sites in the SLBM Detection and Warning System and, eventually, the Sentinel ABM radar and missile sites. On 9 October 1967, the JCS asked for NORAD's comments on the matter and also asked that NORAD's reply be coordinated with CINCLANT, CINSAC, and CINCSTRIKE.¹⁸

█ After coordinating with the commands concerned, NORAD sent an answer to the JCS on 29 December. NORAD said that extending coverage to these important military targets would help in analyzing an attack pattern. But ARADCOM had stated, NORAD said, that the Sentinel System would be able to give attack assessment on its own and so there was no reason to extend coverage to these sites. NORAD listed the Sentinel sites and the seven SLBM radars but cautioned that any expansion of the system should be based on clearly stated needs, cost effectiveness evaluation, and an estimate of relative national priority. CINSTRIKE asked that his headquarters, and its alternate location, be included in any extension of the attack assessment system.¹⁹



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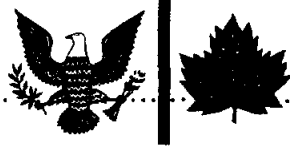


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GLOSSARY

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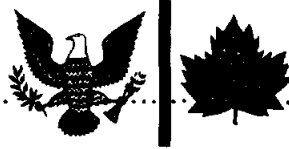


GLOSSARY OF ABBREVIATIONS USED IN THIS REPORT

AAR	Air-to-Air Refuelable
ABM	Anti-Ballistic Missile
ADCAO	Aerospace Defense Command Aerospace Objectives (Plan)
ADR	Automatic Digital Relay
AEW&C	Airborne Early Warning & Control
AFLC	Air Force Logistics Command
AFSC	Air Force Systems Command
AICBM	Anti-Intercontinental Ballistic Missile
ALCOP	Alternate Command Post
ALRI	Airborne Long-Range Inputs (SAGE Integrated)
ANMCC	Alternate National Military Command Center
ANR	Alaskan NORAD Region
ARADCOM	Army Air Defense Command
ASW	Anti-Submarine Warfare
AUTOVON	Automatic Voice Network
AWACS	Airborne Warning and Control System
BAS	Bomb Alarm System
BMDC	Ballistic Missile Defense Center
BMEWS	Ballistic Missile Early Warning System
BNCC	BUIC NORAD Control Center
BUIC	Back-up Intercept(or) Control
CADIN	Continental Air Defense Integration, North
CANFORCEHED	Canadian Forces Headquarters
CCCS	CONAD Command and Control System
CDS	Canadian Defence Staff
CEIP	Communications-Electronics Implementation Plan
CFADC	Canadian Forces Air Defence Command
CFHQ	Canadian Forces Headquarters
COC	Combat Operations Center
COEC	CONAD Operational Employment Concept
CPR	Chinese Peoples Republic



DCA	Defense Communications Agency
DCS	Deputy Chief of Staff; Defense Communications System
DCSP	Defense Communications Satellite Program
DDR&E	Director of Defense Research & Engineering (DOD)
DEFCON	Defense Readiness Condition
DEMOD	Deployment Model (Nike X)
DEPEX	Deployment Nike X (Nike X Deployment Study or Plan)
DEW	Distant Early Warning
DICBM	Defense Intercontinental Ballistic Missile
DIP	Display Information Processor
DOB	Dispersed Operating Base
DPM	Draft Presidential Memorandum
ECM	Electronic Counter Measures
EDICT	Evacuation and Dispersal of Interceptors from Critical Targets
ENR	Eastern NORAD Region
ESD	Electronic Systems Division
FCS	Fire Control System
FOBS	Fractional Orbital Bombardment System
GEEIA	Ground Electronic Engineering Installation Agency (Air Force)
IDCSP	Initial Defense Communications Satellite
IMI	Improved Manned Interceptor
IOC	Initial Operational Capability
JADSIG	Joint Continental Aerospace Defense Systems Integration Group
JCCRG	Joint Command and Control Requirements Group (JCS)
JCDSIPS	Joint Continental Defense Systems Integration Planning Staff
JDIS	Joint Defense Systems Integration Staff
JSOP	Joint Strategic Objectives Plan
JTD	Joint Table of Distribution



LADO	Light Attack Defense Option (Nike X)
LF	Low Frequency
MADPAC	Mobile Air Defense Package
MDC	Missile Direction Center
MEECN	Minimum Essential Emergency Commu- nications Network
MITRE	Massachusetts Institute of Technology, Research and Engineering (Corpora- tion)
MNCC	Manual NORAD Control Center
MOBS	Multiple Orbit Bombardment System
MSR	Missile Site Radar
MWDS	Missile Warning Display Subsystem
NAS	National Airspace System
NAWS	NORAD Attack Warning System
NBC	Nuclear, Biological and Chemical
NBCWRS	Nuclear, Biological, Chemical Warning and Reporting System
NHCP	NORAD Directorate of Computer Program Control
NCMC	NORAD Cheyenne Mountain Complex
NCOC	NORAD Combat Operations Center
NMCC	National Military Command Center
NMCS	National Military Command System
NNR	Northern NORAD Region
NOCOPS	NORAD Combat Operations Program System
NOOP-E	NORAD Directorate of Operations- Environment Division
NQR	NORAD Qualitative Requirement
NSA	National Security Agency
NSAWS	National Survival Attack Warning System
NUDET	Nuclear Detonation
NXPO	Nike X Project Office
OEC	Operational Employment Concept
ORT	Overland Radar Technology
OTH	Over the Horizon (radar)
PAR	Perimeter Acquisition Radar
PBD	Program Budget Decision



PCD	Program Change Decision
PCR	Program Change Request
PJBD	Permanent Joint Board on Defense
QMR	Qualitative Materiel Requirement
ROC	Required Operational Capability
SAGE	Semi-Automatic Ground Environment
SAM-D	Surface-to-Air Missile-Development
SCAN	Switched Circuit Automatic Network
SDC	Space Defense Center; System Development Corp.
SEA	Southeast Asia
SLBM	Submarine Launched Ballistic Missile
SLCM	Submarine Launched Cruise Missile
SMAMA	Sacramento Air Materiel Area
SOW	Statement of Work
SPADATS	Space Detection and Tracking System
SURTAC	Surveillance and Tactical (communi- cations network)
TDY	Temporary Duty
TSCP	Tactical Satellite Communications Program
UE	Unit Equipment
UNAAF	Unified Action Armed Forces
VLF	Very Low Frequency
WNR	Western NORAD Region
WSEG	Weapons System Evaluation Group
WWMCCS	World-Wide Military Command and Control System
XCC	Nike X Coordination Center

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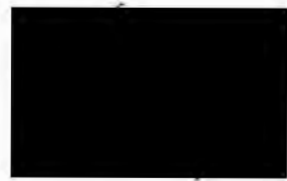
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NORTH AMERICAN AEROSPACE DEFENSE COMMAND

DEC 14 2006

MEMORANDUM FOR HQ NORAD/USNORTHCOM/HO

FROM: HQ NORAD/J3

SUBJECT: Declassification Review of Histories

1. The NORAD/CONAD histories for the periods specified in your 30 October 2006 memo have been reviewed and are now declassified except for the following sections below. The justification for retaining the classification follows each description.

a. NORAD/CONAD Historical Summary, July—December 1958, page 65. Document still has information based on today's concepts tactics and objectives.

b. NORAD/CONAD Historical Summary, July—December 1958, pages 110-111. Document describes readiness conditions that are still valid today.

c. NORAD/CONAD Historical Summary, January—June 1959, pages 67-71. Document describes some current rules of engagement.

d. NORAD/CONAD Historical Summary, January—June 1959, pages 73 and 74. Document describes some current tactics and rules of engagement.

e. NORAD/CONAD Historical Summary, July—December 1959, pages 55-58. Document describes some current capabilities and procedures.

f. NORAD/CONAD Historical Summary, July—December 1959, pages 59-61. Document describes current rules of engagement.

g. NORAD/CONAD Historical Summary, January—June 1960, pages 37-39. Document describes readiness conditions that are still valid today.

h. NORAD/CONAD Historical Summary, January—June 1961, pages 23-26. Document describes some current tactics and rules of engagement and also could reveal information that would impact the application of state of the art technology.

i. NORAD/CONAD Historical Summary, January—June 1961, page 37. Document describes information that would impact the application of state of the art technology.

j. NORAD/CONAD Historical Summary, January—June 1962, pages 35 and 36. Document describes information that would seriously and demonstrably impair relations between the United States and a foreign government.

k. NORAD/CONAD Historical Summary, July—December 1962, pages 47 and 48. Document describes current tactics.

l. NORAD/CONAD Historical Summary, July—December 1963, pages 59 and 60. N/J3 does not have the authority to declassify these pages. Recommend deferring to NSA for resolution.

m. NORAD/CONAD Historical Summary, July—December 1963, pages 63-65. Document describes current capabilities and tactics.

n. NORAD/CONAD Historical Summary, January—June 1964, pages 57-



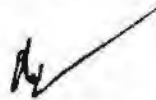
58. Document describes capabilities, limitations and deficiencies of warning systems.

o. CONAD Command History, 1968, pages 111 and 112. Document describes current limitations, tactics, and capabilities.

p. CONAD Command History, 1968, page 117. Document reveals current vulnerabilities of systems or projects relating to the national security.

q. CONAD Command History, 1968, pages 171-173. N/J3 doesn't have the technical expertise to evaluate the classification of Chapter VII, Communications. Please refer to N-NC/J6.

2. The POC for this review is Mr. Michael Allen, 4-3607.



BRETT D. CAIRNS
Major-General, CF
Director of Operations

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CONTINENTAL AIR DEFENSE COMMAND

COMMAND HISTORY (U) 1968

1 MAY 1969

COMMAND HISTORY DIVISION
SECRETARY, JOINT STAFF
HEADQUARTERS CONAD

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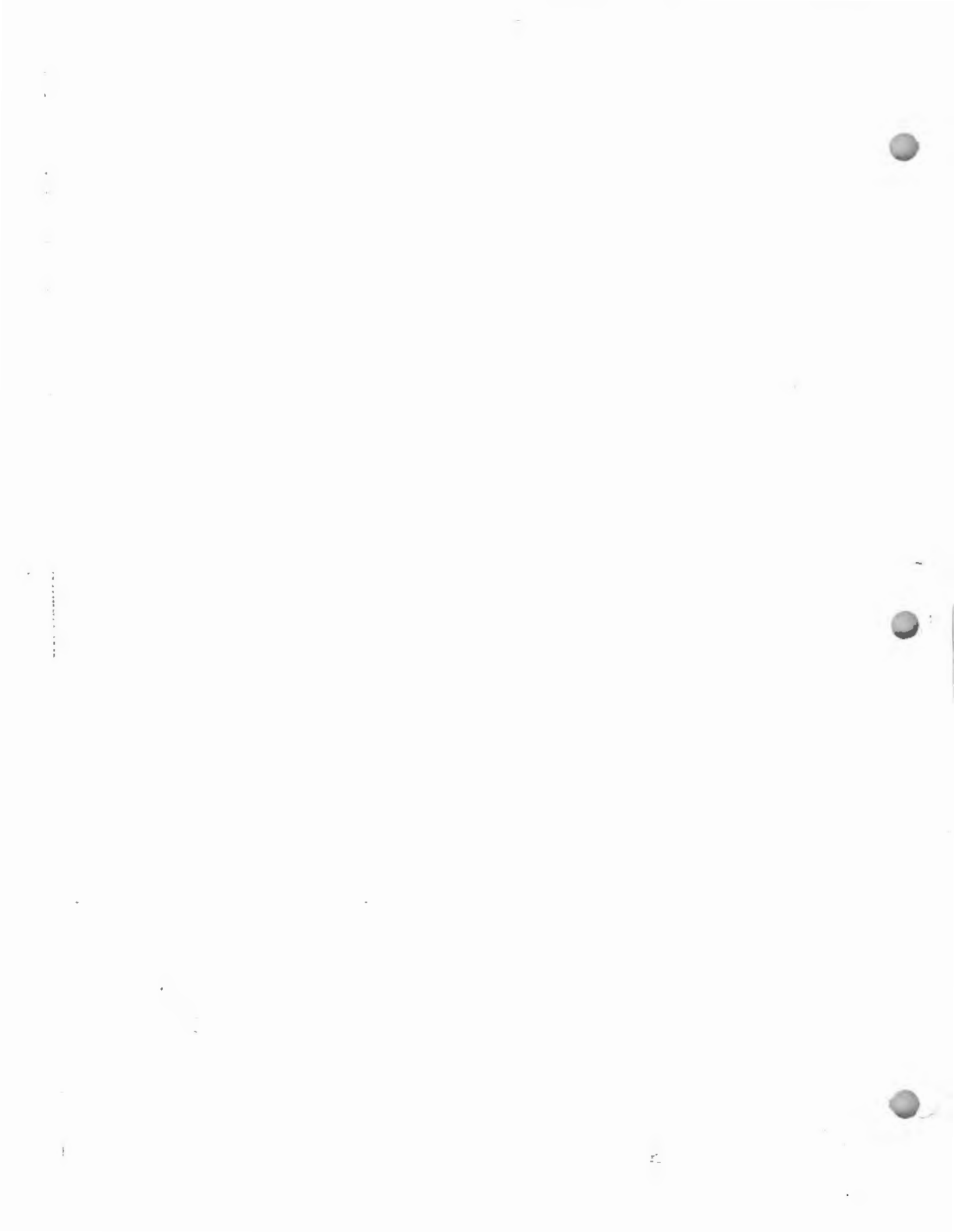


PREFACE

The CONAD Command History for 1968 was prepared as required by and in accordance with guidance outlined by the Joint Chiefs of Staff in SM 247-59, 5 March 1959 and SM 408-59, 17 April 1959. These memorandums require that commanders of unified and specified commands submit annually by 1 May a historical report that provides "a compact record of the activities of unified and specified command headquarters, a comprehensive understanding of the operations of the headquarters, the problems faced by the headquarters, and the status of the command from the standpoint of the commander." An additional objective is the "preservation of the history of unified and specified command headquarters in order that no important phase of U.S. armed forces history may be lost."

The command history, therefore, covers as fully as time and personnel permit all historically significant activities in North American aerospace defense that impact on the responsibilities of the Commander-in-Chief. Because of the nature of the missions, responsibilities and organization of the command, the historical report covers both CONAD and NORAD and should be considered a history of CONAD/NORAD. JCS SM 922-59, 16 September 1959 provides specifically for coverage of NORAD activities.

1 May 1969





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SUMMARY OF THE FORCES

(As of 1 December 1968*)

(u) WEAPONS

Regular Interceptor Force:

20 Squadrons, 351 Aircraft

Type	-	F-101	F-102	F-104	F-106	CF-101
Sqdns/Acft	-	6/102	1/31	1/18	9/153	3/47

ADC/ANG Interceptor Force:

21 Squadrons, 358 Aircraft

Type	-	F-89	F-102
Sqdns/Acft	-	2/40	19/318

8 Bomarc Squadrons - 216 B Missiles/216 Launchers

52 RA Hercules Fire Units, 44 ARNG Fire Units
1590 Missiles/1966 Launchers

8 RA Hawk Batteries - 288 Missiles/48 Launchers

Satellite Intercept System

(u) SURVEILLANCE AND WARNING

Long Range Radars: 126

Gap Filler Radars: 17

ALRI Stations: 4 - East Coast manned at random
30% of time by EC-121H aircraft.AEW&C Stations: 5 - West Coast manned at random
30% of time by EC-121D aircraft.1 - East Coast (Key West) manned
full time by EC-121D aircraft.

* (U) Source: NORAD Forces and Program Change Summary (U), 1 December 1968, except for manpower figures.



DEW Line:

Continental Segment - 29 Stations
Aleutian Segment - 6 Stations
Greenland Segment - 4 Stations
G-I-UK Barrier: 2 Iceland-based radars (under
operational control of CINCLANT)
BMEWS: 3 Stations
Space Detection and Tracking System:
Space Defense Center
USAF Spacetrack System
USN Space Surveillance System
Canada - Baker-Nunn Camera
Data as available and/or upon request - NASA,
Eastern Test Range, Western Test Range, and
Pacific Missile Range

Bomb Alarm System:

99 Instrumented Areas
12 Display Facilities
6 Master Control Centers

Nuclear Biological Chemical Warning and Reporting
System

NORAD Attack Warning System

Civil Defense Warning Systems:

Canadian National Survival Attack Warning System
U.S. National Warning System

(u)

COMMAND AND CONTROL

1 Combat Operations Center
1 ALCOP
5 Region Combat Centers (3 SAGE, 1 Manual, 1
AN/GSA-51)
13 Division Direction Centers (11 SAGE, 2
Manual)
22 NORAD Control Centers (9 BNCCs, 13 MNCCs)

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(U) ● MANPOWER ASSIGNED (31 December 1968)*

NORAD Headquarters: 961
NORAD Regions, except Alaskan: 796
Alaskan NORAD Region: 3187
Manpower for Air and Missile Defense Forces
(Reg.): 100,789
Augmentation (NG and Res) Manpower for Air and
Missile Defense Forces: 25,153

TOTAL NORAD FORCES: 130,886

* (U) Source: NORAD Forces and Program Change
Summary (U), 1 February 1969, p 3-15.

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CHAPTER I
AIR DEFENSE FORCE
MODERNIZATION PROGRAM

SECTION I - MODERNIZATION PROGRAM

PCD Z-7-096

(U) On 8 November 1967, the Secretary of Defense approved Development Concept Paper No. 1 which was a plan for a modernized continental air defense force. PCD Z-7-096, 16 December 1967, directed implementation of the modernization plan. As planned at that time, there was to be a transition of the current air defense system to a modernized system by the mid-1970s that would include a modified F-106 interceptor (F-106X), an Airborne Warning and Control System (AWACS), Over-the-Horizon (OTH) backscatter radar, and C-130 airlift squadrons. The system would also include the NORAD COC, a limited number of the current long range radars, some type of joint military-FAA command and control structure, some BUIC III centers, and Hercules and Hawk missiles (not included in this PCD). Phased out by the mid-1970s, according to this plan, would be all interceptors (except the F-106X), the Bomarc force, much of the long range radar force, the AEW/ALRI force, the gap filler radars, the DEW radars, the current region control centers except the one in Alaska, and the current direction centers.

(U) Program Change Decision Z-7-096 included among its provisions the following:¹

1. A directive to USAF to conduct a competitive study to provide the F-106 with a down-looking

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capability and to start development of a new or modified fire control system (FCS) and missile thus identified. Reduce UE by 12 in FY 1970 and start of F-106X modification program in FY 1973 and approval of a 198 (11 squadrons) F-106X force. (Modifications were to include a new radome and new radar, modification of nose for FCS and antenna, missile bays, simplified logistics and improved maintenance, and new AIM-47-type missiles).

2. Continued development on CONUS OTH (backscatter) radar with production release decision in September 1970 and approval for a programmed force of two sites beginning in FY 1973. (Current thinking called for two sites located 500 miles inland, looking east and west in 160-degree arcs).

3. A directive to begin engineering development of AWACS, if the ORT program was successful, on a schedule that permitted a system demonstration before substantial production funds had to be committed. Demonstration of a reasonable level of AWACS survivability was a prerequisite to procurement. Approval of a force of 42 UE AWACS beginning in FY 1975.

4. Approval of a force of 66 UE C-130 aircraft (C-130s would be introduced coincident with F-106X IOC).

5. Phase out of existing force to intermediate level beginning in July 1968 and consolidation where possible of SAGE/BUIC, NAS, and Nike Hercules radars.

PCD Z-9-002

(u) (●) The approved program for Air Force forces established by the above PCD was modified by a new PCD, Z-9-002, approved on 18 January 1969. As explained in this PCD, the Air Force had submitted four PCRs (F-8-067, 068, 069, and 097) requesting that the original plan be modified. A later Air Force study which was sent to the Deputy Secretary of Defense on 20 December 1968 suggested other changes to the modernization plan. A PBD (364), 9 December 1968, which was concerned with FY 1970 funding, and a modification to this PBD (364R), 18 December 1968), addressed some of the issues contained in

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the Air Force PCRs. PCD Z-9-002 summarized the decisions associated with PBD 364 and 364R and also addressed other issues including those raised by the Air Force in their PCRs and their study. As a result, this PCD updated the original modernization plan.

(U) The new approved program for Air Force forces as established in PCD Z-9-002, coming beyond the end of this history reporting period, will be covered in the 1969 history.

(u) ● Another PBD, 436, 11 December 1968, and PBD 436R, 18 December 1968, called for the deactivation of five more Hercules batteries (see section on Hercules reductions, Chapter II).

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SECTION II - FORCE REDUCTIONS

FY 1968-1969 REDUCTIONS

(C) As noted above, PCD Z-7-096 directed phase down of the current system for transition to a modernized system. The problem, however, was that the current system came in for considerable reduction long before a modernized system was available. While new systems would not be in operation until the mid-1970s, some deep cuts were being made in the current system beginning in FY 1968. A brief summary is provided below of the reductions made during Fiscal Years 1968-1969 in the NORAD manned bomber defense force. Each item covered below is also covered in detail in appropriate chapters pertaining to the items, such as interceptor reductions in the chapter on interceptors or region and division closure in the chapter on NORAD/CONAD organization and manning. For further details, consult individual chapters.

(u) **Long-Range Radars.** PCD Z-7-096, as modified by PBD 388, directed the phase-out of 26 USAF long-range radars (LRRs) and two ANG LRRs in FY 1968 and FY 1969. Included were three USAF sites in the Canadian Northeast and 25 in the CONUS, mostly in the central and south central area. Eight LRRs ceased operations on 1 April 1968, seven on 14 May 1968, and 13 on 1 July 1968. Lost also were ties to 16 FAA radars; covered in Chapter III.

(u) **Gap Filler Radars.** At the end of FY 1967, 88 gap filler radars were operational. Twenty of these were closed in the second quarter of FY 1968 as a result of a USAF operating fund cut. The PCD/PBD cited above directed the phase out of 51 additional sites in the fourth quarter of FY 1968, leaving 17 sites only, for coverage in the Florida area. These 51 sites were phased out on 1 April 1968.

(u) **Command and Control Structure.** In accordance with the PCD Z-7-096/PBD 388, on 1 July 1968, a combat center, SCC-9, the Southern NORAD/CONAD Region/14th Air



STATUS SUMMARY OF NORAD FORCES REDUCED
END FY 1967-END FY 1969

<u>Force</u>	<u>End FY 1967</u>	<u>FY 1968</u>	<u>FY 1969</u>
<u>Interceptor Sqdns:</u>			
F-101	- 15	13	6
F-106	- 11*	11	11
F-104	- 1	1	1
F-102	- 1	1	1
CF-101	- 3	3	3
F-89 (ANG)	- 2	2	2
F-102 (ANG)	- 19	19	19
<u>Missiles:</u>			
Bomarc Sqdns/Msls**	- 8/227	8/219	8/212
Hercules Btrys (Reg/NG)***	- 73/48	73/48	52/44
Combat Centers	- 6	6	5
Direction Centers	- 16	14	13
Long Range Radars****	- 170	155	126
Gap Filler Radars	- 88	17	17

(U) * Two F-106 squadrons inactivated in FY 1968 were removed from operations prior to the end of FY 1967, reducing the operational F-106 force from 13 to 11 squadrons.

** (U) Includes two Canadian squadrons.

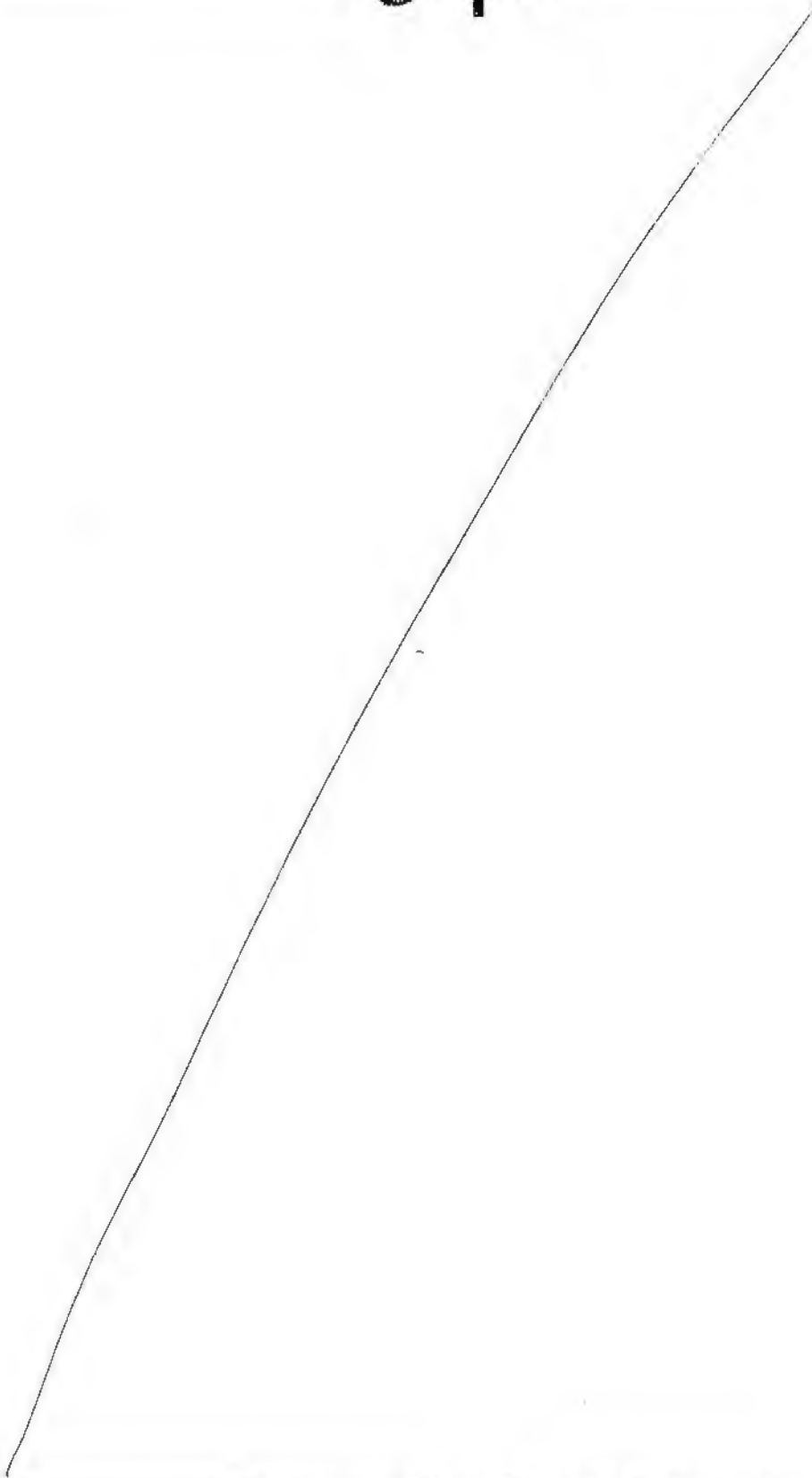
*** (U) Includes nine batteries in Alaska.

**** (U) Total NORAD force includes 30 sites in Canada (27 CF, 3 USAF) and 15 sites in Alaska.

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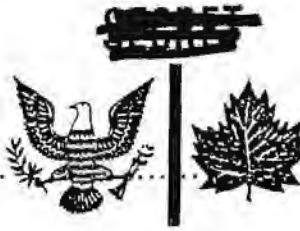
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Force, Gunter AFB, Alabama, was closed. Also closed on this date was a direction center (DC), SDC-22, the 30th NORAD/CONAD Division/30th Air Division, Sioux City, Iowa. Two DCs (20th Division, Truax Field, Wisconsin and 21st Division, McGuire AFB, New Jersey) were also discontinued in FY 1968.

(S) PCD Z-7-096 provided that the BUIC III program was to build up to 15 sites by FY 1970. The program prior to this PCD called for 19 sites so this meant a cut of four sites.

(S) Interceptors and Missiles. The above PCD approved the previously programmed phase out of seven F-101 squadrons in FY 1969. Two additional F-101 squadrons had been programmed for phase out in FY 1968, making a total of nine F-101 squadrons discontinued in FYs 1968 and 1969. Two F-106 squadrons were also discontinued in FY 1968 (although removed from operations earlier), making an overall total of 11 squadrons eliminated. The previously programmed phase down of CONUS Bomarc squadrons by eight missiles per year was approved. The Bomarc force in the CONUS was to reduce to 124 missiles by end FY 1973. In separate PCDs of 1 June (A-8-006) and 10 August 1968 (A-8-314), the phase out of a total of 25 Nike Hercules batteries (21 RA and four ARNG) was directed. All 25 had ceased operations by 15 October 1968.

CINCNORAD OBJECTIONS TO FORCE REDUCTIONS

(S) CINCNORAD objected almost immediately, on 8 January 1968, to the JCS to the FY 1968-1969 deletion of ground environment facilities.² In his message, CINCNORAD stated that the "deletions reduce the effectiveness of the command in performing its assigned mission...." How effectiveness was reduced was explained item by item. For example, it was pointed out that deletion of the direction center at Sioux City and a number of radars in the 30th Division would seriously limit NORAD's ability to defend the central portion of the U.S. and result in a thin perimeter defense.

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(S) CINCNORAD recommended keeping all facilities including radars until future command and control systems could be brought into operation. But CINCNORAD also added a number of recommendations that would minimize the impact if cuts had to be made to get funds for future systems. He asked the following: (1) retention of the radars associated with Nike defenses (two in Illinois and Kansas), (2) delay in closing radars in the FAA/ADC joint use program until the FAA could assume the full cost of operation, (3) retention of enough height finders and communications at interior FAA sites to provide control of interceptors, if needed, (4) retention of ANG Master Surveillance Stations 1 and 2 (Denver and Salt Lake City) (because this meant loss of ties to a number of FAA radars), (5) retention of the radar at Miles City, Montana, until an adjacent FAA radar could be used by means of the Common Digitizer, and (6) no further cuts until planned improved systems were actually in operation.

4
(S) The JCS incorporated CINCNORAD's recommendations in a reclama to the Secretary of Defense on 16 January 1968 based on a proposal by the USAF Chief of Staff.³ The JCS stated that the PCD/PBD actions had directed discontinuance of the F-12 development program, reduction in existing interceptor capability and inactivation of a considerable number of air defense ground environment facilities. The effect, the JCS said, was "an immediate reduction in an already inadequate CONUS air defense posture. Although there is a possibility that the risk involved in these force reductions may ultimately be decreased by the associated decision to improve (the system)..., the Joint Chiefs of Staff consider the interim risk excessive."⁴ The JCS recommended that deletion of the DC and 20 radars in the central U.S. be delayed pending development of an FAA/DOD national airspace system that would provide effective military command and control over the U.S. airspace.

4
(S) The JCS advised CINCNORAD on 14 February that the Secretary of Defense had refused to change the original decision. The Secretary answered that the 20 radars and one DC recommended to be retained were

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located in the interior of the country and did not appear to contribute in any significant way to the reduction of damage to this nation in event of an attack.⁵ NORAD advised the regions and component commands of this decision on 28 February. NORAD said that it was interpreting the Secretary of Defense response as a firm decision.⁶

^u
(S) According to PCD Z-7-096/PBD 388, in FY 1970 the remaining combat centers, except the one in Alaska, and two more direction centers, the 26th Division, Adair AFS, Oregon, and the 36th Division, Topsham AFS, Maine, were scheduled to be phased out. On 2 April 1968, NORAD made a strong objection to the JCS to these closures, recommending that none be made and that there be no further cuts until follow-on systems were operating.⁷

^u
(S) NORAD told the JCS that the FY 1968-69 deletions would force the command into a perimeter defense. The FY 1970 deletions would reduce that perimeter to an unacceptable degree. And the deletion of combat centers would degrade the entire command and control structure of the NORAD system. NORAD was especially reluctant to see the 36th Division closed. This would require expansion of the 41st Division (North Bay, Ontario) beyond the capabilities of the SAGE system. NORAD said that the computer cycle time at the North Bay facility was already beyond an acceptable point. Adding the 36th functions would degrade NORAD's ability to defend key centers in Canada and the approaches to the Northeastern U.S. NORAD explained also that plans to provide automation to the 37th Division (Goose AB, Labrador) would have to be cancelled because the remaining 41st Division simply could not absorb the digital ties from the 37th's radars. NORAD pointed out that this planned automation had become very important because of Soviet bomber flights approaching the northern coast of North America (see Chapter II).

^u
(S) As to deletion of the 26th Division, NORAD pointed out that there would be left only two direction centers to defend the entire West Coast from British Columbia to Mexico and east to the Rocky Mountains. In

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1962, there were seven direction centers to cover this same area. NORAD felt that this cut was far greater than the reduction in weapons and was not consistent with the threat.

(S) The JCS replied on 20 April that they shared NORAD's concern.⁸ This was shown they said by their support of the command's position in JSOP 70-77. The JCS said that the command's comments would be considered during the August 1968 review by the JCS of the Draft Presidential Memorandum on strategic offensive and defensive forces.

(S) CINCNORAD reiterated his position in a letter to the JCS Chairman on 20 June 1968. General Reeves stated that as the JCS recognized, premature cuts would result in the loss of existing control capability with no alternate means provided for assuring effective military command and control until a joint military/FAA system based on the NAS was implemented. "In my view," General Reeves concluded, "the loss of command and control capability through the interim represents undue risk."⁹ (For CINCNORAD's views on the F-106X and the F-12, see next section.)

(S) As shown earlier, a December 1968 PBD (436) called for elimination of five more Hercules batteries. On 13 December 1968, CINCONAD protested strongly this additional cut.¹⁰ He told the JCS that this was a major issue that had to be protested. The continued unilateral reduction in the air defenses, he said, while saving a little money now, has the effect of making the Soviet LRAA more and more effective. This then gives the Soviets options probably not available to them now. These cuts impact directly on the effectiveness of the ADA, the terminal defense, he continued. CINCONAD said that even before the recent cuts in interceptors and the surveillance system, faker aircraft were leaking through the area defenses at a sufficiently high rate to make effective terminal defenses absolutely essential.

(S) During FY 1969 alone, CINCONAD continued, the total number of Hercules fire units had been reduced 22

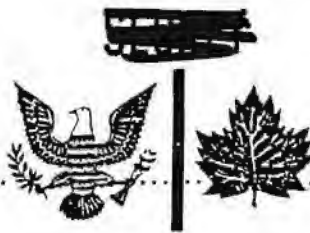
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per cent. This, he said, was a drastic cut in the terminal defenses, taken at a time when there had been no comparable cut in the Russian threat. CINCONAD justified retention of the five batteries, site by site. He concluded that he was deeply concerned by the progressive loss of forces which were already less than adequate.

IMPROVED MANNED INTERCEPTOR

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(S) As noted previously, in the plan for modernizing continental air defenses the only interceptor was to be a modified F-106 (the F-106X). In keeping with this plan, on 22 December 1967, the Secretary of Defense cancelled the F-12 program. The F-12 was the aircraft unveiled in 1964 that had been tested in sustained flight at more than three times the speed of sound and at altitudes in excess of 70,000 feet. The F-12 had been favored since 1964 by CINCNORAD to fill the long-sought NORAD improved manned interceptor (IMI) requirement.

^U
(S) Both ADC and NORAD were greatly concerned over cancellation of the F-12. In a letter to CINC-NORAD on 7 March 1968, the ADC Commander, Lieutenant General Arthur C. Agan, expressed ADC's concern:¹¹

The gap in the ADC interceptor force created by this action seriously impairs the ability of this Command to support CINC-NORAD in the defense of CONUS. Presently programmed interceptor equipment can neither perform the visual identification mission in the impending supersonic transport (SST) era nor successfully counter a supersonic bomber if the threat materializes. The modernized F-106 is only marginally effective against subsonic bombers if destruction is required prior to Air-to-Surface Missile (ASM) release and is incapable of countering the ASM if bomber release of the ASM is effected. In short, the airspace of North America can be penetrated and overflown with impunity by unidentified high flying supersonic aircraft.

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General Agan noted that his staff was preparing a ROC for an advanced interceptor in an attempt to alleviate the interceptor deficiency in the mid-1970 period.

(u) (●) General R. J. Reeves, CINCNORAD, restated NORAD's backing of and need for the F-12 in a letter to General E. G. Wheeler, JCS Chairman, on 20 June 1968. Stated General Reeves: 12

We have recently concluded a review of our requirement for an improved interceptor with the result that I continue to recommend a production model of the F-12 as the backbone of the future interceptor fleet. I question expensive rebuilding of the F-106 since that aircraft will be nearly 18 years old when the proposed modifications are completed.* I think by far the better course would be to modify the F-106 only as necessary to preserve or extend its useful life and to rely on the F-12B as the primary interceptor. I am aware, however, that current Air Staff proposals include a composite force of a handful of F-12s supported by a fleet of F-106Xs. If this type of interceptor package is likely, I feel a better choice of aircraft to complement the F-12 would be an interceptor version of the F-4 which would have a longer life expectancy, be less costly, nearly equally effective and available much sooner than the old F-106X. In any case, I remain on record in strong support of a full scale deployment of a production model of the F-12.

(u) (●) In the foreword to the 1968 NADOP, 1971-78, 20 September 1968, General Reeves stated the following: "With regard to the interceptors for air defense, I consider it imperative that the Improved Manned Interceptor

(u) * (●) The F-106 was first flown in December 1956 and the modifications referred to here were scheduled to be completed in 1973.

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be developed. As an interim measure, I support the procurement of F-4 aircraft with an all-weather air defense capability and modernization of the Air National Guard with the F-106s that are currently in the regular forces."

(U) (S) In the NADOP, NORAD said that an improved manned interceptor was required for NORAD's assurance of a reliable, effective bomber defense during the seventies. Known Soviet technology, NORAD continued, demanded a more credible defense posture than could be provided by currently possessed interceptor defense forces. NORAD questioned the F-106X and made three recommendations: (a) procure an IMI as early as possible, (b) procure an F-4 type aircraft to replace current interceptors, and (c) provide an adequate interim interceptor force. NORAD did not state a requirement for the F-106X. Rather, it stated a requirement for one squadron of F-4s by end FY 1969, increasing to 11 by end FY 1973 and phasing down thereafter. NORAD wanted one IMI squadron by end FY 1974, increasing to three the following year and remaining at that level throughout the period of the NADOP. A requirement for one IMI squadron for Canada was also stated. The U.S. squadrons would have 18 aircraft, the Canadian squadron 24.

(U) (S) During 1968, the Air Force submitted a number of program change requests proposing changes to the modernization program decisions. One of these, PCR F-8-097, 28 August 1968, contained among other things a proposal for an addition of 10 UE (total buy of 12) F-12 force with an IOC of FY 1973.¹³ An OSD program change decision of 30 September 1968 disapproved the proposed procurement of F-12s.

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2. Msg, NORAD to JCS, NOOP-E, 8 January 1968 (302.1X52X54.1).
3. Msg, NORAD to Dist., NOOP-E, 22 January 1968 (302.1X403X54).
4. Ibid.
5. Msg, JCS to NORAD, 1049, 14 February 1968 (302.1X54.2).
6. Msg, NORAD to Dist., NOOP-E, 28 February 1968 (302.1X50).
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12. Reeves to Wheeler, 20 June 1968 (403).
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CHAPTER II

INTERCEPTORS AND MISSILES

SECTION I - INTERCEPTORS

INTERCEPTOR SQUADRON REDUCTIONS

(u) Summary. During FY 1968 and the first quarter of FY 1969 (1 July 1967 to 30 September 1968), eleven USAF ADC squadrons were discontinued -- two F-106 squadrons and nine F-101 squadrons. ADC's CONUS interceptor force declined from 29 squadrons to 18 squadrons during this time. The squadrons discontinued, their locations and the dates of discontinuance were as follows:

F-106 Squadrons:

329th, George AFB, Calif., 31 July 1967
539th, McGuire AFB, N.J., 31 August 1967

F-101 Squadrons:

13th, Glasgow AFB, Mont., 30 June 1968
75th, Dow AFB, Me., 30 June 1968
29th, Malmstrom AFB, Mont., 18 July 1968
437th, Oxnard AFB, Calif., 18 July 1968
49th, Griffiss AFB, N.Y., 31 August 1968
84th, Hamilton AFB, Calif., 31 August 1968
87th, Lockbourne AFB, Ohio, 30 September 1968
98th, Suffolk Co. Apt, N.Y., 30 September 1968
444th, Charleston AFB, So. Carolina, 30 September 1968

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The designation of four squadrons, the 75th, 49th, 84th, and 87th, were retained and assigned to other squadrons. There were other squadrons redesignated in addition during this time and a number of squadrons were relocated to provide better coverage. The details are covered in the following sections.

(U) (S) Background - FY 1967 Program Changes. In early 1966, the USAF ADC interceptor force was programmed to phase down to a total of 20 squadrons by FY 1969 as indicated below:

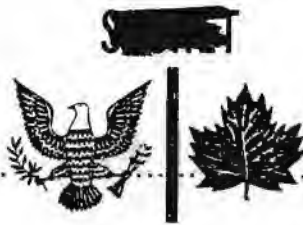
	<u>FY 1967</u>	<u>FY 1968</u>	<u>FY 1969</u>
F-101 Squadrons -	15	11	6
F-106 Squadrons -	13	13	13
F-104 Squadrons -	1	1	1

(U) (S) But with ADC and NORAD concurrence, Air Force proposed to delete three F-106 squadrons instead of three of the F-101 squadrons. This would result in there being in FY 1969 nine F-101 squadrons and ten F-106 squadrons. F-106s from inactivated squadrons would be placed in remaining squadrons and increase ADC's fleet by about 54 aircraft over the current FY 1969 program. The proposed force would phase down as follows:

	<u>FY 1967</u>	<u>FY 1968</u>	<u>FY 1969</u>
F-101 Squadrons -	15	13	9
F-106 Squadrons -	13	11	10

(U) (S) In November 1966, Air Force submitted a PCR to this effect to OSD. The FY 1968 portion (phase out of two F-101 and two F-106 squadrons) was approved but a decision on FY 1969 and beyond was deferred. This meant that the F-101 force would go down to six squadrons in FY 1969 as previously programmed and the F-106 force would go down to 11 squadrons, for a total of 18 squadrons, two less than programmed before. A May 1967 PCD held to this position. And, as discussed in Chapter One, PCD Z-7-096, approved at the end of 1967, reaffirmed the previously programmed phase out of seven

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F-101 squadrons in FY 1969. PBD 388 required the phase out of the seven squadrons in the first quarter of FY 1969.

(u) (S) FY 1968 Discontinuances. The F-106 force was cut from 13 to 11 squadrons with the discontinuance of two squadrons in early 1968. These were the 329th FIS, George AFB, California, discontinued on 31 July 1967, and the 539th FIS, McGuire AFB, New Jersey, discontinued on 31 August 1967.

(u) (S) Two F-101 squadrons, the 13th FIS, Glasgow AFB, Montana, and the 75th FIS, Dow AFB, Maine, were programmed to be relieved of alert duties on 1 April 1968 and to be inactivated on 30 June 1968. The squadrons were tenant units on bases which were under SAC jurisdiction. Both bases were scheduled to be closed on 30 June 1968 and SAC advised ADC that they planned to begin phase out of base support facilities, including field maintenance, on 1 March instead of 1 April.¹ Maintenance would not exist after 15 March 1968 making it mandatory that the aircraft be reassigned at least by the end of the month. ADC proposed, therefore, and NORAD concurred, that the squadrons be relieved of alert a month earlier, on 1 March.² On the latter date, both squadrons were relieved from alert and they were officially discontinued on 30 June 1968.³ With the phasing out of these units, the F-101 force was cut to 13 squadrons.

(u) (S) FY 1969 Discontinuances. As noted previously, PBD 388 directed that seven additional F-101 squadrons be discontinued in the first quarter of FY 1969. However, PBD 267R restored \$20 million in FY 1969 to the F-101 program allowing inactivations to be stretched out through the year.⁴ But this was to be changed back again to the first quarter of FY 1969, as will be discussed below. In the meantime, the Air Force submitted a new PCR to OSD on 16 March proposing keeping four of the seven squadrons at least through FY 1969.⁵ The other three were to phase out in the first quarter of the year. Justification was the need to compensate for the temporary loss of 18 F-106s to PACAF (318th FIS) following the Pueblo capture and to provide the ability to support additional interceptor deployment if required.



(u) (S) A PCD of 6 April disapproved the proposal. It stated that the Air Force had presented no new facts that would justify changing the approved force levels.⁶ The F-101 squadrons were to be phased out because they were not required to meet the expected threat, the PCD said.

(u) (S) The first two F-101 squadrons of the seven scheduled for phasing out were the 29th FIS, Malmstrom AFB, Montana, and the 437th FIS, Oxnard AFB, California. Both were relieved of all alert duties in April.⁷ The 29th FIS was discontinued effective 18 July 1968.⁸ To fill the gap left by this squadron on the perimeter, a squadron was moved from the interior of the country. The 71st FIS (F-106s) was directed to move from Richards-Gebaur AFB, Missouri, with an effective date of 18 July (it dropped Alpha alert on 15 April).⁹ The 71st's dispersal base was changed from Grand Island MA, Nebraska, to Logan Field, Montana (see section on dispersal for all DOB realignments).

(u) (S) Realignment was also made to replace the F-101 squadron at Oxnard AFB, California (437th). The 456th FIS (F-106s) was moved from Castle AFB, California, to Oxnard effective 18 July.¹⁰ The 456th unit designation was discontinued this same date and the squadron redesignated the 437th.¹¹ Then, however, it was decided to give the squadron a designation with more tradition and history and the squadron was redesignated the 460th on 30 September.¹² Similarly, the 322d FIS, Kingsley AFB, Oregon, was redesignated the 59th FIS and the 445th at Wurtsmith AFB, Michigan, was redesignated the 75th FIS (this had been the designation of the F-101 squadron at Dow AFB discontinued on 30 June 1968).¹³

(u) (S) The other five F-101 squadrons scheduled for phase-out were programmed to be discontinued in the second, third, and fourth quarters of FY 1969. But after the President signed the Revenue and Expenditure Control Act (Public Law 90-364, 28 June 1968), which required a \$6 billion cut in federal spending, the F-101 squadron inactivations had to be accelerated to meet a cut in funds as ADC's share of the federal spending reduction.

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WHERE ELEVEN SQUADRONS WERE CUT OUT AND F-106 SQUADRONS REDEPLOYED



- LEGEND:
- X DISCONTINUED
 - REMAINING REG. SQ DISC.
 -> SQUADRON REDEPLOYMENT

F-102

F-104

CHARLESTON F-101

LOCKBOURNE F-101

RICHARDS-GEBAUR F-106

CASTLE F-106

GEORGE F-106

OXHARD F-10

HAMILTON F-101

F-106

F-106

F-106

McGUIRE F-106

SUFFOLK CO F-101

F-101

GRIFFISS F-101

DOW F-101

KINCHLOE F-106

CF-101

F-106

CF-101

PAINE F-106

CF-101

F-106

MALMSTROM F-101

GLASGOW F-101

F-106

F-101

F-106

F-101

F-101

F-106

F-101

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(U) ~~(S)~~ In a message on 28 June, USAF informed ADC that squadron inactivations and movements were to be accelerated and all dates moved up to the first quarter of FY 1969.¹⁴ The five F-101 squadrons phased out in this quarter were the 49th, 84th, 87th, 98th, and 444th. The 49th at Griffiss AFB, New York, was relieved of alert on 5 July and discontinued on 31 August. To cover the loss, the 438th with F-106s was moved from Kinchloe AFB, Michigan, and redesignated the 49th on 30 September.¹⁵ The 84th at Hamilton AFB, California, was relieved of alert and the aircraft and personnel closed out the same dates as the 49th. To provide better coverage, the 498th FIS with F-106s was moved from Paine AFB, Washington, to Hamilton and redesignated the 84th on 30 September.¹⁶ The 87th was relieved from alert on 5 July and discontinued on 30 September.¹⁷ The 11th FIS at Duluth with F-106s was redesignated the 87th on 30 September.¹⁸ The two remaining squadrons, the 98th at Suffolk Co. Apt, New York, and the 444th FIS, Charleston AFB, South Carolina, were discontinued on 30 September.¹⁹

PROPOSED EXCHANGE OF CF-101s FOR F-101s

(U) ~~(S)~~ In June 1967, the commander of the Canadian Air Defence Command recommended to the Chief of the Canadian Defence Staff that the Canadian Forces CF-101s be replaced with USAF ADC F-101s being phased out of the latter's inventory. The reasoning behind the proposal was that rather than retiring the USAF aircraft with their improved fire control system, it was better to use them in place of the unimproved Canadian aircraft. NORAD concurred with the proposal in August 1967 in a letter to the USAF Chief of Staff. The latter agreed with the reasoning and stated that he would recommend the exchange if asked by DOD.

(U) ~~(S)~~ Numerous meetings were held between Canadian Forces and USAF representatives. But by the end of 1968, no action had been taken. The proposed exchange appeared unlikely at this time because of cost considerations.

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INTERCEPTOR DEPLOYMENT

(U) (S) College Cadence. On 1 August 1967, ADC published Operation Plan 76-67, College Cadence, in response to a USAF request to prepare a draft Air Force manual to provide guidance for mobile air defense world-wide and an ADC mobility plan. ADC's role, the plan stated, in the USAF mission of projecting tactical air power into a contingency or conflict situation was to provide air defense forces, both interceptors and possibly AEW&C aircraft or mobile radar and command and control. The plan tasked inflight-refuelable F-106 units to be prepared to deploy in elements of six aircraft on 24 to 72 hours notice. Deployment was to be on a rotational basis with a maximum TDY period for personnel of 179 days.

(U) At the time this was published, ADC had not been formally assigned a change in mission. A new mission directive, Air Force Regulation 23-9, was issued on 12 February 1968, however, which added responsibility to ADC to provide forces for air defense of oversea land areas.

(U) (S) It had been CONAD's position that while it was in agreement with the concept and planning, it wanted any forces for deployment outside of the North American continent to be in addition to its forces available for defense of the continent, i.e., CONAD objected to losing any more units from its already thin force. This was made clear in CONAD's comments in May 1967 on a draft of ADC's Aerospace Objectives Plan 1967-82. The plan included an anticipated USAF requirement for a world-wide mobile air defense force with F-106s on the assumption that USAF would make up the deficit with F-4s.

NORAD/CONAD cannot concur with proposals to establish mobile air defense forces for contingency deployments to other theaters unless the Joint Chiefs of Staff specifically designate forces to perform this mission and those forces so designated are in addition to those this headquarters considers the minimum essential for the air defense of North America.





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(u) (S) Meanwhile, at USAF's request, ADC planned a training deployment of six F-106s to USAFE in February 1968. CONAD would not concur, however, stating again that any force for such deployment should be additive, and approval should come from the JCS. CONAD said the JCS had not been officially advised of the ADC plans for the proposed deployment. In December 1967, CONAD informed the JCS of the planning for world-wide air defense.

(u) (S) CONAD said it was concerned with the impact on its mission if ADC was tasked to provide world-wide deployment forces, if these forces had to come out of the current force. CONAD stated that it agreed with the concept if the forces for it were made available and the decision to deploy was made by the JCS in coordination with CONAD.

(u) (S) The JCS replied on 19 January 1968 that any deployment could occur only when directed by the JCS.²⁰ Training deployments for service functions prescribed by JCS Publication 2, the JCS continued, would be limited in size and duration and coordinated with unified commanders. This particular JCS publication designated USAF as the responsible agency for air defense operations conducted from overseas land areas. It also stated that missions or tasks could be assigned a component commander outside the authority of the unified commander, but such tasks should not conflict with and should contribute to the unified commander's mission.

(u) (S) In the meantime, in late December 1967, ADC recommended to USAF that the training deployment not be made at the time. ADC said that after discussion with CONAD, it believed it was more propitious to demonstrate and further develop the capability of the AAR-modified F-106 to improve CONUS defense.

(u) (S) The 1967 College Cadence plan was superseded by a new plan, 76-68, issued on 15 May 1968 by ADC. It listed the force composition as the 48th, 71st, 94th, 95th, and 318th Fighter-Interceptor Squadrons and the 552d AEW&C Wing.

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(u) (S) Deployment of Interceptors in Support of Operation Combat Fox. On 23 January 1968, the USS Pueblo and its crew were captured by North Korean gun boats and taken to the port of Wonsan. Part of the U.S. response was to move the 82d FIS, equipped with F-102s, from Okinawa to South Korea. PACAF then asked for a force of 18 all-weather interceptors in Okinawa to replace the deployed unit. On 30 January 1968, USAF told ADC to plan to prepare 18 F-106s for possible deployment to Okinawa in accordance with College Cadence except for the accompanying AEW&C aircraft.²¹ It was planned, however, that the newly deployed unit, depending upon the situation, might be switched with the 82d FIS for operational considerations.²² The 318th FIS (F-106s) was selected as the squadron to deploy to Okinawa. The 318th at the time had aircraft deployed to Alaska on the College Shoes deployment. ADC advised the 27th FIS, Loring AFB, Maine, to replace the 318th College Shoes deployment.²³

(u) (S) On 1 February, the JCS consulted CONAD on the deployment. In reply, CINCONAD pointed out that its current forces were inadequate to defend against the Soviet threat as evaluated by CINCNOAD, that forces deployed overseas did not contribute to deterrence of an attack on the North American continent, and that an attack on U.S. overseas bases could cause a crisis demanding the best possible CONUS defense posture.²⁴ However, CONAD said that if deployment was decided upon, it concurred with ADC in selection of the 318th FIS from McChord as the best prepared for deployment.

(u) (S) On 7 February, the JCS directed USAF to deploy the squadron and on the same date USAF directed ADC to deploy the 318th (18 F-106s).²⁵ ADC's implementing order was also issued the same date. The 318th FIS arrived at Naha, Okinawa, on 10 February.²⁶ It was later moved to Osan, South Korea.

(u) (S) At the end of its 179-day TDY period (August 1968), ADC replaced the 318th with the 48th FIS from Langley AFB, Virginia. The 48th ferried its aircraft

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to McChord. Its personnel then replaced those of the 318th at Osan in three phases beginning in June (the first increment of the 48th arrived at Osan on 8 June).²⁷ The personnel of the 318th returned to McChord to operate the equipment of the 48th. In the next rotation, the 71st from Malmstrom AFB, Montana, replaced both the aircraft and personnel of the 48th in Korea. The 48th returned the 318th's aircraft to McChord and took its own aircraft back to Langley AFB.²⁸ To direct this switch, ADC issued Operation Order 68-2, 15 October 1968. As provided by this order, the 71st replaced the 48th in a two-phase shift -- the first phase began on 29 November, the second on 14 December. The 71st was in place in Korea on 18 December.²⁹

(u) In the meantime, CINCONAD had recommended to the JCS that the F-106 deployment be terminated by the end of the 318th's TDY period because of the impact on the shrinking NORAD force. He recommended that the commitment be taken over by either an ANG F-102 squadron called to active duty or one of the F-101 squadrons slated for inactivation. CINCONAD made these recommendations in a message on 8 May, contending that the 318th-48th switch would deny resources of both squadrons for about 60 days.³⁰ Later rotation (each six months) would also tie up two squadrons for 60 days each. The net effect, CINCONAD said, was a cut in strength of two squadrons or ten per cent of the force for an aggregate of six months or an aggregate of one squadron for 12 months. Secondly, it was CINCONAD's contention that the training for these moves would deny NORAD an additional five to ten per cent of its force. Thirdly, CINCONAD pointed out that the deploying squadrons had to be manned to fully authorized strength. This would result in a reduction in the combat capability of the other F-106 squadrons. Finally, CINCONAD stated that the absence of one or more squadrons would create gaps in the thin periphery defenses, e.g., at Malmstrom and Langley. Possibly even more redistribution of forces would be necessary.

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(U) (S) ADC disagreed with CINCONAD's recommendations. Replacing the F-106s with an ANG F-102 squadron was undesirable ADC said because there were already two F-102 units in the Pacific which were considered inadequate to meet the threat.³¹ Sending an F-101 unit to Korea would not be desirable either, ADC felt, because the F-101 was limited to bomber defense only. On the other hand, the capabilities of the F-106 as a fighter made it highly desirable in the Korean environment. ADC also disputed CINCONAD's contentions as to the impact of the moves, feeling that it would not be as severe as foreseen by CINCONAD.

(U) (S) On 29 May, the JCS directed continuation of the F-106 TDY deployment at least through the end of calendar year 1968.³² In mid-June, referring to CINCONAD's May message recommending alternative deployments, the JCS indicated that they and the Secretary of the Air Force had used CINCONAD's rationale as late as April and May in recommending modifications of the currently-approved force levels.³³ The JCS said it was not considered appropriate to resubmit a recommendation at this time.

(U) (S) Soviet Aircraft Incursions. Beginning in February 1968, there was a marked increase in penetrations of the Greenland-Iceland-United Kingdom (G-I-UK) Line by Soviet bomber aircraft. Periodically, these aircraft continued on a southwesterly course and made incursions into the Canadian Air Defence Identification Zone (CADIZ) in the 37th NORAD Division (headquartered at Melville AS, Labrador). Many of the G-I-UK penetrations were intercepted and identified by CINCLANT's Iceland-based F-102s of the 57th FIS. Such action by NORAD forces was severely limited, however, for the 37th Division had recently

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been stripped of interceptors and its controllers removed by USAF ADC.* On two occasions during February, for example, Soviet bombers came to within some 50 nautical miles of Newfoundland without being intercepted and identified by NORAD forces.³⁴ CIRVIS reports, 37th radar information, and correlation with information from the 57th FIS, which had positively identified Soviet Bear aircraft, confirmed the presence of the bombers.

(U) (S) As pointed out in a study prepared in NORAD's J-3 staff section:³⁵

Intentional incursions by Soviet aircraft into the 37 ND represents a problem different from the unintentional unknowns previously experienced in the 37 ND. Although these aircraft have remained well clear of the airspace over Canadian sovereign territory, they do represent both a nuisance and an uncontested (but legal) problem to our air defense capability.

The 37th Division also made the point that Soviet flights in the CADIZ adjacent to the Newfoundland/Labrador area constituted "a distinct flight safety hazard and a violation of airspace associated with ICAO international air routes."³⁶

(U) (S) On 20 February 1968, the NNR Commander advised CINCNORAD that aircraft from the division behind the 37th, the 36th, were capable of identifying aircraft

(U) * (S) The 59th FIS (F-102s) at Goose AB, Labrador, had been relieved of alert in November 1966 and inactivated in January 1967. Later in January, ADC began deployment of an F-106 detachment to Goose under the College Goose program. F-101s were substituted for the F-106s on 1 April, but the deployment was discontinued at the end of November 1967 because of an ADC fund cut. For background on College Goose and the 37th NORAD Division, see CONAD Historical Summary 1967, pp 52-55 and 79-84.

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off Newfoundland. But this was unacceptable since visual identification runs would have to be directed by non-combat-ready controllers against multiple targets in an airspace having much civil traffic.³⁷ The NNR Commander said he would not attempt visual identification unless the unknown tracks entered the area where 36th ND control capability could be used. NORAD concurred in this policy insofar as the intruding aircraft remaining over international waters when combat-ready controllers were not available.³⁸ NORAD also restated its interim policy of retaining limited control capability in the 37th. This policy was to keep unmanned control equipment and minimal UHF A/G/A radio at sites remaining in the 37th. The NORAD requirement for intercept controllers at these sites was the commander plus one, both qualified controllers but not necessarily combat-ready.

(u) ~~(S)~~ In the meantime, NORAD had been considering reinstating College Goose or making some other deployment into the 37th. On 1 March, CINCNORAD directed CF ADC/NNR to deploy an air interceptor capability to Goose AB for an unspecified period, to be in place not later than 3 March.³⁹ To carry out the requirement, NNR deployed two CF-101s and air and ground crews to Goose.⁴⁰ USAF ADC provided intercept controllers and technicians on a TDY basis to five radar stations and CF ADC to one radar station (Gander). SAC provided base support, refueling tenders, and guards.

(u) ~~(S)~~ Soviet bomber incursions into the CADIZ stopped as soon as the CF-101s were deployed. Because of the lack of activity, it was decided to end the deployment and make a more permanent arrangement to meet the problem. On 26 March, CINCNORAD directed withdrawal of the aircraft, support, and command and control augmentation, starting 28 March.*⁴¹ At the same time,

* (u) ~~(S)~~ On 27 March, just prior to withdrawal, a track with a flight size of two was detected in the 37th. The two CF-101s at Goose were scrambled on the track but it faded prior to intercept.

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NNR was asked to prepare a plan for placing an interceptor identification capability at Goose AB within 24 hours of notification. This was to include combat-ready controllers at selected sites. The plan was to be submitted to NORAD by 2 April. NNR said there was one point needing immediate attention -- insuring continued availability of Goose alert facilities.⁴² NORAD asked SAC to see that alert facilities, including communications, were kept at Goose for use by NNR aircraft when on detachment.⁴³

(u) ~~(S)~~ The CF ADC/NNR-proposed contingency plan called for deployment of an interceptor identification capability to Goose AB within 24 hours notification by NORAD.⁴⁴ CF ADC assigned the name Cold Shaft to the proposed plan. The plan provided for 416 Squadron to deploy two double-tanked CF-101s with secondary armament to Goose AB. CFB Chatham was to provide ground support personnel and maintenance over that already at Goose. The two aircraft deployed to Goose were to maintain a five-minute ID alert and two additional interceptors were to be on five-minute ID alert, when the aircraft were deployed to Goose, at either Chatham or Loring in the 36th Division and available for control of the 37th Commander if required. Arrangements were made between CF ADC and USAF ADC to provide combat-ready controllers at selected radar sites. Provisions were to be made to maintain controllers assigned to the 37th in a combat-ready status.

(u) ~~(S)~~ On 15 April, CINCNORAD approved the initial draft of the Cold Shaft plan.⁴⁵ USAF ADC and CF ADC were asked to coordinate on the training of controllers to keep them combat-ready.

(u) ~~(S)~~ Beginning in April, Soviet aircraft again made incursions into the CADIZ. Cold Shaft was not implemented, however. In May, NORAD's DCS/Operations restudied the whole problem at the Commander-in-Chief's direction because it was apparent that Cold Shaft was not as responsive to the problem as desired. CINCNORAD's position was that intruders detected within the CADIZ should be identified by interception.⁴⁶ The

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study made by the Director of Operations concluded that a temporary, contingency deployment (within 24 hours notice), such as provided by Cold Shaft, was very expensive and did not assure an identification capability in the 37th at the time required. Soviet incursions occurred on a random basis with widely separated intervals. The NORAD force was too small to support a permanent deployment in the 37th. What was needed was a full-time capability to identify suspected Soviet aircraft in a timely manner and yet have a minimum effect on the NORAD force. A proposal that would accomplish this seemingly contradictory requirement was concurred in by CINCNORAD on 7 June. The Commander of NNR concurred also on 12 June.

(u) ~~(S)~~ The new arrangement was contained in NORAD Operation Plan 304N-68, 15 July 1968. Under this plan, the NNR Commander was to maintain an identification alert at two bases, Loring AFB with F-106s and CFB Chatham with CF-101s, responsive to requirements generated by Soviet aircraft penetrations of the G-I-UK Line. Upon receipt of warning of penetration of the G-I-UK Line by Soviet aircraft suspected of proceeding toward the 37th CADIZ, the interceptors at Chatham and Loring were to be scrambled to forward turnaround bases at Gander AB and Goose AB, respectively (which would provide capability off both Newfoundland and Labrador), rapidly recycled, and scrambled to appropriate STOPS in the 37th. G-I-UK warning provided enough time for interceptors based at Chatham and Loring to be on 37th STOPS prior to CADIZ penetration.

(u) ~~(S)~~ If the Soviet aircraft did not materialize, the interceptors could be used to give training to weapons controllers. A fifteen-minute turnaround capability responsive to one-hour notification was to be provided at Goose AB for two F-106 interceptors and at Gander AB for two CF-101 interceptors. Both Gander and Melville were to have adequate combat-ready controllers to support a combat-ready control capability at all times on one-hour notice.

(u) ~~(S)~~ By message on 10 July to all concerned, NNR cancelled its first Cold Shaft plan and put into effect

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the NORAD Operation Plan as of 15 July.⁴⁷ NNR then issued Operation Order 10/68, Cold Shaft II, 12 July 1968. USAF ADC issued an interim operation order on 12 July putting into effect the NORAD plan as of 15 July.⁴⁸ The latter was replaced by ADC Operation Plan 2-68, College Shaft, dated 1 October 1968.

(u) ~~(S)~~ On 19 November 1968, NNR proposed to NORAD that the support detachment be pulled out of Gander and placed on 36-hour recall and that the CF-101s be employed directly from their home base at Chatham without recycling at Gander prior to manning their STOPS.⁴⁹ NNR had a number of reasons for this proposal: the onset of winter and the hazards of operating out of Gander, fuel and financial restrictions on CF ADC had cut the flying time available for training sorties, and there had been no Soviet incursions since implementation of the NORAD operation plan.

(u) ~~(S)~~ NORAD turned NNR's proposal down, however. In a message on 29 November, NORAD answered that the requirement to intercept and identify Soviet incursions in NORAD airspace was considered by CINCNORAD to be a mission of high priority.⁵⁰ NORAD said it recognized the weather problems and that the NNR Commander would have to make a go-no-go decision for all missions to include actual incursions in 37ND airspace (this was provided by an amendment to NNR's Cold Shaft II Operation Order).⁵¹ NORAD also said that NNR's proposal was less costly but would sharply reduce the STOP manning of F-101s in the Newfoundland area. This would cut the ability to respond to tracks potentially penetrating on a broad front from north of Goose to south of St Johns. NORAD added that while there had been no Soviet incursions, they had taken place in the past when the command was ill-prepared to meet them and had generated great concern at the top levels of both governments.

(u) ~~(S)~~ Proposed Augmentation of Iceland Defense Force. During the time the above was going on, the 57th FIS at Keflavik, Iceland, was heavily engaged in identification activities generated by Soviet flights in the Iceland Defense Force area. This squadron had initially been programmed for inactivation in FY 1/68 but was first

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extended to the 3rd quarter of FY 1968 and then through FY 1969. In May 1968, CINCLANT asked USAF to include the 57th in the Five Year Defense Program in view of the stepped-up Soviet activity.⁵² This would extend retention of the 57th in Iceland and make its modernization possible, CINCLANT pointed out. USAF replied on 21 May that the 57th was included in the FYDP through FY 1970.⁵³ The Air Force said it recognized the requirement for keeping the 57th and intended to pursue the matter with OSD. On 6 November 1968, OSD approved for planning purposes retention of the 57th through FY 1974.⁵⁴

(U) ~~(S)~~ At any rate, early in July, CINCLANT advised the JCS of the start of the Warsaw Pact Naval Exercises in the Norwegian Sea and requested augmentation of the 57th FIS. The JCS queried CINCNORAD on this and the latter recommended against augmentation. CINCNORAD referred to his objection to the loss of F-106s to Korea as a result of the Pueblo situation and stated that his position was firmer now that the CONUS force cuts were being accelerated.⁵⁵ CINCNORAD stated that increased Soviet activity in the Atlantic appeared to be a reason to increase defense capability of the CONUS not decrease it. CINCNORAD advised, however, that augmenting aircraft could be operational in Iceland within 24 hours if the decision was made to deploy. The JCS told CINCLANT on 11 July that it was not considered appropriate to augment immediately by drawdown of CONUS air defense forces.⁵⁶

(U) ~~(S)~~ On 12 July, the Commander Iceland Defense Forces again requested augmentation on the basis of greatly increased Soviet air activity. Eight F-106s and two EC-121Hs were asked.⁵⁷ CINCLANT concurred and consideration was given to deployment of aircraft of the 95th FIS, Dover AFB, Delaware. In the meantime, the U.S. coordinated with the Government of Iceland. Deployment was not made, however. On 15 July, CINCLANT advised the JCS that the Warsaw Pact Forces were moving beyond range of the F-106s and asked that augmentation be held in abeyance.⁵⁸ The following day, the Secretary of Defense asked the American Embassy to inform the Government of Iceland

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that the Warsaw Pact Exercises had moved to such a distance from Iceland that augmentation was not required.⁵⁹

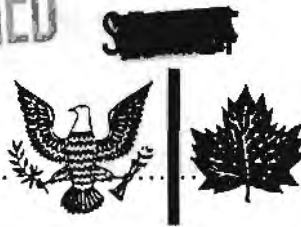
(U) ~~(S)~~ College Green. CONAD was charged with responsibility for air defense of military bases in Greenland by the Unified Command Plan. To fulfill his responsibility, ADC provided in its College Green Operation Plan 15-67, 15 March 1967, for the possible deployment to that area of a small force by CINCONAD to counter any harassment by the USSR. This contingency plan provided for the deployment of eight F-106 and four EC-121 aircraft to Thule AB, Greenland, as a main operating base. Sondrestrom was to be used as an additional operating base for maintaining interceptor alert and staging EC-121 aircraft. The forces were to deploy so as to be in place and ready to assume alert and man AEW&C stations within 72 hours after notification. The 71st FIS, Richards-Gebaur AFB, was to provide the required aircraft, with the 94th FIS, Selfridge AFB, as backup. Upon declaration of DEFCON 3, all aircraft were to deploy to their CONUS base.

(U) In January 1968, ADC proposed to substitute their College Cadence Plan for the College Green plan to avoid duplication of plans.⁶⁰ CONAD disagreed, however, and told ADC that its College Green plan should remain in effect until the former plan was sanctioned for implementation by the JCS.⁶¹ The College Green Plan was still in effect at the end of 1968. A new plan, 15-69, was issued on 1 February 1969.

(U) ~~(S)~~ College Shoes. Since July 1963, eight F-106 aircraft from ADC resources had been deployed to the Alaskan Region to augment that region's forces. Deployment continued during 1968 under ADC Operation Plan 17-66, 15 August 1966, until replaced by ADC Operation Plan 17-68, 1 March 1968. Two squadrons at a time furnished four aircraft and five aircrews each.

(U) ~~(S)~~ Since 1963 also, ALCOM/ANR and NORAD had been trying to replace at least a portion of ANRs F-102 squadron with F-4 aircraft or another adequate interceptor. In mid-1964, a USAF study group had concluded

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that an F-102/F-4C combination would best serve the air defense mission in Alaska. At that time, the JCS directed continuation of the F-106 deployment until the first quarter of FY 1966 when the F-106s were to be replaced by a rotational TAC squadron of 18 F-4Cs. In August 1965, the F-102 squadron in Alaska (317th) was cut from 44 aircraft to 26 aircraft and the next month the 389th TFS, with 18 F-4Cs, deployed to Alaska. The latter deployment was short lived, however. In December 1965, the TAC deployment was suspended to meet SEA requirements and USAF approved continuation of the ADC F-106 deployment.

(u) ~~(S)~~ The 317th FIS, Elmendorf AFB, was originally programmed for inactivation in FY 4/67. In August 1966, the Secretary of Defense approved extending the 317th to FY 1/69, with the UE to remain at 26 F-102s. In September 1967, USAF submitted a PCR to OSD asking for extension for one more year (to FY 1/70). PCD Z-7-096, 16 December, extended the Alaskan F-102 squadron through FY 1969. The PCD also noted that extension would be necessary if TAC rotational fighters were not available in FY 70.

(u) ~~(S)~~ In February 1968, ANR's Commander, Lieutenant General Breitweiser, wrote to General Reeves that as matters stood the F-102s and F-106s would be replaced by an 18 UE F-4 rotational squadron in FY 1970. Eighteen F-4s, General Breitweiser said, were inadequate for the ANR mission.⁶² He asked that the College Shoes deployment continue until an F-4 wing or another adequate interceptor force was in place in ANR.

(u) ~~(S)~~ General Reeves agreed that 18 F-4s would be inadequate.⁶³ He said that the F-102s should not be phased out until a full F-4 wing was in being and that he would back General Breitweiser fully in such a request to the JCS. CINCNORAD said that continuing the College Shoes deployment was becoming increasingly difficult in face of cuts in the CONUS force, but that he would maintain this deployment until ANR had at least one squadron of F-4s operational in Alaska. General Breitweiser answered that he was taking action to extend his F-102 squadron until the F-4 wing was in being in ANR.⁶⁴

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(u) ~~(S)~~ The JCS advised CINCAL and CINCNORAD in April that USAF had stated that requirements prevented basing an F-4 tactical fighter wing in Alaska in FY 1970. USAF had advised that PD 70-2 would show deletion of the F-4 rotational squadron (18 UE), extension of the 26 UE F-102 squadron and the eight UE F-106 rotational force through FY 4/70 and deployment of a tactical fighter wing to Elmendorf in FY 1/71.⁶⁵

~~(S)~~ College South. Since 1961, plans had been in existence for deploying interceptor aircraft and AEW&C aircraft to augment the Southern Florida area to meet any Cuban threat contingencies. Directed by CONAD Operations Plans, ADC had issued a series of implementing operation plans titled at first Southern Tip and changed in 1966 to College South.

(u) ~~(S)~~ The 1968 College South Plan (ADC Operation Plan 33-68, 1 July 1968, as amended) replaced ADC Operation Plan 33-66, 15 December 1966. The 1968 plan provided for the deployment of 24 F-106 aircraft to Florida bases (six each to Patrick, MacDill, McCoy, and Homestead) and 14 F-102s to Key West when directed by CINCONAD. Six EC-121s were also to be sent to McCoy AFB for manning two stations as required.

(u) ~~(S)~~ Key West and Homestead Alert. For years also, a permanent, continuous alert had been maintained at Key West NAS and Homestead AFB to counter the Cuban threat. The 319th FIS with F-104s was stationed at Homestead AFB and a detachment of six F-102s from Tyn-dall AFB was stationed at Key West (Detachment 3, 32d Air Division).

(u) ~~(S)~~ On 15 October 1968, in response to a query from Eastern Region, CONAD explained and reaffirmed its alert requirements. CONAD said that by a message dated 11 June 1963 it had established a requirement for two aircraft on five-minute alert at Key West and by letter on 13 February 1962 it had established a requirement for alert at Homestead AFB to counter the Cuban MIG-21 threat. Southern Region had implemented the CONAD requirement by requiring four aircraft on five-minute

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alert which included the Key West detachment that would maintain two aircraft on five minutes.⁶⁶

(U) ~~(S)~~ CONAD said that in view of the capability of the Cuban Revolutionary Air Force to overfly the southern areas of the U.S., the alert requirements were considered necessary. The concept of operation and alert requirement for the area south of 28 degrees North Latitude would be issued in a new CONAD Operation Order 300C-68 (ADNAC). Until this was published, CONAD said its message was interim authority for the alert requirements outlined in the CONAD message and specified in ENR/ECR Supplement to NORAD/CONAD Regulation 55-3 (Defense Readiness Conditions, Air Defense Emergency, Air Defense Warnings, and Alert Requirements).

(U) ~~(S)~~ CONAD Operation Order 300C-68, 1 November 1968, directed the following:

NAS Key West. Two all-weather interceptors on 5-minute state-of-alert and the remainder on 3-hour state-of-alert.

Homestead AFB. Two air superiority capable interceptors (cannon equipped) on 5-minute state-of-alert, and two on 15-minute state-of-alert as backup. These backup aircraft will be advanced to 5-minute state-of-alert when required to replace interceptors scrambled from either Homestead AFB or NAS Key West.

(U) ~~(S)~~ After publication of the above order, the Eastern CONAD Region Commander asked authority to deviate from the requirements to permit more flexibility to meet training and other requirements during normal readiness.⁶⁷ In a message on 3 December, he asked for the following during DEFCON 5:

1. When deemed appropriate by Commander ECR, fill the minimum identification alert requirement with four interceptors (all-weather or air superiority capable) on 5-minute state-of-alert at NAS Key West or at Homestead AFB.

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2. When the 319 FIS is assigned TR or EX activity code, continue the requirement to maintain four interceptors on 5-minute identification alert in Southern Florida; however, waive the requirement to maintain two interceptors on 15-minute state-of-alert at Homestead AFB as backup provided the capability is maintained (either at NAS Key West or Homestead AFB) to advance two additional interceptors to a 5-minute state-of-alert within 15 minutes.

(U) ~~(S)~~ CONAD answered on 11 December, turning down the request.⁶⁸ CONAD explained that the requirement for both a 24-hour all-weather and air superiority interceptor alert, as specified in the above operation order, was a firm JCS/CONAD commitment. CONAD added that it was expected that this requirement would remain in effect until U.S.-Cuban relationships materially improved.

AUGMENTATION

(U) ~~(S)~~ CONAD Operation Plan 302C-68. In November 1966, the JCS, at DOD direction, requested CONAD to make a study of methods of augmenting CONAD interceptor forces.⁶⁹ The study was to be made with the help of representatives of the unified commands and services. The first meetings were held early in January 1967. The final product, "A Study of Methods for Augmenting Continental Air Defense Interceptor Forces," was completed 24 January 1967. As a result of the study and in keeping with a recommendation of the study, on 13 March 1967, the JCS directed CONAD to prepare an operation plan providing for the use of augmentation fighters from other unified commands and the services.⁷⁰ A draft of the proposed plan, 302C-67, was submitted to the JCS on 12 May 1967.

(U) ~~(S)~~ The JCS approved the proposed plan on 5 June 1968 for planning and programming purposes and authorized implementation.⁷¹ The plan, 302C-68, "Augmentation of Strategic Defensive Forces (U)," was published on 15 September 1968. The plan listed precommitted aircraft of the Tactical Air Command, the Navy, and

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the Marine Corps. Precommitted forces were defined as follows:

Specifically identified CONUS-based fighter-interceptor aircraft provided from outside normal CONAD resources, and which, by JCS direction, have an initial wartime mission of air defense under the operational control of CINCNORAD/CINCONAD.

(u) ~~(S)~~ Precommitted TAC aircraft were listed for FY 1969 through FY 1972. These were 88 F-4s for FY 1969 and 125 F-4s thereafter, and 30 F-111s end FY 1970, 44 F-111s in FY 1971, and 59 F-111s in FY 1972. No Navy or Marine Corps aircraft were precommitted for FY 1969. For FY 1970 and beyond, 35 Navy F-4s and eight F-8H/Js were listed; from the Marine Corps, 36 F-4s were listed for FY 1970 and beyond.

(u) ~~(S)~~ Employment of precommitted forces would be required under any of the following conditions:

1. When directed by the JCS
2. Automatically upon declaration of DEFCON 2
3. Automatically upon notification of BMEWS warning or actual attack

The plan stated also that additional noncommitted CONUS-based fighter aircraft, both active and reserve might be diverted from their primary mission to support NORAD/CONAD. CINCPAC, CINCLANT, CINCSTRIKE, and TAC were charged with provision of additional available noncommitted fighter aircraft as directed by the JCS. CONAD said in its plan that the extent of such support could not be predicted in advance with any accuracy. Such support would be determined on a case-by-case basis by the JCS as a national emergency developed.

(u) ~~(S)~~ Detailed planning was underway between the staffs of NORAD/CONAD, ADC and TAC to expedite the incorporation of these forces into the NORAD/CONAD air defense system.⁷² Detailed supporting plans were prepared by ADC and TAC.

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(u) ~~(S)~~ College Tap Augmentation. Interceptors of the Air Defense Weapons Center and the 4780th Air Defense Wing, located in relatively low priority areas (Tyndall AFB, Florida, and Perrin AFB, Texas) constituted a large reserve of combat strength that could be used more effectively if deployed for greater tactical advantage. ADC's College Tap Operations Plans (23-Yr) provided for employment of these forces by NORAD/CONAD. Change 2 to the 1968 plan, 2 July 1968 (23-68, 1 January 1968) provided that ADC and 10th Air Force would, when directed by CINCNORAD/CINCONAD, augment Region interceptor forces by deploying interceptors of the weapons center and the air defense wing to predetermined USAF and ANG MOB and DOBs scheduled for like-type aircraft. The plan stated that "CINCNORAD may order deployment at DEFCON 3. The order for deployment is anticipated no later than DEFCON 2."

(u) ~~(S)~~ Change 3 to the ADC plan, dated 1 September 1968, provided that the Air Defense Weapons Center (ADWC) would provide 16 F-101s and 18 F-106s for deployment within the time limits specified to the indicated bases. Remaining assigned F-101s and F-106s were to be made combat ready and could be deployed as directed by CINCNORAD/CINCONAD and Eastern Region Commander. The 4780th Wing was to likewise provide 42 F/TF-102s and make ready remaining TF/F-102s for deployment as directed. The ADWC deployment of F-101s, which had been set at 18, was cut to 16 because of a reduction of possessed F-101s to 19. ADC had proposed the reduced deployment and NORAD had concurred on 14 August 1968.⁷³ Change 4, 10 October 1968, and Change 5, 1 January 1969, provided for deployment of the same number of aircraft by these units. During the year, a number of changes had been made in the deployment bases, however.

INTERCEPTOR DISPERSAL

(u) ~~(S)~~ Realignment of Dispersal Bases. Because of the discontinuance of a number of squadrons and the redeployment of others and other reasons (such as runway construction at Stewart AFB), considerable realignment of dispersal bases was made during 1968. As of

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1 December 1967, there were 19 bases in the CONUS established as dispersed operating bases - 15 with a Phase III(m) capability, three with a Phase II, and one with a Phase I. As of 1 December 1968, this was reduced to 15 bases in the CONUS - 14 with a Phase III(m) capability and one (Patrick AFB, Florida) with a Phase II capability. Four bases had been eliminated: Hector Field, North Dakota; Grand Island, Nebraska; Stewart AFB, New York; and Clinton County AFB, Ohio. The December 1967 and December 1968 DOB alignment was as shown on the table on the following page.

(u) ~~(S)~~ Canadian Dispersal Bases. In 1964, USAF ADC had stated a minimum requirement for 18 CONUS and two Canadian DOBs under its 20 squadron force. In January 1965, USAF had approved 17 CONUS bases and three Canadian bases for negotiation. Both NORAD and ADC wanted two more bases in Eastern Canada. USAF advised, however, that no more than four could be obtained and NORAD and ADC concurred, choosing Namao, Alberta; Cold Lake, Alberta; Portage la Prairie, Manitoba; and Val D'or, Quebec (see below). With Canadian approval, site surveys were made by USAF ADC in the spring of 1965. In June 1966, the State Department sent instructions to the U.S. Ambassador to Canada to propose a governmental agreement on dispersal. The latter was officially submitted in September 1966.

(u) ~~(S)~~ In May 1968, USAF ADC pointed out to USAF that need for northward dispersal of interceptor forces became of ever-increasing importance as these forces became less available and spread thinner.⁷⁴ ADC said it was of grave concern to it that the delay in getting an agreement for use of Canadian bases continued. USAF said it recognized the situation but that nothing would take place until after the June elections.⁷⁵ When the latter date came and went with no agreement, ADC, in August, again asked the status of a U.S.-Canadian agreement. USAF replied that there was no change.⁷⁶ At the end of 1968, no agreement had been concluded, but the matter was being considered at the Canadian Government level. By this time also, it appeared that CFB Gimli, Manitoba, would be substituted for Portage la Prairie.

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REALIGNMENT OF DISPERSAL BASES

1 DECEMBER 1967

1 DECEMBER 1968

<u>UNIT</u>	<u>MOB</u>	<u>DOB</u>	<u>UNIT</u>	<u>MOB</u>	<u>DOB</u>
84th (Inact.)	Hamilton	Siskiyou	84th	Hamilton	Fresno
318th	McChord	Walla Walla	318th	McChord	Walla Walla
322d (59th)	Kingsley	Siskiyou	59th	Kingsley	Siskiyou
437th (Inact.)	Oxnard	Edwards	460th	Oxnard	Edwards
456th (Oxnard-460th)	Castle	Fresno			
498th (Hamilton-84th)	Paine	Walla Walla			
5th	Minot	Hector	5th	Minot	Logan
11th (87th)	Duluth	Volk	87th	Duluth	Volk
13th (Inact.)	Glasgow	Logan			
18th	Grand Forks	Hector	18th	Grand Forks	Volk
29th (Inact.)	Malmstrom	Logan	71st	Malmstrom	Logan
62d	K. I. Sawyer	Truax	62d	K. I. Sawyer	Truax
71st (Malmstrom)	Richards-Gebaur	Grand Island			
438th (Griffiss-49th)	Kinchloe	Volk			
2d	Suffolk	Bagotville*	2d	Suffolk Co.	Atlantic City
48th	Langley	Byrd	48th	Langley	New Hanover
49th (Inact.)	Griffiss	Niagara Falls	49th	Griffiss	Niagara Falls
60th	Otis	Bagotville*	60th	Otis	Bangor (Dow)
87th (Inact.)	Lockbourne	Clinton			
94th	Selfridge	Hulman	94th	Selfridge	Hulman
95th	Dover	Atlantic City	95th	Dover	Byrd
98th (Inact.)	Suffolk	Stewart			
444th (Inact.)	Charleston	New Hanover			
445th (75th)	Wurtsmith	Phelps-Collins	75th	Wurtsmith	Phelps-Collins
319th	Homestead	Patrick	319th	Homestead	Patrick
27th	Loring	Dow	27th	Loring	Bangor (Dow)
75th (Inact.)	Dow	Chatham			

(Information in parentheses indicates that the squadron was redesignated and/or moved or inactivated.)

*Deployment base.

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(u) (S) Loss of Deployed/Dispersed Interceptor Forces to ENR/NNR. Because of squadron inactivations and dispersal realignments, both ENR and NNR lost considerably in interceptor forces available to fight the air battle. Early in 1967, ENR had 11 squadrons in its area which did not include the portion of the Southern NORAD Region that it later absorbed. By December 1968, ENR's force consisted of seven squadrons which included the one in Florida that had been under the old Southern Region. NNR lost one squadron through inactivation and also lost considerably in planned deployment/dispersal into its area. Deployment/dispersal base realignment plus inactivation of squadrons cancelled all deployments into NNR from ENR except for a Phase III dispersal of the 60th FIS, Otis AFB to Bangor (Dow) that went into effect on 1 July 1968. On 19 July, NNR complained to NORAD that this reduction of 12 to 18 interceptors within a year was a matter of grave concern.⁷⁷ NNR pointed out that the region and especially the 41st Division had always been short of interceptors so deployments of interceptors were necessary to preclude roll-back of an air battle.

(u) (S) NORAD replied on 8 August that it shared NNR's concern over the cut in interceptors programmed to deploy to NNR.⁷⁸ NORAD went on to explain that ENR had lost heavily from squadron inactivations and since similar cuts had been made in CNR and WNR no redistribution of forces was possible. As for relief, NORAD held out these possibilities. Future realignment of boundaries might result in additional forces being based within NNR's boundaries. Category II augmentation plans might provide larger numbers of committed TAC F-4 aircraft for NORAD employment in the post-SEA period. If so, NORAD said, NNR requirements would be strongly considered for deployment of Category II augmentation forces.

(u) (S) In the meantime, on 26 April, ENR proposed that the 60th FIS aircraft programmed for dispersal to Dow (within NNR's borders) remain as part of Eastern Region's resources and under the operational

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control of ENR.⁷⁹ NORAD turned this down, pointing out that ENR had far more manned interceptors and Bomarcbs than NNR and that deployment of augmentation forces to NNR was not satisfactory.⁸⁰ ENR again brought up the matter in a second proposal on 10 June.⁸¹ ENR said that its 35th Division should retain control of aircraft of the 60th FIS dispersed from Otis to Dow. ENR now coupled this proposal with a similar proposal for control of CNR aircraft dispersed from the 29th Division into the area of ENR's 34th Division (62d FIS, K. I. Sawyer to Truax). NORAD again turned the request down.⁸² In a message on 21 June, NORAD said that forces dispersed to adjacent regions would be placed under the operational control of the region in which the dispersed operating base was located. There could be cross-region agreements on the use of dispersed forces, NORAD said. At any rate, the whole matter would be settled with the upcoming planned boundary reconfiguration which, among other things, would place Dow within ENR's border.

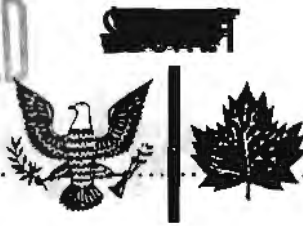
(u) (S) EDICT Plan. Early in 1967, NORAD asked the regions and ADC to comment on a proposal to establish an airborne survivable alert. NORAD explained that current procedures provided for flushing aircraft on BMEWS warning, actual missile attack, or an actual NUDET. The procedures were based on some type of detection timely enough for reaction. But now there were weapon systems available or in development that would not give time for flush. Procedures were needed that permitted selective, precautionary flushing based on intelligence information. Intelligence could indicate the probability of an attack that would not give enough reaction time. This could be used to scramble aircraft in the threatened area, thus, an airborne survivable alert.

(u) (S) NORAD decided to abandon the plan, however, after all comments were received. On 23 August 1967, NORAD advised the regions and ADC that there was a consensus of concern over two points. These were the capability of the intelligence system to produce timely and valid warning of an impending SLBM/SLCM/FOBS/MOBS attack, and the effect of a prolonged airborne alert. NORAD concluded that a more practical solution

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to intelligence warning would be greater dispersal of the force to non-time sensitive bases where it could respond to normal flush orders generated by BMEWS or known detections.

(u) ~~(S)~~ On 18 October 1967, NORAD instructed region and division commanders to formulate plans to execute a plan called Evacuation and Dispersal of Interceptors from Critical Targets (EDICT). Interim procedures were provided by letter on 19 October. In this letter, it was pointed out that it had been determined that increased dispersal to survivable bases provided the only viable solution to the problem. NORAD said that the current dispersal program was designed to achieve an optimum posture between tactical positioning and maximum survivability. There was increased dispersal at DEFCON 3 with a maximum at DEFCON 1. Because of the inability to effectively flush to cope with the sub-launched or FOBS/MOBS type of threat, dispersal beyond the current maximum seemed warranted.

(u) ~~(S)~~ The EDICT procedures were issued in Change #4, dated 1 May 1968, to NORAD Operation Order 300N-67, Air Defense of the North American Continent (U), 1 January 1967. It stated that during increased DEFCONs (DEFCON 3 or above) CINCNORAD could implement EDICT if in his judgment the submarine missile or FOBS/MOBS threat warranted evacuation of armed, operationally-ready interceptors and AEW&C aircraft from critical bases. The order stated that:

Critical bases are defined as bases which have been evaluated as time sensitive targets because they either control or serve as launch sites for our retaliatory capability. These are lucrative targets for a no-warning pre-ICBM attack initiated to confuse and disrupt our retaliatory actions which are normally generated by BMEWS. The list of critical bases may not necessarily be in agreement with priorities established in the North American Target List (NORADM 55-11). The primary criteria for selection of critical bases is time sensitivity and not overall target value....The criteria used for

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selection were SAC bomber launch bases, SAC command/control centers, or bases within 15 NM of a SAC missile field.

^U
(S) The order provided that when EDICT was implemented, aircraft would be evacuated, at the region commander's discretion, from designated critical bases and recovered at preselected less critical ADC/ANG main or dispersal bases, and/or to Canadian deployment bases if proper authorization had been received. Region commanders could order evacuation of all or a portion of their armed operationally ready aircraft from critical bases. The number would be determined by the region commander and based on tactical requirements and available facilities. Fourteen critical bases were designated in this change to the NORAD ADNAC. The list was revised in Change #5, dated 19 August 1968, to 12 bases because of the discontinuance of two interceptor squadrons. A third base was to be deleted 30 September because of discontinuance of another squadron.

CONAD OPERATION PLAN 310C-68 FAN DANCER

^U
(S) During 1961, United States rights and access to West Berlin were threatened by the Soviet Bloc resulting in a series of crises, arms buildup, and serious East-West tension. Included in the U.S. response was preparation of contingency plans calling for reprisals and harassing actions against Bloc aircraft as directed by the JCS. CONAD's role included participation in these actions when so directed. In accordance with a JCS memorandum of September 1961, CONAD issued its first contingency plan for its role in reprisal and harassing action. This plan, Operation Plan 2-61, 15 October 1961, was called Big Stick. A revised Big Stick plan, 310C-65, was issued on 1 March 1965. The latter was superseded with a new plan 310C-68, on 1 July 1968 and the name was changed to Fan Dancer.

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(S) CONAD's mission, the latter plan stated, was to conduct harassment and reprisal actions against communist aircraft in order to influence the settlement of a Berlin crisis to the best interest of the U.S. The

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enemy forces listed were Soviet and European Communist military and nonmilitary aircraft under conditions specified by the JCS. Friendly forces were U.S. unified and specified commands and the FAA. The latter was to harass communist aircraft administratively when directed by competent authority.

(S) Under the concept of operations (in 310C-68), it was stated that specified harassment and reprisal actions might be executed singly or in combination at the direction of the JCS. Execution was to be planned as a unilateral U.S. action. However, Canadian, Icelandic and/or Danish (Greenland) forces and/or airspace might be used if CONAD got political guidance that these nations were cooperating and had agreed to such use. Plans and/or instructions were to be prepositioned at appropriate CONAD elements so that action could be taken quickly.

(S) The specific actions to be taken, when and as directed, were nicknamed Fan Dancer Alfa, Bravo, and Charlie, as follows:

1. Fan Dancer - Alfa - Harass communist aircraft administratively.
2. Fan Dancer - Bravo - Harass communist aircraft by air defense actions.
3. Fan Dancer - Charlie - One - Deny entry of communist aircraft to the United States.
4. Fan Dancer - Charlie - Two - Seize and/or destroy communist aircraft intruding into U.S. airspace.
5. Fan Dancer - Charlie - Three - Destroy communist aircraft within 50 miles of U.S. territory, territorial waters, and airspace.

** Political Level Talks involving other governments are affected.*

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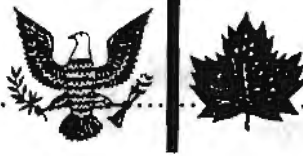
SECTION II - AIR DEFENSE MISSILES

NIKE HERCULES REDUCTIONS

(u) ~~(S)~~ Nike Hercules Study. In September 1966, the Secretary of Defense directed the Army to make an extensive study of Nike Hercules, the broad objective of which was to reexamine the role of Hercules in over-all continental air defense in view of the declining bomber threat and recommend changes in force levels to fulfill this role more effectively.⁸³ More specifically, the Secretary of Defense memo suggested a study of Nike Hercules battery effectiveness against various classes of offensive threats, the contribution of each currently-deployed battery, and identification of those fire units that might be of marginal value. The following November, DA assigned the project to ARADCOM. In January 1967, DA authorized making the study in two phases. Phase I was to deal with 1969 and Phase II with later years.

(u) ~~(S)~~ Phase I (FY 1969 air defense era), 15 April 1967, concluded that in no case was the elimination of a battery justified and that improvements from resiting or adding a battery were marginal and not worth the expense. CINCONAD concurred with Phase I, in a letter on 19 May 1967, with reservations similar to those noted in the study preface.⁸⁴ This covered a number of subjects but a main point was inadequacy of the threat postulated for the study.

(u) ~~(S)~~ In the meantime, a memo from the Assistant Secretary of Defense for Systems Analysis on 3 August 1967 (Supplement to the Draft Memorandum for the President on Strategic and Defensive Forces) stated that tentatively 15 Hercules batteries had been identified that provided only a marginal contribution and would be phased out. A final decision would be made after completion of the Nike Hercules Study. In September 1967, DA asked ARADCOM to include in its Phase II study an analysis of the possible phase-out of 15 batteries as indicated in this memo.



(u) (S) The latter was included as a supplement to the Nike Hercules Phase II study. Both were published on 16 October 1967. The Phase II study and supplement concluded that Nike Hercules defenses should be continued until SAM-D and improved interceptors were available; MOHEC (Modernized Nike Hercules through Modifications) was necessary to meet the ECM threat in the early mid-1970s; Nike X with no complementary air supported threat defense was inadequate; and that by resiting 10 batteries in eight defenses, 13 batteries could be made available for redeployment (as used in this study, redeployment was for terminal defense of Nike X). Finally, it was stated that any further reduction of Nike Hercules sites resulted in an unacceptable lowering of defense capabilities.

(u) (S) After review of the study, on 30 October 1967, CINCONAD advised that he was opposed to action which would reduce present CONAD air defense capabilities, but that if the cuts were directed he concurred in the rationale used by ARADCOM in the Study.⁸⁵ CINCONAD also said that redeploying specifically to defend Nike X in the interior U.S. did not show significant advantage to be gained. He preferred to see efforts directed toward an earlier SAM-D deployment.

(u) (S) In December 1967, the JCS reviewed the Study and recommended to the Secretary of Defense that there be no change in force levels in FY 1969, that 13 units be eliminated in FY 1970 contingent on resiting ten batteries, and Hercules not be deployed to defend the currently-approved Sentinel System.

(u) (S) On 29 February 1968, DA submitted a PCR to the Secretary of Defense in response to the August 1967 memo by ASD/SA discussed above which tentatively phased out 15 batteries. In the PCR, DA proposed elimination of 13 CONUS Hercules batteries in FY 1970 and the resiting of ten batteries to compensate for the loss.⁸⁶ The PCR stated that four of the 13 batteries proposed for deletion were occupied by Army National Guard units. But 13 regular Army units would be inactivated and personnel from the four eliminated ARNG sites would move and take over four adjacent regular Army sites.



(U) (S) DOD Directive of 1 June 1968. A PCD (A-8-006) replying to the above was signed by the Secretary of Defense on 1 June 1968. The PCD directed phase-out of 13 batteries in FY 1969, rather than FY 1970 as proposed, and did not approve resiting any batteries.⁸⁷ A decision to resite batteries at Philadelphia and Detroit was deferred without prejudice, however. The PCD said that these were the only two cities of those defended by the 13 batteries that had a significant number of "open" course lines.

(U) (S) Eight of the 13 batteries were located in five Northeastern states. Two were in California and one each in Michigan, Illinois and Indiana. One of the sites, manned by the ARNG, at Warrington, Pennsylvania, was a double battery site. Only one of the batteries was to be inactivated so the site itself would continue in operation. The other sites, however, were to be closed. The first six batteries were declared non-operational on 15 August 1968 and inactivated on 31 October.⁸⁸ The remaining seven were declared non-operational on 15 September and inactivated on 31 December 1968.

(U) (S) DOD Directive of 10 August 1968. Further cuts were ordered as a result of the need to meet budget cuts required by the Revenue and Expenditure Control Act (Public Law 90-364, 28 June 1968). To meet FY 1969 expenditures, 12 additional batteries were to be eliminated, making a total of 25 removed from operations in FY 1968. DOD PCD A-8-314, dated 10 August 1968, directed that the three interior defenses (which was in keeping with the radar-interceptor cuts in the interior), Dallas-Fort Worth, Kansas City, and St. Louis, be eliminated.⁸⁹ These three defenses, containing four batteries each, were to be inactivated prior to 31 March 1969. The St. Louis defense ceased operations on 1 October 1968 and inactivated on 15 January 1969.⁹⁰ The Dallas-Fort Worth and Kansas City defenses ceased operations on 15 October 1968 and inactivated on 10 February 1969. Four of the 12 units were manned by ARNG which meant a reduction in regular Army units of 21, cutting the CONUS RA force from 64 to 43 (nine batteries remained in Alaska) and the ARNG force from 48 to 44.

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(u) ~~(S)~~ PBD 436. On top of this cut of 25 batteries, Program Budget Decision 436, 11 December 1968, called for elimination of five more batteries - two RA and three ARNG - "due to the marginal effectiveness of these batteries."⁹¹ The batteries listed by the PBD were Philadelphia (Site PH-99 - ARNG), Cincinnati (Site CD-46 - ARNG), Detroit (Site D-58 - ARNG), Detroit (Site D-26 - Active Army), and Chicago (Site C-03 - Active Army). The latter site was changed to Milwaukee (M-20), see below.

(u) ~~(S)~~ The Commanding General of ARADCOM issued a strong protest to DA as did CINCONAD to the JCS. In his protest to DA, Lieutenant General G. V. Underwood, Jr., pointed out that since 1963 ARADCOM had been reduced 35 per cent in its firepower.⁹² This new cut of five batteries would reduce the CONUS force to 82 batteries (41 RA and 41 ARNG), down from 134 in 1963, or a 39 per cent cut. Said General Underwood:

I cannot agree with the apparent OSD belief that our present air defense is "absolutely efficient." In my opinion, our thin deployment is already capable of doing little more than "deny cheap bomber access to the CONUS." A continuation of the developing trend to whittle down our air defenses will convert a cheap defense into a bankrupt defense and afford the Soviets a free ride once they penetrate the brittle perimeter patrolled by a depleted fighter-interceptor force.

(u) ~~(S)~~ CINCONAD told the JCS in a message on 13 December that he considered the proposed cut a major issue which had to be protested.⁹³ He said that the continued unilateral cuts while saving a little money now had the effect of making the Soviet LRAA more and more effective. This, he pointed out, gave the Soviets options probably not available to them now. CINCONAD then objected to the reductions point by point and concluded that he was:

deeply concerned by the progressive loss of forces which are already less than

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adequate. The fact that the defenses have specific and identifiable weaknesses should be used as an argument to add forces with which to plug gaps. Instead it appears that this PBD uses this weakness of the CONAD defensive forces to further a philosophy of futility.

(u) (S) The OSD response to the Army reclama was contained in PBD 436R, approved 18 December 1968. The OSD reply stated that the original PBD statements on phase-out of the Chicago battery (C-03), as pointed out in the reclama, pertained to Milwaukee battery (M-20) and that M-20 would be deactivated in the first quarter of FY 1970.⁹⁴ As for the other four batteries tentatively scheduled for phase-out, the OSD reply disputed the Army's arguments for keeping these batteries, citing the changes in the threat as viewed by OSD. Accordingly, it stated, there was no reason to alter the tentative decision.

BOMARC PROGRAM

(u) (S) In June 1964, the Secretary of Defense approved an Air Force proposal to establish a Combat Evaluation Launch (CEL) program which would provide for launch of six missiles per year, one for each of the six CONUS squadrons. At the time, five squadrons had 28 missiles/launchers and one had 46 missiles/48 launchers (the 35th ADMS, Niagara AFMS). Through FY 1967, all missiles used in the CEL program were to come from the larger squadron until it reached the same level as the other squadrons (it reached 28 UE in November 1967). In November 1965, OSD approved participation of the two Canadian Bomarc Squadrons in the CEL program, raising the annual reduction to eight. The Canadian squadrons were not to be reduced, however; the missiles used in the CEL program were all to come from the U.S. squadrons.

(u) (S) PCD Z-7-096, 16 December 1967, approved the previously programmed phase-down of eight missiles per year through FY 1973. The Bomarc force in the CONUS was to reduce to 124 missiles by end FY 1973. With

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the 56 missiles in the Canadian squadrons, this would make a total NORAD force of 180 missiles at that time.

(u) ~~(S)~~ USAF program PD 70-1 required that missiles be withdrawn incrementally at the rate of one or two missiles per year from each of the CONUS squadrons. ADC gained USAF approval in mid-1968, however, to reduce one squadron at a time to the UE specified for FY 4/73.⁹⁵ The approved program (USAF PD 70-2) was as shown below:

<u>Priority</u>	<u>Squadron</u>	<u>UE Level</u>	<u>FY</u>
1	35 ADMS (Niagara)	21	1/69
2	46 ADMS (McGuire)	20	1/70
3	22 ADMS (Langley)	20	1/71
4	26 ADMS (Otis)	21	1/72
5	74 ADMS (Duluth)	21	4/72
6	37 ADMS (Kinchloe)	21	4/73
	CONUS TOTAL	124	4/73

(u) ~~(S)~~ At one time in 1967, ADC considered reducing one squadron, the 35th, to eight missiles by FY 4/70 and then inactivating it. Because of the force reductions, however, it was decided to retain all squadrons and make an effort to retain them through the 1970s by procuring more missiles. This would allow continuation of the CEL program without wiping out any squadrons.

(u) ~~(S)~~ ADC sent a proposed Required Operational Capability (ROC 12-68) to CONAD on 10 July 1968 that called for procurement of 150 additional CIM-10B missiles as one means of replacing the loss of fighter interceptors.⁹⁶ ADC's ROC proposed an implementation schedule based on a five-year production time schedule with 18 months lead time for receipt of the first missile after approval of the ROC.

(u) ~~(S)~~ General Reeves wrote to the ADC Commander on 31 July that this was a step in the right direction in an attempt to bolster NORAD's defensive capabilities, but that procurement of more CIM-10Bs was not the complete answer to NORAD's weapon requirements.⁹⁷ A

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strong CIM-10B force would tend to bridge the gap caused by cuts in fighter-interceptor forces. An improved manned interceptor, he said, remained NORAD's prime weapons system requirement for a well-balanced and viable defense. General Reeves said he would continue to recommend retention of the CIM-10B as a force requirement in the post-1970 time period in the NADOP. ADC's ROC has not been approved and ADC again brought up the proposal to NORAD in November.⁹⁸ NORAD had made a study of the value of retaining Bomarc and possibly adding more missiles and the matter was under consideration at the end of the year.

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CHAPTER III
AIR DEFENSE RADAR SYSTEMS

SECTION I - GROUND BASED RADAR

RADAR PHASE-DOWN - FY 1968-1969

(u) ~~(S)~~ As discussed in Chapter One, Program Change Decision Z-7-096, 16 December 1967, provided for phase-down of the current air defense system and transition to a modernized system.* Regarding the radar system, the PCD provided for continued development on CONUS OTH backscatter radar with production release decision in September 1970 and approval for a programmed force of two sites beginning in FY 1973. Phase out of the existing radar force to the intermediate level was to begin in July 1968. The PCD called for deleting a number of radar sites as follows: five prime radar sites in FY 1969 and 19 in FY 1970; two Air National Guard CONUS radar sites in FY 1969; and 50 gap filler radar sites in FY 1970.¹

(u) ~~(S)~~ However, Program Budget Decision 388, 18 December, and Change 1 to PBD 388, 27 December 1967, altered the timing of the phase out. This PBD action called for phasing out 15 prime radars, which included the two ANG CONUS radars, and 51 gap fillers in the fourth quarter of FY 1968 and 13 prime radars in the

* (U) See also Chapter One for new PBD action at the end of 1968.

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~~The information contained in this document will not be disclosed to Foreign Nationals or their representatives.~~

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DOD DIR 5200.10 DOES NOT APPLY
Group 1~~



first quarter of FY 1969. The main reason given in the PBD for closing the sites in the FY 1968 list was to reduce non-essential radar redundancy. The reasons for closing the sites in the FY 1969 list were the reduction and relocation of interceptor squadrons and the closing of combat (SCC-9) and direction (SDC-22) centers.²

RECLAMA ACTIONS

(u) ~~(S)~~ USAF informed ADC on 22 December 1967 that budget decisions would require closing 15 sites in late FY 1968 and 13 sites in early FY 1969. ADC felt such action to be a drastic acceleration of the phase-down schedule and, because of the short time left, immediately began to prepare a reclama.³ Additional details of the schedule, including the closure of 51 gap fillers in FY 1968, were provided by USAF on 3 January 1968.⁴ The prime sites listed for closing were:

<u>FY 4/1968</u>	<u>FY 1/1969</u>
C-26 St. Anthony, Nfld.	Z-47 Hutchinson, Kans.
C-27 Cartwright, Lab.	Z-52 Oklahoma City, Okla.
C-28 Hopedale, Lab.	Z-64 Kirksville, Mo.
Z-15 Vandenberg, Cal.	Z-71 Omaha, Nebr.
Z-43 Guthrie, W. Va.	Z-72 Olathe, Kans.
Z-70 Belleville, Ill.	Z-88 Amarillo, Tex.
Z-82 Snow Mt, Ky.	Z-91 Texarkana, Ark.
Z-85 Hanna City, Ill.	Z-94 West Mesa, N. M.
Z-98 Miles City, Mont.	Z-111 Dobbins AFB, Ga.
Z-99 Gettysburg, S. D.	Z-133 Hastings, Nebr.
Z-127 Winnemucca, Nev.	Z-134 Pickstown, S. D.
Z-201 Sundance, Wyo.	Z-195 Crystal Springs, Miss.
Z-149 Baker, Ore.	Z-199 Eufaula, Ala.
Z-239 Greeley, Colo. (ANG)	
Z-240 Salt Lake City, Utah (ANG)	

(u) ~~(S)~~ On 6 January 1968, ADC sent its objections in a message to USAF and provided CINCONAD with an information copy.* ADC's commander, Lt. Gen. Arthur C. Agan, told USAF

(u) * ~~(S)~~ ADC's reclama was coordinated informally with CINCONAD but this message provided, in all probability, the first hard information to the CONAD staff on the force reductions.



that ADC was being stripped of its central interior and southern area which would force it into a perimeter defense. He said the forces that would be left after the reductions would "at best only marginally support a perimeter defense concept." "This command," General Agan continued, "does not concur with such a concept due to the manifold impacts it has on real defense of this nation." However, General Agan recommended a list of actions that would minimize or correct certain deficiencies in the move toward a perimeter defense. At the top of this list was the recommendation to return to a phase down schedule that would allow an orderly transition, with minimum loss of air defense capability, to a joint use (FAA/DOD) National Airspace System.⁵

(u) NORAD, although it had not been officially notified about the impending deletions, sent its objections to the JCS on 8 January. NORAD's objections were generally the same as ADC's. NORAD told the JCS that from an operational outlook it wanted to keep all facilities in operation until future command and control systems could be brought into operation. NORAD said if cuts had to be made to provide money for future air defense systems, then it recommended the following actions to minimize the impact on operational capability:⁶

1. Retain radar sites Z-70 and Z-72 for data inputs and to provide NORAD command and control to Nike Hercules defenses at St. Louis and Kansas City. (Later, DOD directed the inactivation of these Nike defenses. See Chapter Two).

2. Delay closure of nine FAA/ADC joint use radar sites until there was assurance that FAA could assume full cost of operation.

3. Retain sufficient height finder radars and communications at FAA sites in the interior to control interceptors should the need arise.

4. Retain the ANG-operated Master Surveillance Station (MSS) 1 and MSS 2. (The closure of the ANG facilities at Z-239 and Z-240 implied the loss of ANG MSS's in operation at the Denver and Salt Lake City FAA Air Route Traffic Control Centers. These MSS's collected radar data

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from 14 FAA sites covering large areas of seven states and forwarded this data to ADC direction centers. Thus, closing these MSS's would further reduce air defense radar coverage by eliminating data from the 14 FAA sites.)⁷

5. Retain radar site Z-98, Miles City, Montana, until it could be replaced by an adjacent FAA radar to keep a strong radar fence along the U.S.-Canadian border. (In 1964, DOD had approved a program for closing five ADC sites when five adjacent FAA sites, which were to be equipped with common digitizers, could provide air defense data. Originally, these five ADC sites--Z-15, Z-43, Z-127, Z-149, and Z-98--were to have been closed in FY 1967 but were extended to the end of FY 1969 because of delays in the common digitizer program. Now they were to be closed in FY 1968. ADC's reclama, noted above, recommended operation of the five sites until common digitizers were installed at the adjacent FAA sites.)

6. Lastly, NORAD recommended that no further cuts be made until planned improved systems were in operation.

(U) NORAD sent further justification and cost data on its recommendations to the JCS on 11 and 12 January 1968.⁸

(u) ~~(S)~~ Based on a proposal by the USAF Chief of Staff, the JCS sent a reclama on 16 January to the Secretary of Defense. NORAD's recommendations, noted above, were included in this reclama. The JCS said that the Secretary of Defense's decision would cause "an immediate reduction in an already inadequate CONUS air defense posture." The JCS said they felt that the risk involved in these cut-backs might eventually be overcome by the decision to improve the air defense system but, they pointed out, "the Joint Chiefs of Staff consider the interim risk excessive." The JCS said they agreed in principle with CINCNORAD's recommendation to retain all command and control facilities until future systems could be brought into operation.⁹

(u) ~~(S)~~ The JCS reclama was directed mainly at the closure of the direction center (SDC-22) at Sioux City, Iowa, and 20 radar sites in the central area of the United States.

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These closures, they said, would permit relatively uncontested enemy aircraft operations in that large part of the country. Therefore, the JCS recommended delaying the closure of these facilities until a National Airspace System was developed that would give effective military command and control over U.S. airspace. The JCS estimated the cost for operating these facilities in FY 1969 at about \$31.5 million.¹⁰

(u) ~~(S)~~ The ADC, NORAD, and JCS reclaims were to no avail, however. On 6 February 1968, the Secretary of Defense responded to the JCS saying that because the SDC and the 20 radars were located in the interior of the country, "they do not appear to contribute in any significant way to the reduction of damage to this nation in the event of a Soviet bomber and missile attack. For this reason I am inclined to hold to my original decision to phase out these facilities."¹¹

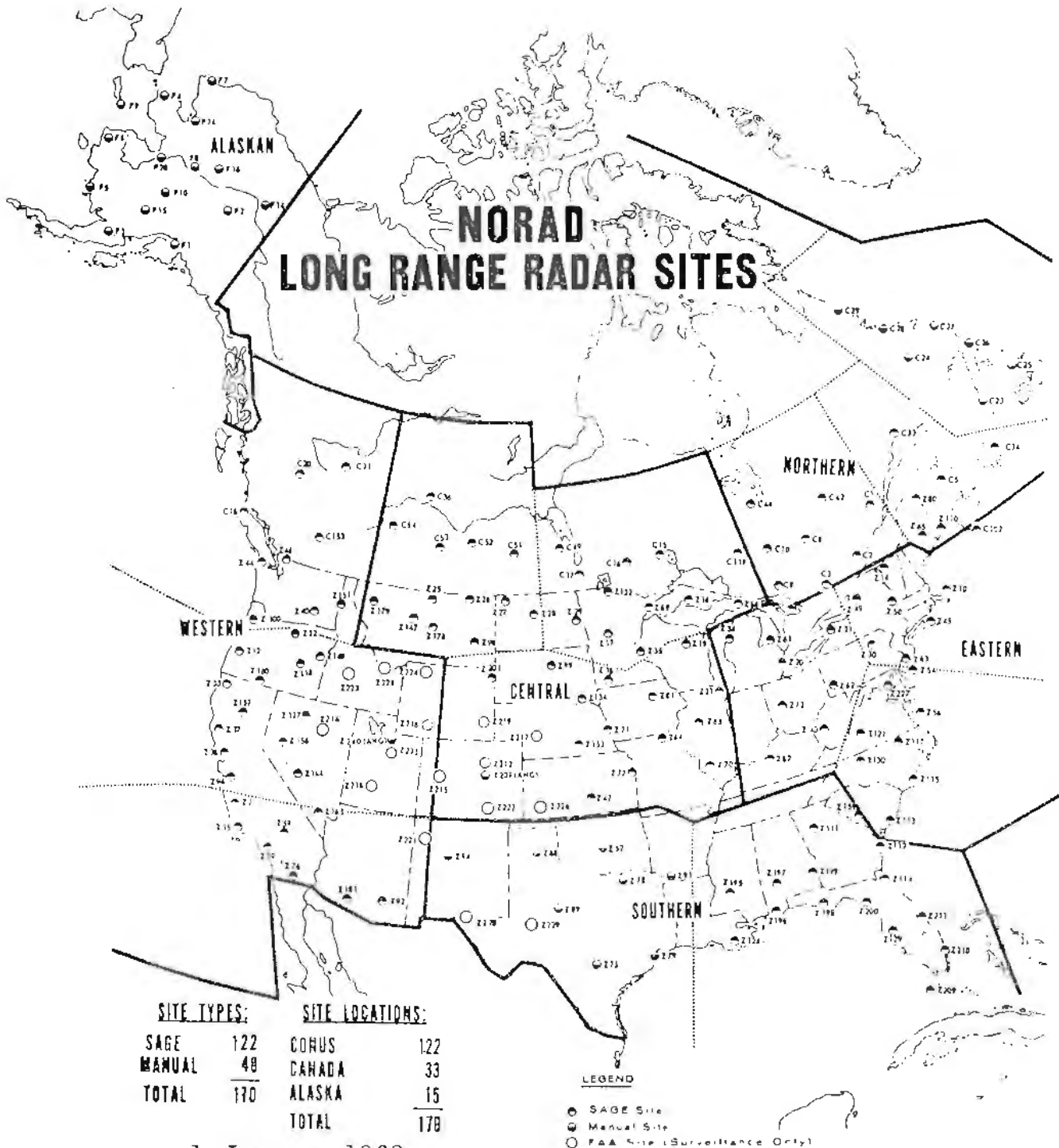
RADAR CLOSURES

(u) ~~(S)~~ To carry out this decision, NORAD and CONAD published operation plans (330N-68/330C-68) on 1 March 1968 for closing 15 prime radar sites and 51 gap filler sites on 1 April -- the first day of FY 4/1968. However, on 8 March USAF told ADC that the Chief of Staff wanted seven of these 15 prime radars and all of the 13 radars scheduled for closing in FY 1/1969 to remain operational until the last month of the inactivating fiscal quarter.¹² Apparently, USAF intended to operate these 20 radars as long as was practically possible.

(u) ~~(S)~~ With this change in schedule, eight sites -- five in the CONUS and three ADC-operated sites in Canada -- stopped operations on 1 April 1968. These sites were Z-15, Z-43, Z-98, Z-127, Z-149, C-26, C-27, and C-28.¹³ Also, on 1 April, 51 gap fillers stopped operations leaving only 17, in the southeastern U.S. opposite Cuba, in operation.*¹⁴

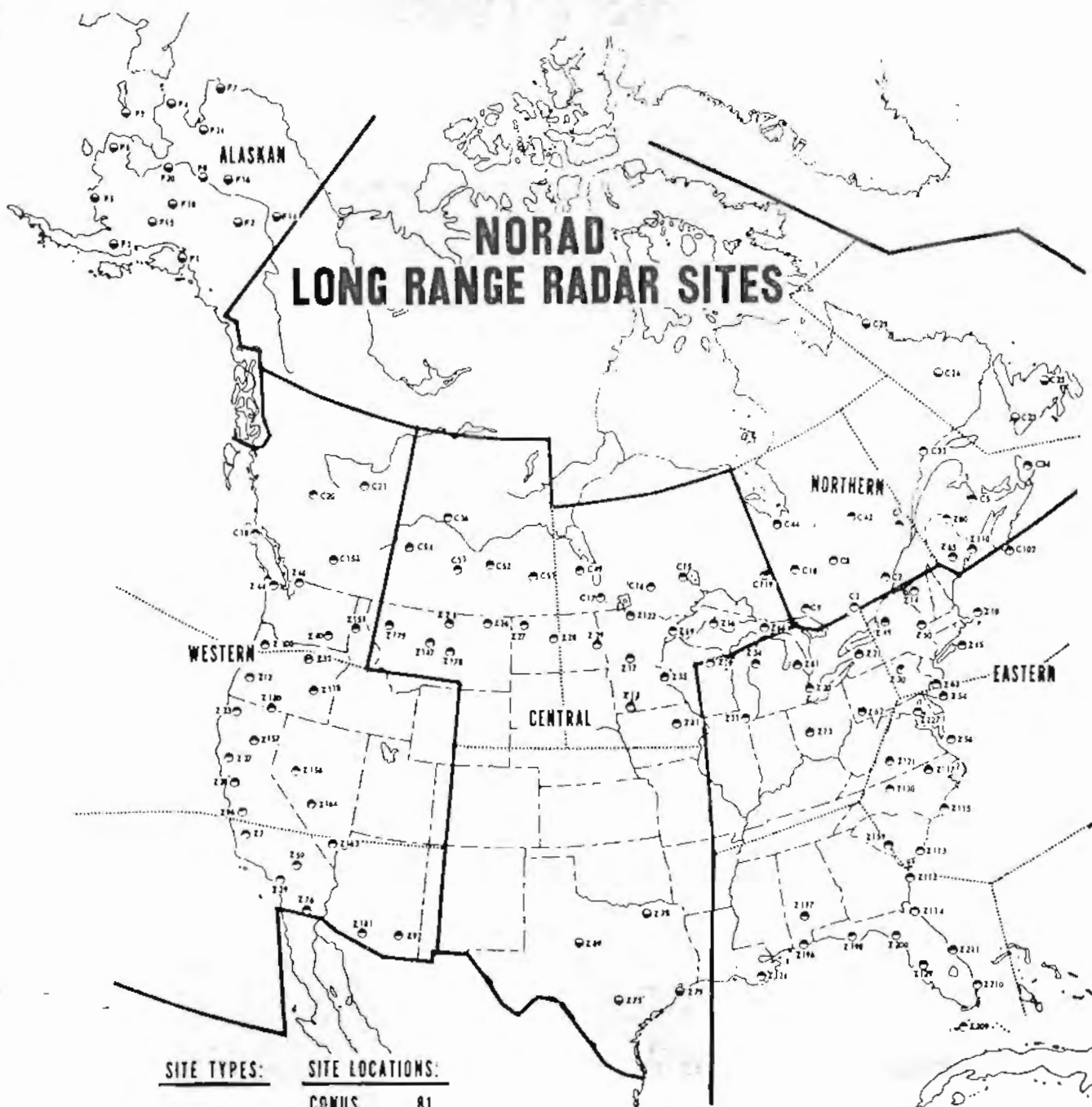
* (U) ADC had stopped operations at 20 gap filler sites in November 1967 to save money. These sites were inactivated on 15 January 1968. Altogether, 71 gap fillers were closed in FY 1968.

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SITE TYPES:		SITE LOCATIONS:	
SAGE	103	CONUS	81
MANUAL	23	CANADA	30
		ALASKA	15
	TOTAL	TOTAL	TOTAL
	126		126

LEGEND
 ● SAGE
 ○ MANUAL

1 July 1968

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(U) ADC notified all concerned on 13 May that USAF had rescinded its plan to stretch out operations at the 20 radar sites, as noted above. The seven remaining radar sites scheduled for closing in FY 4/1968 were notified to stop operations on 14 May 1968.¹⁵ These sites were: Z-70, Z-82, Z-85, Z-99, Z-201, Z-239 (ANG), and Z-240 (ANG).

(U) The 13 sites scheduled for closing in FY 1/1969 were told to stop operations on 1 July 1968. These sites ended operations on that date: Z-47, Z-52, Z-64, Z-71, Z-72, Z-88, Z-91, Z-94, Z-111, Z-133, Z-134, Z-195, and Z-199.¹⁶

RADAR STATUS SUMMARY

(u) ~~(S)~~ At the start of 1968, there were 170 prime radars contributing to NORAD surveillance. The loss of 28 military radars and the loss of radar inputs from 16 FAA sites (14 FAA sites had been data-tied to MSS 1 and 2; the other two sites were Z-228 and Z-229, both in Texas), reduced the number of sites on 1 July to 126. These sites included 81 in the CONUS, 30 in Canada (27 Canadian/3 USAF), and 15 in Alaska. Of the 68 gap filler radar sites in operation at the start of 1968, after 1 April there were only 17 in operation in five southeastern states.

CANADIAN RADAR SITES

(u) ~~(S)~~ Background. In late September 1967, Canadian Forces Headquarters sent NORAD a list of cutbacks it was considering in forces assigned to NORAD. Explaining that these cuts might be necessary to meet its 1968-1969 budget ceiling, CF Headquarters asked for NORAD's views before any decisions were made. One of the proposals was to close the following six radar sites:

C-2 Lac St. Denis, Que.
 C-9 Falconbridge, Ont.
 C-17 Beausejour, Man.
 C-21 Beaverlodge, Alta.
 C-25 Gander, Nfld.
 C-53 Alsask, Sask.



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(S) NORAD's views on these closures were presented at a meeting in Ottawa on 17 October 1967. NORAD's position was that a way had to be found to keep these radars in operation to prevent lessening of its capability. NORAD said it wanted to keep a strong radar fence along the U.S.-Canadian border.

^u
(S) Other meetings, held later in October 1967, were attended by high level military and government officials from both countries. After considering various ways to prevent these cuts, it was agreed that Canada would ask for negotiations on a new cost-sharing agreement. The thinking was that by including these sites in a renewal of the CADIN Agreement, which contained the cost-sharing formula 2/3 U.S. and 1/3 Canada, the sites could be kept in operation. No action was to be taken on closing the sites until after the negotiations were ended.17

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(S) Status. On 19 January 1968, CF Headquarters asked NORAD for its requirements for C-25, Gander, if the site was transferred to Canada's Department of Transportation. NORAD's answer on 26 January pointed out that because of the recent withdrawal of interceptors the mission of the 37th NORAD Division had been redefined to reflect a reduced weapons control capability. NORAD implied that C-25 was a necessary part in carrying out the rest of the NORAD mission. NORAD said that it wanted to keep the search radar and existing associated facilities in operation. It had no objection to the operation of the site by DOT, NORAD said, providing the NORAD requirements as defined in the mission were fulfilled. Any new equipment and facilities that would be installed had to have equal or greater capability than the presently installed equipment.18

^u
(S) In a message of 16 April 1968, CF ADC informed NORAD that C-25 was being proposed for closure in 1968. NORAD replied on 23 April that C-25 was a key perimeter radar and it wanted the site to remain in operation indefinitely. NORAD said that recent flights by Soviet long range bombers along the coasts of Labrador and Newfoundland pointed up the important contribution of

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C-25 to the air defense of civil and military targets in the northeastern area.¹⁹

(S) CF Headquarters provided an answer on 26 April agreeing with NORAD that it would be desirable to keep C-25 indefinitely but the case was similar to the three USAF radars in Newfoundland and Labrador (C-26, C-27, and C-28 which had been closed on 1 April 1968). The requirement for C-25, the Canadians said, did not justify keeping it when the site was considered in competition with other items.²⁰

(S) After considering this reply, NORAD operations staff officers felt that the case for retaining C-25 should be presented directly to the Chief of the Canadian Defence Staff, General J. V. Allard.²¹ On 4 June 1968, CINCNORAD, General R. J. Reeves, sent the NORAD position to General Allard. General Reeves said that a NORAD study in 1967 of the 37th NORAD Division had shown that radars C-26, C-27, and C-28 were excess to operational requirements. Also, he pointed out that the study had recommended retaining radars C-23, C-24, C-29, and C-25 and tying them to SAGE. General Reeves told General Allard that NORAD had asked USAF ADC to find out if it was practical to data-tie the radars to SAGE by installing common digitizers at each of the four sites.²²

(S) If C-25 was closed, General Reeves said, the only other radar in Newfoundland, C-23, would not give adequate coverage for the NORAD mission. He said that recent flights by Soviet bombers off the Newfoundland coast were within the radar coverage of only C-25. Without this site, it was possible for Soviet bombers to fly over Newfoundland to an inland distance of up to a hundred miles undetected. "Therefore," General Reeves stated,²³

I strongly recommend that you retain C-25 Gander as part of the NORAD air defense system. Pending renegotiation of the CADIN agreement now being discussed between Canada and the United States, every effort should be made to obtain sufficient financial relief from the FY 68-69

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(u) (s) General Allard replied on 5 June that he was studying the proposal made by General Reeves and would make the Canadian position known as soon as possible.²⁴

(u) (s) In the meantime, Canadian officials had sent the U.S. Government a draft proposal for closing C-25. On 4 June, the JCS sent this information to CONAD and asked for comments. NORAD replied to the JCS on 12 June and referred to the personal message from General Reeves to General Allard as the NORAD position for indefinite retention of C-25. NORAD gave additional justification and said C-25 radar coverage was of such high strategic priority that, if it were necessary, the U.S. should offer Canada funds and/or manpower to keep the radar in operation.²⁵

(u) (s) CF Headquarters notified NORAD on 11 October 1968 that the Minister of National Defence had authorized keeping C-25 in operation at least until the cost-sharing negotiations between Canada and the U.S. had been completed.²⁶

37th NORAD DIVISION MISSION

(u) (s) Because ADC had withdrawn the fighter interceptors from Goose Air Base in November 1967, NORAD sent a message to all concerned on 6 December 1967 making what it called a change to the mission of the 37th NORAD Division. This change was to reduce the NORAD Control Centers at C-23, Stephenville, Newfoundland, and C-24, Melville, Labrador, to NORAD Surveillance Stations. The manual direction center at Melville (MDC-18) was to continue operation and supervise surveillance activities in the division. NORAD asked NNR to publish orders reflecting this change.²⁷

(u) (s) Not knowing exactly what NORAD had in mind, and concerned over the loss of personnel because of reassignment by USAF ADC, NNR asked NORAD on 11 December 1967 for more information about the new role and mission of the division so that orders could be issued. NNR wanted to

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know whether certain functions would be continued and the intended officer strength at the surveillance stations, the direction center, and the division headquarters.²⁸

(u) ~~(S)~~ NORAD sent some clarification in a letter to the commanders of ADC, NNR, 37th ND, and First Air Force on 15 December.²⁹ However, ADC and NNR interpreted the letter differently and, again, NORAD was asked for further clarification.³⁰ NORAD sent additional information to those concerned on 17 January 1968 explaining that nothing in the 37th's mission had changed except for loss of weapons and reduction of control capability. NORAD recognized that weapons controller personnel would be withdrawn but it wanted the weapons control equipment and facilities (control scopes, communications, IFF, height finder radars, etc.) to remain in case they were needed. NORAD said it had no objections to combining and consolidating certain functions as coordinated and approved by the NNR commander. Also, NORAD stated that the division had to keep enough facilities and personnel to perform additional air defense tasks (SCATANA, navigational aid, EWO procedures, etc.) or other related tasks as required by the NNR commander.³¹

(u) ~~(S)~~ To perform the mission within current ADC manpower authorizations, 21 people at C-24 and 24 people at the direction center, ADC directed First Air Force to make a study to work out methods and procedures. The results of this study were sent to NNR and ADC on 14 February 1968.³² On 26 February, NNR pointed out to NORAD that the manning proposals in the study were so inadequate that the mission could not be done. The minimum manning needed for day-to-day operations, NNR said, was 23 people for C-24 and 35 people for the direction center. With this manning, NNR planned to combine operations whereby SCATANA, EWO procedures, proficiency training, trusted agent duties, etc., would be done as secondary duties by both C-24 and direction center personnel. (The First Air Force proposal would have just about eliminated these tasks.) NNR recommended that either the mission be changed to coincide with the reduced manning or that enough people be assigned to perform the NORAD mission.³³

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(u) In a message to ADC, NNR, and First Air Force on 29 February, NORAD concurred with NNR's manning proposal for the combined operations of C-24 and the direction center. NORAD said the First Air Force manning proposal was inadequate for effective operations in plotting, crew supervision, operator rotation, telling/recording, height finders, and allowing for sickness and leaves.³⁴

(u) As the details of the mission and manning were being worked out, Soviet bombers in early and again in late February 1968 made flights into airspace assigned to the 37th Division. The upshot was that weapons controller equipment, which NORAD had insisted must remain in place for such contingency operations, had to be remanned. On 1 March, CINCNORAD directed NNR to deploy CF-101's to Goose Air Base to perform identification duties. ADC and CF ADC sent combat-ready controllers on TDY to sites in the 37th Division. CINCNORAD directed the withdrawal of these forces starting on 28 March but planning on ways to counter Soviet penetrations continued.³⁵

(u) A contingency plan called Cold Shaft was set up to deal with these penetrations. Cold Shaft was replaced by NORAD Operation Plan 304N-68, Soviet Aircraft Identification -37ND, NNR, dated 15 July 1968. For all practical purposes, this latter plan restored the mission of the 37th Division to its original form except there was still some reduction in control capability and fighter interceptors for identification duty were based in the 36th Division. The plan tasked ADC to upgrade and maintain enough weapons controllers at C-24 to support a combat-ready control capability available at all times on one-hour notice. CF ADC was tasked to provide a similar capability at C-25, Gander. The plan was to work this way: NNR was to have interceptors on identification alert at Loring AFB (F-106's) and CFB Chatham (CF-101's) responsive to requirements caused by Soviet aircraft penetrating the G-I-UK Line. When such penetrations were thought to be heading toward the 37th Division CADIZ, the interceptors would be scrambled to forward turnaround bases in the 37th Division, F-106's to Goose AB and CF-101's to Gander, and immediately be recycled

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to STOP's. If the Soviet aircraft did not appear, then the interceptors could be used for training weapons controllers. (For more details on the plans to meet Soviet penetrations, see Chapter Two.)

ALASKAN NORAD REGION

(u) (S) Manual Passive Tracking System. In May 1965, the JCS approved a NORAD qualitative requirement (NQR 3-65) for a manually operated passive detection system in non-SAGE/BUIC areas, which included the Alaskan NORAD Region (ANR) and the 37th NORAD Division. During the last half of 1966, the Electronic Systems Division (ESD) and the MITRE Corporation worked out techniques and equipment for such a system. Interim equipment was installed at radar sites in the 37th Division for making operational tests. After testing this equipment, MITRE published technical report MTR-333, 30 December 1966, which recommended equipment, configuration, and operational employment for a manual passive triangulation system in the 37th Division and the ANR.

(u) (S) The requirement for a passive tracking system in the 37th Division was satisfied by keeping the equipment that had been temporarily installed for testing on a permanent basis.³⁶ However, getting the system recommended by this report installed in Alaska developed into a problem.

(u) (S) In June 1966, NORAD had recommended that ANR make a study of the need for, and possible ways of getting, a passive tracking system. NORAD's comment was that such a system was needed because the Alaskan radars lacked both frequency diversity and sophisticated ECCM fixes.³⁷ A radar antenna modification (MK-747) for general improvement of radar performance, including ECCM, had been bought for each of the 15 FPS-87A search radars in Alaska. Also, this modification was being made on a number of radars in the U.S. and Canada. Based on its interpretation of evaluations made on the antenna, the Alaskan Air Command (AAC) informed USAF in February 1967 that the cost of the antenna installation was too expensive for the added improvement and, therefore, was not justified.³⁸



(u) (S) In early March 1967, USAF asked AAC to review the MITRE report which indicated that the MK-747 antenna would have to be installed on Alaskan radars to get the full capabilities of a passive tracking system. USAF said it wanted comments and recommendations from AAC after coordination with NORAD. On 15 March, AAC asked NORAD for its recommendations on installing the antenna. AAC pointed out that its position on the matter (that cost outweighed the benefits) was concurred in by ANR. AAC said it had evaluated the ECCM features of the antenna and found there was no added advantage for active tracking in a modern ECM environment. Concerning the MITRE report, AAC said it felt that the antenna was important only for the passive tracking system proposed in the report.³⁹

(u) (S) To help in preparing an answer, NORAD reviewed the entire program and asked ADC and Northern NORAD Region for their experience in using the antenna. Backed up by this information, NORAD recommended to AAC on 28 April 1967 that the antenna be installed. NORAD said it recognized that the antenna would not meet the postulated ECM threat but the benefits far outweighed the installation cost. The factors that were considered in making this recommendation were these: additional ECCM capability, standardization of antenna systems, enhancement of flight safety by significant weather clutter elimination, money already spent in buying the antennas, and possible approval of the MITRE report that would require this type antenna.⁴⁰

(u) (S) However, there was no money in the FY 1968 budget to develop and install the system as outlined in the MITRE report. USAF was trying to fund the program for FY 1969 and its position was that the antenna modification should be installed if the passive tracking system was approved and funded.⁴¹

(u) (S) In the meantime, ANR had worked out its own system of passive tracking. On 8 January 1968, ANR told NORAD that the system recommended in the MITRE report had no significant advantage over the one that ANR was currently using. In fact, ANR estimated that its system would equal or exceed the accuracy and track

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processing capability of the MITRE proposal if Azimuth versus Amplitude (AVA) Indicators (an Air Force Stock item also recommended in the MITRE report) were installed and used with ANR plotting tables. The MITRE-proposed system, ANR said, called for plotting boards that were too large for NCC operations rooms, required 18 additional people to operate the boards, and would not be operational until FY 1970-1971. In addition, ANR said the advantage gained by installing the modified antenna for passive tracking did not offset the many disadvantages of the antenna during active/normal tracking. For these reasons, ANR said it no longer considered the system proposed by MITRE and the antenna modification an operational requirement.⁴²

(u) (S) ANR recommended that NORAD accept the ANR-developed passive tracking system for use in Alaska instead of the system proposed by MITRE. Also, ANR asked NORAD for support in getting AVA Indicators and to consider withdrawing the NORAD recommendation for installing the antenna modification.⁴³

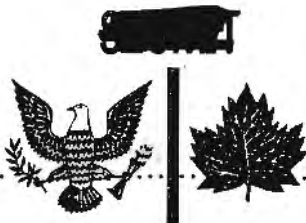
(u) (S) NORAD replied on 31 January 1968 that it had informal information indicating funds would not be allocated for the MITRE-proposed system for some time. Therefore, NORAD told ANR that it supported efforts to get AVA Indicators. Evaluations of ANR's passive tracking system would be made after this equipment was installed. NORAD said if the results supported ANR's estimate that its system would equal or exceed the MITRE-proposed system, then "appropriate action" might be taken.⁴⁴

(u) (S) On 15 March 1968, after a review of its position on the antenna modification, NORAD sent its answer to ANR upholding the original recommendation to install the antennas. NORAD explained that technical improvements, including improved side-lobe suppression and high angle coverage, improved frequency diversity, polarization diversity, improved channel duplex operation, and control of duplex operation at the anti-jam console rather than the radar tower, were worth the cost (estimated by ANR at \$310,920 per site) of installing and evaluating the antennas.⁴⁵

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(u) (s) USAF informed AAC and NORAD on 9 April that a decision had to be reached on the antennas immediately if they were to be installed during the upcoming season. USAF said the modification kits had been in storage for over two years and that continued storage could cause further kit deterioration. USAF asked the commands to settle the differences over the antenna requirement and advise it of their joint decision by 20 April.⁴⁶

(u) (s) AAC notified USAF that as a result of a meeting between representatives of ANR and NORAD on 11 April, NORAD recommended installation of the antenna modification. AAC said it would proceed with the installation. Plans called for installing three in 1968 and the remaining 12 antennas in 1969 and 1970.⁴⁷ USAF agreed to this schedule but only to the extent that after the first three antennas were installed, they would be evaluated before the remaining antennas were added.⁴⁸ Between 17 August and 8 October 1968, antenna modification kits were installed at sites in the Murphy Dome complex: F-2, F-14, and F-16. By the end of 1968, AAC had made a special evaluation of these radars and the results and recommendations were to be sent to USAF.⁴⁹

(u) (s) Meanwhile, on 22 October 1968 USAF had notified NORAD that it would take no further action on the passive tracking system described in the MITRE report until NORAD advised whether that system was still a valid requirement. USAF asked NORAD to consider withdrawing NQR 3-65 if the system proposed by ANR was acceptable.⁵⁰ NORAD replied on 29 October that its acceptance of the system proposed by ANR depended on the installation of AVA Indicators (on 18 October USAF had authorized installation of this equipment) and tests of ANR procedures. NORAD said it estimated that testing would be finished by mid-1969 and USAF would then be advised of NORAD's final decision on NQR 3-65.⁵¹

(u) (s) Alaskan Radar Phase Down - FY 1970. On 22 November 1968, CONAD notified the Alaskan CONAD Region that it had received a draft DOD Program Budget Decision which might result in closing some Alaskan radars in the first and second quarters of FY 1970. Listed for closing were five long range radar sites and the five COB

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Sector DEW Line Auxiliary stations. The COB Main Station medium range search radar would be replaced with a long range radar and a height finder radar. CONAD sent the rationale from the draft PBD and asked ACR for comments both on the rationale and the closures. The rationale pointed out the limitations in the current system and that the answer to all these deficiencies was AWACS.⁵² AWACS was not due in the inventory for several years, however.

(u) ~~(S)~~ ACR replied on 28 November that the rationale for reducing the Alaskan forces was "for the most part, invalid." Commenting on AWACS, ACR said that any reduction in the ground environment should be deferred until AWACS was in operation.⁵³

(u) ~~(S)~~ The closure of three prime radar sites and the five DEW Line Auxiliary stations was called for in PBD 364, 9 December 1968. AAC was preparing to offer a counter proposal to USAF that would give a better air defense posture and prevent large gaps in radar coverage.⁵⁴ (See Chapter I for PCD Z-9-002.)

(u) ~~(S)~~ ANR Radar Criteria. After coordination with the Alaskan NORAD Region, NORAD published ANR radar coverage criteria and sent copies to the JCS, the Canadian Chief of Defence Staff, and the USAF Chief of Staff on 5 July, and to ANR and other interested commands on 8 July 1968. The purpose of the document was to provide NORAD and ANR a commonly understood and accepted basis for formulating policies and implementing decisions concerning radar coverage in Alaska.⁵⁵

(u) ~~(S)~~ The criteria were not based on the limitations or capabilities of the current ground environment system but defined the qualitative and quantitative radar coverage needed to meet the current air-breathing threat with presently assigned weapons. (The F-4's capabilities were considered rather than F-102 and F-106.) The criteria defined the minimum functional limits for search, height, and low level coverage; defined

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the minimum capabilities for identification, communications, and passive detection; and gave basic guidance for actions on deletion, modification, relocation, procurement and deployment of equipment and facilities.⁵⁶

DEW LINE/G-I-UK LINE

(u) ~~(S)~~ Soviet Penetrations.* In 1965, the Navy withdrew all of its early warning forces from the extensions of the Distant Early Warning Line. This action was directed by DOD over NORAD's objections. The entire extension in the Pacific, known as the Pacific Barrier, had been made up of Navy EC-121C aircraft. The Atlantic extension, made up in part by Navy EC-121P aircraft, was known as the Greenland-Iceland-United Kingdom (G-I-UK) Line. Two USAF ground-based radars in Iceland, under CINCLANT operational control, remained in operation on the G-I-UK Line. These radars overlapped with other radars in Greenland (DEW Line DYE 4) and the Faroes Islands (under NATO) to form a continuous barrier and a bomber holdback line. However, the withdrawal of airborne stations from the G-I-UK Line created low-level gaps in radar coverage that allowed aircraft to fly undetected below 17,500 feet midway between Greenland and Iceland. A similar gap was created below 7,500 feet midway between Iceland and the Faroes.⁵⁷

(u) ~~(S)~~ In January and February 1968, Soviet bombers made repeated penetrations of the G-I-UK Line. One such flight went undetected until it appeared about 50 miles off the Newfoundland coast. These incidents caused NORAD to ask CINCLANT on 23 February if these gaps in radar coverage could be filled on a full-time basis. NORAD told CINCLANT it was obvious that the Soviets knew they could penetrate the G-I-UK Line undetected and this pointed up the requirement for additional barrier forces to close these gaps.⁵⁸

(u) ~~(S)~~ On 24 February, NORAD informed its Eastern and Western NORAD Region commanders of action that might be ordered to defend against Soviet flights. NORAD said

* (U) See also Chapter Two.

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there might be additional Soviet flights into areas near Alaska and Newfoundland that might require NORAD to order manning the northernmost West Coast outboard AEW&C station or the northernmost East Coast primary ALRI station. This action would give maximum surveillance in areas closest to probable Soviet seaward routes of approach.⁵⁹

(u) (S) CINCLANT replied on 28 February that no resources were available to cover the gaps in radar coverage on a full-time basis. However, CINCLANT said there was an investigating force in the area that could provide this coverage on an alert standby basis. On 1 March, CINCLANT informed NORAD that Navy P-3 aircraft from Keflavik had been used to fill these gaps on 27 and 28 February in emergency response to Soviet aircraft penetrations. Because of only minimal success on this type mission, CINCLANT said that P-3 aircraft (used primarily in anti-submarine warfare) would no longer be used unless operational tests indicated a capability against low flying aircraft. CINCLANT stated that he was trying to get more suitable equipment to fill the gaps.⁶⁰

(u) (S) The Chief of Naval Operations advised CINCLANT on 17 May that no AEW aircraft were available because of higher priority assignments. The JCS had concluded, the CNO said, that the risks associated with the gaps in the G-I-UK Line must be accepted at this time. The CNO stated that the JCS would reconsider the matter if there was a likelihood of a confrontation with the Soviets or if AEW aircraft became available and the high rate of Soviet penetrations continued.⁶¹

(u) (S) DYE 4 Radar Outage. The gap in radar coverage between Greenland and Iceland was more pronounced on 22 September 1968 when high winds destroyed the radome and antenna of the FPS-30 radar at Station DYE 4, Kulusuk, Greenland. DYE 4, located at the eastern end of the Greenland segment of the DEW Line, together with G-I-UK Station H-1 in Iceland, provided radar coverage over the Denmark Strait. However, there was

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a low level gap in radar coverage -- 100 miles at 10,000 feet -- even with both stations operating. With the loss of DYE 4, this gap widened to 300 miles at 10,000 feet and to 150 miles at 40,000 feet.⁶²

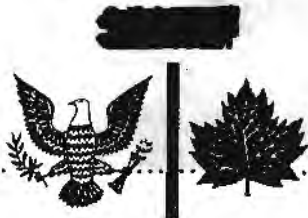
(U) (S) NORAD brought this matter to the attention of the JCS on 24 September. NORAD pointed out that it would take from four to six months to get the radar operating again and asked for JCS concurrence of a plan to deploy two EC-121H aircraft and personnel to Keflavik, Iceland. NORAD said these aircraft would be on one-hour alert for random manning between Iceland and Greenland and should be able to detect most of the Soviet aircraft penetrating that area.⁶³

(U) (S) The JCS approved the deployment on 27 September 1968. NORAD directed ADC on 30 September to deploy on 1 October or as soon as possible two aircraft from the 551st AEW&C Wing at Otis AFB, Mass., to Keflavik. These aircraft were in place and on alert status on 3 October. NORAD said the operation, nicknamed Apache Yell and based on First Air Force Operation Order 2-68, would work this way: The aircraft would be on one-hour alert for random manning or manning based on reports from NATO radars. The aircraft were to operate in a manual mode and report to DYE 4 or to H-1 in Iceland. CINCNORAD retained operational command of the aircraft but delegated authority to the Commander of Air Forces Iceland to launch alert aircraft when information showed a possible penetration by Soviet Aircraft through the Denmark Strait or when the NORAD COC ordered a launch.⁶⁴ On 1 November 1968, NORAD published Operation Plan 305N-68 covering this deployment.

(U) (S) In the meantime, CINCLANT had suggested to NORAD on 26 September that consideration be given to installing a temporary mobile radar at DYE 4. CINCLANT said Soviet aircraft might be able to evade radar detection that would eliminate early scramble warning for the EC-121 aircraft. In the message of 27 September approving the deployment to Iceland, the JCS asked for NORAD comments on CINCLANT's suggestion. NORAD replied

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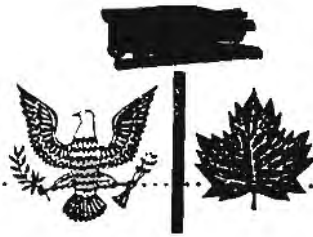
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on 3 October saying that the suggestion was not acceptable because mobile radar was easily damaged by wind, the work would have to be done in the middle of the severe cold and high wind season in Greenland, and the radar would have to be covered with a radome. Time and technical requirements, NORAD said, ruled against the installation of a radome.⁶⁵

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SECTION II - AIRBORNE SURVEILLANCE AND CONTROL FORCES

ALRI EMPLOYMENT

(S) NORAD conducted an operational evaluation (AMALGAM MUTE XXVII) of the Eastern NORAD Region during the period 18-22 June 1968. One of the problems noted during this evaluation was that automated radar inputs by ALRI aircraft to shore stations were seldom used. Operations personnel in the Eastern Region said they lacked confidence in the ALRI system because of the sporadic performance of its equipment. The report of the evaluation recommended that the Eastern Region ensure that surveillance personnel made full use of ALRI data. Also, the report recommended that NORAD ask ADC to review the ALRI equipment and to improve the quality of the data.⁶⁶

(S) Following up on this matter, NORAD directed ADC on 12 July to take action to correct the problem. NORAD said it felt that ALRI data were of major importance in the timely detection, tracking, and interception of aircraft beyond the range or below the line-of-sight of land-based coastal radars. Of particular significance, NORAD said, was the ALRI seaward extension capability in countering the low level and air-to-surface missile (ASM) threat. NORAD directed that ADC, in coordination with those concerned, review the status and effectiveness of ALRI equipment, insure that the quality of ALRI data met the standards for air defense operations, and insure that training was adequate for proper use of ALRI data.⁶⁷

(S) In addition, NORAD asked ADC to study two employment options which would require either partial or fully manual operations. The first option was for providing a backup manual capability to ALRI operations. The second option was for reverting to a completely manual mode of operations. NORAD said its preference was for keeping an ALRI capability to give seaward command guidance to interceptor aircraft and BOMARC.⁶⁸

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 (S) ADC replied on 22 July that it shared NORAD's concern over the recent performance of the ALRI system. ADC said that First Air Force was conducting tests to improve the system. ALRI aircraft (EC-121H) currently had a limited manual capability, ADC said, but it was studying a capability that would allow changing to complete manual and back to ALRI configuration.⁶⁹ In later correspondence, ADC said ROC (required operational capability) action would be taken to allow an in-flight change from automated ALRI operations to manual operations and/or a combination of the two methods. Other actions for improving airborne communications had Air Force approval but lacked funding.⁷⁰

U
 (S) On 19 August 1968, Major General Joseph L. Dickman, the Eastern NORAD Region/First Air Force commander, briefed the NORAD staff that he planned to change the ALRI employment to improve its effectiveness. This would be done by using the ALRI aircraft to extend early warning coverage for the eastern seaward approaches and by putting more emphasis on manual data from the ALRI stations. Four additional stations were to be established farther to the seaward -- or outboard -- of the four current ALRI stations. It was felt these stations would give the Eastern Region the same flexibility and early warning as that provided by AEW&C forces to the Western Region. The primary differences between the inboard stations and the proposed outboard stations were:⁷¹

	<u>Current</u>	<u>Proposed</u>
Range from shore -	130 nm	320 nm
Coverage from shore -	320 nm	510 nm
Function -	surveillance/control	early warning
Communications -	automatic	manual
Value -	SAGE control of weapons	Detection beyond ASM launch range

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During peacetime, the outboard stations would be randomly manned on a 30 per cent basis. During wartime, priority would be given to manning the four northernmost stations (two outboard/two inboard) off the northeast coast of the U.S.⁷²

(C) The Eastern Region sent its proposed seaward extension procedures to NORAD on 11 September 1968 for approval.⁷³ On 22 October, NORAD approved these procedures and asked for a report by 1 April 1969 on the operational effectiveness of the new ALRI early warning stations.⁷⁴

AUGMENTATION OF KOREAN AC&W SYSTEM

(S) On 7 November 1968, CINCPAC recommended to the JCS that seven EC-121 aircraft be deployed to augment the South Korean Aircraft Control and Warning System. The JCS asked for CINCONAD's views and recommendations. CINCONAD's reply to the JCS on 15 November strongly opposed such a deployment because the aircraft, crews, and maintenance personnel for this deployment would have to come from the 552d AEW&C Wing. And CONAD said this Wing was already committed to the limit of its resources.⁷⁵

(S) CONAD pointed out the major operational commitments assigned to this Wing, which included its West Coast mission, a southeast Asia (College Eye) mission, and two southeast U.S. missions.* Also, it had several smaller requirements in support of contingency plans. Because of these heavy commitments, CONAD said it had reduced the requirement to man AEW&C stations to a minimum. The 552d Wing had been unable to do this minimum requirement, CONAD stated. The deployment of seven more aircraft and personnel would make the Wing even less able to do this most critical and essential CONAD mission. CONAD said if the decision was made to deploy these

* (S) In June 1968, the SEA mission (College Eye) had 11 EC-121's, 80 officers, and 270 airmen.

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aircraft, then it recommended ending the JCS requirement for manning Station 50 off the coast of Florida.⁷⁶

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(S) The JCS told CONAD on 20 December that they were thinking about combining the southeast Asia requirement with the requirement for Korea for a total of 20 EC-121 aircraft. By doing this, CONAD would have 15 aircraft for the West Coast mission. The JCS asked for CONAD comments on the minimum number of aircraft needed on the West Coast to continue training aircrews for Pacific deployments and the minimum number needed to carry out the CONAD mission.⁷⁷

^u
(S) CONAD sent its answer to the JCS on 3 January 1969. For peacetime manning, CONAD said it needed 18 aircraft for the West Coast and 11 aircraft for operation off the tip of Florida. A wartime mission would require 30 aircraft for the West Coast and 13 for Florida. Fifteen aircraft, CONAD stated, would not be enough to perform either the West Coast mission or to provide adequate training for Pacific deployments. CONAD said it could not support the JCS proposal unless, as CONAD had recommended earlier, the requirement to man Station 50 was eliminated.⁷⁸

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SECTION III - AGREEMENTS

NORAD/SHAPE AGREEMENT

(U) A NORAD/SHAPE Memorandum of Agreement for the exchange of early warning information was published in NORAD Regulation 55-10, 22 January 1968. The Agreement had been signed by General Raymond J. Reeves, CINCNORAD, on 25 September 1967 and by General Lyman L. Lemnitzer, Supreme Allied Commander, Europe, on 22 November 1967.

^u
(S) The Agreement stated that NORAD was responsible for sending the following information to SHAPE:

1. Evaluated BMEWS information as outlined in Supplement No. 1 to the Joint USAF/RAF Operations Manual.
2. Significant, evaluated U.S. Bomb Alarm System information.
3. Early warning information generated by aircraft penetrations of the DEW Line.
4. The documents essential for a clear understanding of the information sent to SHAPE.

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(S) SHAPE was responsible for sending the following information to the NORAD COC:

1. NATO Europe early warning information in the form of evaluated Air Situation Reports for those areas within Allied Command Europe that are of specific concern to NORAD.
2. NATO Europe Early Warning System Standard Operation Procedures.

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(S) Also in the Agreement was that a voice circuit would be maintained between SHAPE and the NORAD COC for the exchange of early warning information. (This circuit had been in operation since October 1963.)

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CINCNORAD/CINCLANT AGREEMENT

(U) On 24 May 1968, NORAD asked CINCLANT to sign a Memorandum of Agreement for the exchange of early warning information to formalize procedures that were already in effect.⁷⁹ After coordination on two points of interest to CINCLANT,⁸⁰ the Agreement was signed by CINCNORAD and by Admiral Ephraim P. Holmes, CINCLANT, and published in NORAD Regulation 55-28, 18 October 1968.

(S) The Agreement stated that NORAD would be responsible for sending the following information to CINCLANT:

1. Evaluated early warning information of aircraft approaching or penetrating the outer limits of the North American continent to specifically include all radar and tactical action reporting on aircraft inbound to the Atlantic through the G-I-UK area, all reporting available while aircraft are over the Atlantic, and all radar and tactical action reporting when aircraft are outbound from the Atlantic through the G-I-UK area, on as near a real-time basis as possible.

2. Provide CINCLANT with appropriate extracts from NORAD manuals 55-1 and 55-8 to perform the early warning requirements.

(S) CINCLANT was responsible for sending the following information to the NORAD COC:

1. Early warning information generated by aircraft penetration of the G-I-UK portion of the DEW Line, including details resulting from any tactical action employed for identification.

2. Unknown or hostile electronic countermeasures activities experienced at individual radars and communications centers.

3. Summarization of mass aircraft movements and penetrations when submission of individual track movements become prohibitive because of excessive numbers.

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4. CIRVIS/MERINT reports received from U.S. Naval ships and aircraft operating in the North Atlantic area reporting under the provisions of JANAP 165 (E), Canadian-United States Communications Instructions for Reporting Vital Intelligence Sightings.

5. Other similar type of warning reports received by CINCLANT which could be of operational value to CINCNORAD for the defense of the North American continent.

6. Commander, Iceland Forces or his authorized representative will submit to NORAD the Electronic Status Report as defined in NORAD Manual 55-1 for the assessment of degradation to any Iceland Long Range Radar facilities.

^u
(S) The Agreement stated that an early warning surveillance and tactical net circuit would be maintained between Iceland and the NORAD COC. Procedures and formats for passing the information between the commands were outlined in NORAD Manuals 55-1 and 55-8.

CINCNORAD/CINCPAC AGREEMENT

(U) On 16 May 1968, NORAD sent CINCPAC a draft Memorandum of Agreement for the exchange of early warning information.⁸¹ CINCPAC replied in October 1968 and agreed in principle to the proposal but sent a revised draft of the Agreement. The NORAD COC objected to two points in the revised draft. To work out the wording and associated problems of the Agreement, NORAD recommended on 10 December that CINCPAC host a conference. CINCPAC was expected to convene this conference in February 1969.⁸²

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CHAPTER IV

ABM SYSTEM AND SPACE DEFENSE WEAPONS

SECTION I - ABM SYSTEM

SENTINEL SYSTEM

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(S) Background. On 18 September 1967, the Secretary of Defense stated his decision for production and "thin" deployment of the Army-developed Nike X ballistic missile defense system in what was to be called the Sentinel System. The Secretary of Defense had asked the Army early in December 1966 for a plan for a thin Nike X deployment. He directed that the plan should provide for defense against an early Chinese Communist threat, defend existing Minuteman to some degree, provide for safeguard against accidental launch, and require an expenditure of around \$3.5 billion.

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(S) The Army responded with a plan for limited deployment (DEMOD 1-67) of Nike X on 20 December 1966. The system would consist of Perimeter Acquisition Radars (PARs), Missile Site Radars (MSRs), and Spartan and Sprint missiles. It would provide for an austere defense of CONUS and also Alaska and Hawaii. The addition of defense of Alaska and Hawaii raised the cost to around \$5 billion.

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(S) The organization for establishing the system was announced by the Secretary of Defense on 3 November 1967. The system, called at first Thinex, DEMOD 1-67, etc., was officially named the Sentinel System. Lieutenant General Alfred D. Starbird was named the Army's Sentinel System manager. Nike R&D was to continue and

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the former Advanced Development Group of the Nike X Project Office was to become the Nike X Project Office. The remainder of the NXPO was to become the Sentinel System Command with additions from a number of agencies. Brigadier General I. O. Drewry became commander of the latter at Redstone Arsenal, Huntsville, Alabama.

(S) Description of Deployment as Planned in 1968.
The Sentinel Deployment System Description, 1 June 1968, stated the defense objectives as follows:¹

The defense objective of the Sentinel 1-68 Deployment is directed at the potential ICBM threat from the Chinese Communists (ChiCom) through the 1970s. Specifically, the major objective of the deployment is a defense against a deliberate ChiCom ICBM attack against our industrial and urban centers (a countervalue attack). Corollary objectives are the protection of the CONUS against an inadvertent or unauthorized ICBM launch by a foreign nuclear power, and prevention of nuclear blackmail.

The countervalue defense includes the protection of Hawaii and Alaska as well as the entire CONUS. Damage prevention is the defense criterion against a "credible" ChiCom attack; damage limitation is recognized as an acceptable objective against a somewhat more "formidable" ChiCom attack.

(S) A decision to defend Minuteman squadrons against a deliberate USSR ICBM attack with Sprint missiles had been deferred originally for up to one year. Minuteman defense units were scheduled to be deployed after urban and area defense units to make the delay possible without disrupting the rest of the deployment.

(S) In 1968, a total of 17 sites were planned in the Sentinel System deployment, 15 in the CONUS and one in Alaska and one in Hawaii. The 1968 plans called for all sites to have Spartan missiles except the

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one in Hawaii which would have Sprint missiles only with a two-face MSR. In the approved portion of the deployment in 1968, Sprint missiles were to be located at seven sites. In all in the 1968 program, there were to be six PARs, 17 MSRs (six with one face, six with two faces, and five with four faces), 480 Spartan missiles, and 192 Sprint missiles.²

¹¹
(S) The 1 October 1968 Sentinel Deployment System Description, issued by the U.S. Army Sentinel System Command, listed the deployment schedule on the basis of two dates - the Equipment Readiness Date (ERD) and Final Equipment Readiness Date (FERD) for all sites.³ 1 October 1972 was listed as the first site (Boston) Spartan/Radar ERD. The first site Sprint ERD (also Boston) was 1 July 1973. The last site FERD was 1 January 1975.

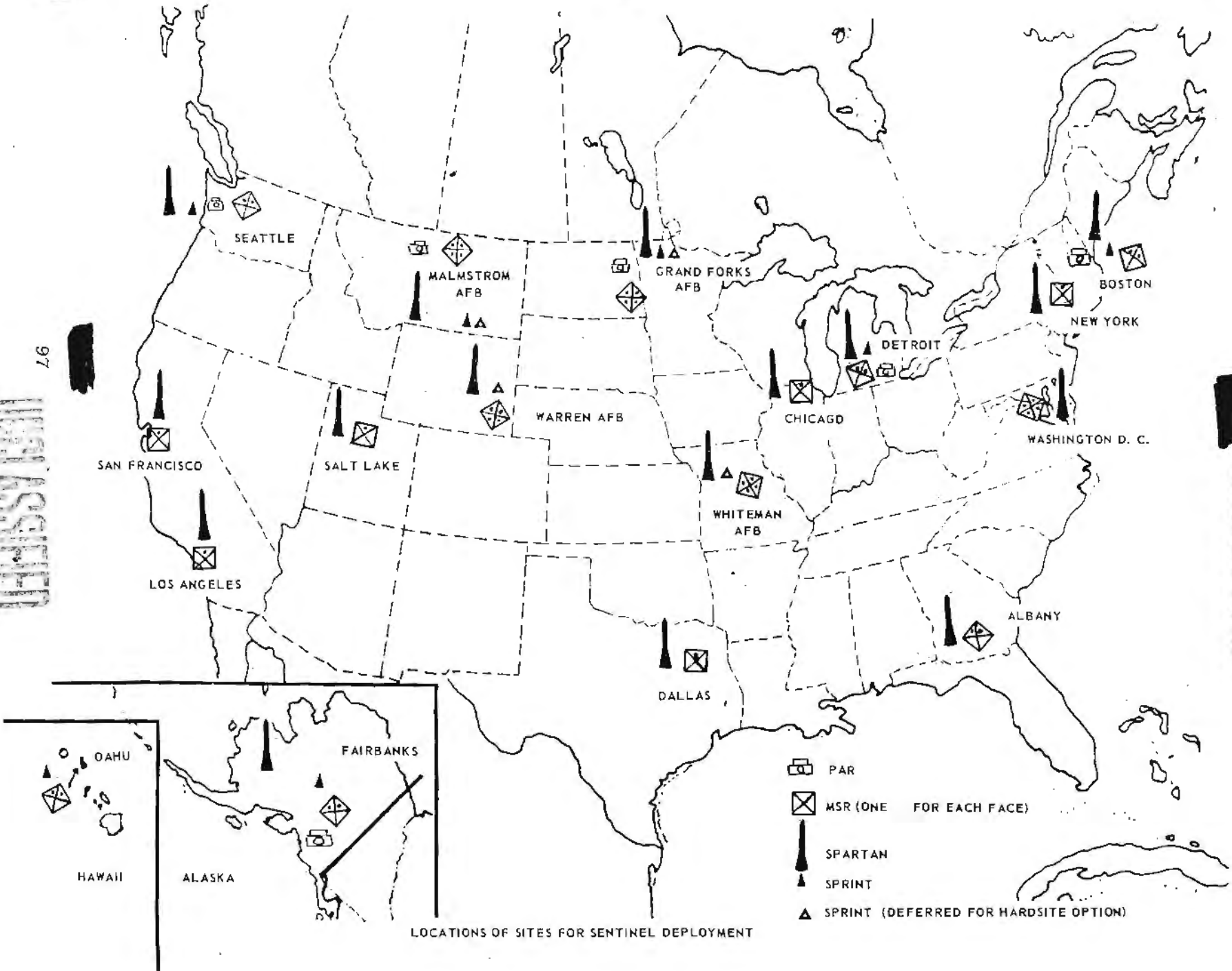
¹¹
(S) NORAD Requirements. In the meantime, in its North American Aerospace Defense Objectives Plan 1971-1978 (NADOP 71-78), 20 September 1968, NORAD recommended an expanded ICBM defense deployment. In its analysis of the FY 1973 programmed force in this NADOP, NORAD said that "until such time as the ballistic missile system is expanded...the lack of sophisticated ICBM, DICBM, SLBM, FOBS, and MOBS defense remains the most serious deficiency in aerospace defense."⁴ NORAD's recommendations were to:

1. Expand the Sentinel deployment as rapidly as possible to provide all-around protection.
2. Accelerate the research and development programs for boost and mid-course intercept missile defense systems and DIBCM defense capability.
3. Continue Nike X research and development program with a view toward deployment in a DEPEX II type configuration.
4. Continue research and development of boost and mid-course intercept systems.

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LOCATIONS OF SITES FOR SENTINEL DEPLOYMENT



NORAD wanted 23 sites by end FY 1975 and an end program of 30 sites by end FY 1978. Three of the latter were for Tactical Multi-function Array Radar (TACMAR) Spartan/Sprint Firing Sites.

CANADIAN PARTICIPATION

^U
(S) CINCNORAD's Views. Deployment for Canada was not included in the specific NORAD requirements stated in NADOP 71-78 (above). But CINCNORAD stated his belief that Canadian participation was required. In the foreword to this NADOP, General Reeves stated that:

I am firmly convinced...that the most effective ballistic missile defense system, like all other aspects of aerospace defense, must include Canadian participation. I urge that the necessary high level diplomatic negotiations be undertaken at the earliest possible time with the aim of rectifying a definite shortcoming in the aerospace defense posture of North America.

^U
(S) In response to a JCS inquiry, CINCONAD detailed his views on Canadian participation. On 4 November 1968, the JCS said that a meeting between General Wheeler (CJCS) and General Allard (CDS) in December highlighted a need for a U.S. position on Canadian participation.⁵ The JCS asked for CINCONAD's position within the announced purpose of the currently approved Sentinel System. CINCONAD was asked to give the advantages and disadvantages of full participation, participation limited to command and control, and no participation, plus his comments and recommendations.

^U
(S) CINCONAD provided a detailed response on 8 November 1968. Following his analysis, he concluded that:⁶

In order to rectify what is considered to be a definite shortcoming in the aerospace defense of North America, CINCONAD

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continues to support full Canadian participation in Ballistic Missile Defense. However, CONAD considers that full Canadian participation in a CHICOM oriented defense may be impracticable at this time. Therefore, recommend:

a. Initial efforts be directed toward Canadian participation in Sentinel command and control. However, our ultimate goal should continue to be full Canadian participation as outlined above.

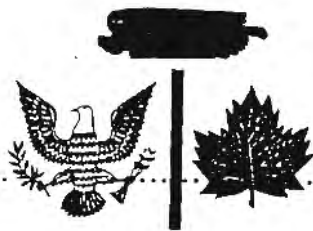
b. Sentinel System information, as outlined in Dr. Walske's proposed Draft Memorandum to the President, dated 10 October 1968, be released in any event. This action is considered particularly important in providing the Canadians with information upon which future BMD decisions can be made.

COMMAND AND CONTROL STRUCTURE FOR BALLISTIC MISSILE DEFENSE

(S) ^u Army Command and Control Plan. On 3 November 1967, the Army submitted a Nike X Command and Control plan to the JCS for review. The latter asked the appropriate unified commands, including CONAD, on 22 November for comment and recommendations on the plan. The Army plan provided for operational command of the Sentinel System in the CONUS and Alaska under CINCONAD through the COC and for command and technical supervision of the system under the Army Air Defense Command (ARADCOM). Operational command of the system in Hawaii would be exercised by CINCPAC. The Army plan defined three distinct echelons: a Ballistic Missile Defense Center (BMDC) at the CONAD COC to provide centralized control, Area Coordination Centers (ACCs) at the intermediate level, and Missile Direction Centers (MDCs) at the lowest level.

(S) ^u The Army plan provided for integration with the existing CONAD system only at the highest level, the BMDC-COC level. It did not provide for CONAD

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operational command through CONAD region commanders. It used ARADCOM for operational command below the BMDC level. For Alaska, the Army plan provided for command and control by the Seattle ACC.

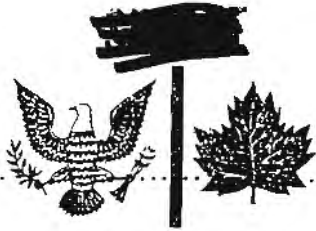
^u
(S) CONAD Comments - 1967.* Preliminary CONAD comments on the Army plan were provided in a message on 18 December 1967. CONAD differed from the Army concept in that it wanted operational command through its own subordinate regional commands rather than directly from the COC. CONAD said its studies had led it to the conclusion that the overall mission could best be accomplished by exercising operational command through integrated subordinate Region Commands rather than through component commands. For this reason, CONAD said it did not concur with the Army plan for a single and separate operational command structure for Sentinel that interfaced with CONAD only at the COC. CONAD recommended that the Army plan be modified to provide for CONAD operational command through subordinate CONAD Regions and for collocation of future CONAD region combat centers at Sentinel ACCs. Where feasible, CONAD continued, Division level centers should also be collocated with the Sentinel MDCs.

^u
(S) CONAD also recommended that the definition of the Sentinel control element at the COC level not be finalized until CONAD had completed the Master Plan studies (Chapter VI). CONAD also did not concur with the Army recommended arrangement for Alaska (the Fairbanks MDC under the control of the Seattle ACC). CONAD recommended that the plan be modified to provide for Commander, Alaskan CONAD Region, to exercise operational command of the Sentinel System in Alaska.

^u
(S) Study Report - January 1968. CONAD noted in its message that a detailed description and appraisal of the CONAD-recommended operational command structure

* (U) For background to 1966 on CONAD positions on ballistic missile defense command and control, see CONAD Historical Summary 1967, pp 19-25.

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would be sent shortly. This report was made by a study group that had been working since mid-November. At that time, the Chief of Staff had directed formation of an Alternatives Task Group. The group studied both an integrated command and control and a component-operated command and control. CINCONAD was briefed on the Group's analysis on 1 December 1967 and approved the recommended structure -- a partially integrated structure. The report of the study, "A Proposed CONAD Command and Control Structure," dated 2 January 1968, was submitted to the JCS on 8 January 1968.⁷

^u
(S) In its letter, CONAD stated that the Commander-in-Chief recommended the partially integrated organizational structure as the best means for providing operational command over multi-service and multi-purpose forces of Canada, Alaska, and the U.S. during the 1970s. The study considered mainly the structure below COC level only, CONAD pointed out, because the organization at COC level was still being studied in the Master Plan Study which would be provided later.

^u
(S) The study analyzed air breathing defense, space defense, and ballistic missile defense. It was concluded that air breathing defense echelons should be integrated as they were at division level and above. Space defense should be under the unified operational command of CINCONAD at the COC level. In the case of ballistic missile defense, the conclusion was that region level and above integration was the most efficient for the probable range of force postures of the 1970s. However, component operation below region level was considered to be most efficient. The study Task Group concluded that the Army-recommended system for Alaska was not realistic because ALCOM's weapons would be controlled from outside the theater (Seattle ACC) and there was no need or reason for coordination between Alaskan and CONUS based elements. The Fairbanks MDC should be modified to handle both types of missiles fire distribution and placed under the control of the Region. Earlier, CINCAL had recommended that operational control of Alaska-based air and ballistic missile defense forces be exercised by the Region Commander through the MDC and commanded by U.S. Army Alaska.

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^u
(S) JCS Answer. The JCS agreed in principle to establishment of a partially integrated structure. CINCONAD was advised by the JCS that on 19 April 1968 they had concluded that three echelons of command and control would be required for the Sentinel System -- the BMDC, ACC and MDC.⁸ CINCONAD would designate at the region/ACC level, except for Alaska, the commander of either the air defenses or ballistic missile defenses additionally as the commander of a subordinate unified command. CINCONAD was to establish specific arrangements for the exercise of operational command of Sentinel as an element of CONUS defense. The JCS directed CINCONAD to report by 1 July 1968 on the operational command arrangements and resource requirements for implementing a subordinate unified command structure at region level. He was also to examine and report on operational command arrangements for Alaska.

^u
(S) Study Report - CONUS System - August 1968. Staff responsibility for the study effort within CONAD Headquarters was assigned to DCS/Plans and Programs and a study group was formed on 7 May.⁹ Other staff sections, ADC, and ARADCOM assisted in the study effort under a steering committee headed by Colonel L. R. Dickson of DCS/Plans and Programs (Systems Development Directorate). Study group members also worked with CINCAL representatives and traveled to Alaska. On 18 June, CONAD asked the JCS for extension of the report deadline one month to 1 August.¹⁰ Inputs from the ADC-FAA study were needed yet and study group members were in Alaska working on that part of the study. The JCS approved the extension.¹¹ In July, the Deputy Secretary of Defense asked the JCS to make a cost and effectiveness study and the JCS in turn directed CINCONAD to include the latter in its study effort.¹²

^u
(S) On 1 August 1968, CONAD sent its completed report on CONUS arrangements and resource requirements to the Department of the Army for coordination.¹³ On the same date, the report was also forwarded to the JCS. CONAD explained that the report was just now being sent to the Army and that the final coordinated report would be sent as soon as possible.¹⁴ It was also noted that the report on Alaska was not completed and would be sent after Army coordination.

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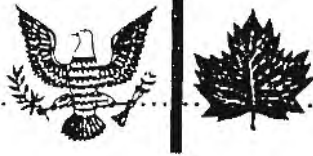


^u
(S) The DA comments on CONAD's report were provided on 23 August 1968.¹⁵ DA said it was concerned about the integrity and effectiveness of the Sentinel System if a subordinate unified commander and staff were interposed between the BMDC and ACC in the operational chain during the battle phase. DA pointed out that the JCS had confirmed the need for three levels (BMDC, ACC, and MDC), not four levels of command. DA did agree to the need for having an individual to act as CINCONAD if loss of communications or some other event prevented him from exercising operational command. For this reason, DA had no objection to providing facilities for the region commander to assume this function in this case. But DA felt that the region commander's role during the battle phase should be limited to monitoring BMD activities. Prior to the battle, he could plan, coordinate, and so on to help CINCONAD. In this coordination draft, CONAD did not define the region commander's functions and responsibilities, as DA pointed out.

^u
(S) DA felt that it was premature to recommend specific locations for the Region CCs and ACCs because deployment was still fluid in many areas. Specific locations should be held in abeyance, DA said. DA supported the concept of remoting Sentinel data from the ACC to the Region control center, however.

^u
(S) Following receipt of DA's comments, CONAD provided to the JCS on 6 September a new edition of the report (dated 30 August). In the accompanying letter, CONAD said that its proposed region combat center introduced no technical change that interfered with the technical entity or delayed the automatic response of the Sentinel System.¹⁶ The region commander's functions, to be sent later because of lack of time, CONAD said, would be divided into pre-battle, during battle, and post-battle periods. CONAD said it recognized that Sentinel deployment was still fluid in many areas but felt it appropriate that CINCONAD's recommendations be considered in choosing sites for the ACCs. The Army's Sentinel System Command 1-68 Deployment System Description, 1 June 1968, for example, listed the ACC sites as Detroit, Warren AFB, Wyoming,

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and Seattle. Three ACC-CC siting options were provided in the report proper, CONAD pointed out, and a fourth option was covered in Supplement 1, dated 5 September, to the report (see discussion below).

(S) In the report itself, 30 August 1968, CONAD stated that three region headquarters of similar function to those currently in existence would be required in the CONUS.¹⁷ The commander of either the air defenses (USAF commander of the ADC organization) or ballistic missile defenses (Army commander of the AR-ADCOM organization) would also serve as the CONAD region commander. The commander of the organization not designated as region commander would be named CONAD region deputy commander. It was CONAD's view that in the future a combined ballistic missile and air defense command post would be required for the region commander and certain personnel of the region joint staff. This could be implemented by placing the region commander's CC in either the ADC-operated air defense CC or the ARADCOM-operated ACC. CONAD believed that the combined CC could be most conveniently planned to continue to be an integral part of the air defense CC.

(S) In the conclusions to its report, CONAD stated that those alternative locations which retained the USAF ADC subordinate headquarters at current locations and those options using existing buildings and bases for the CONAD region CC would be the lowest in investment and other initial costs. CONAD recommended that in the Western Region, the CC be located in the current facility at Hamilton AFB, California, with the ACC in the MSR building at Fort Baker, California; in the Central Region, the CC be located in the current facility at Richards-Gebaur AFB, Missouri, and the ACC in the MSR building at Whiteman AFB; and in the Eastern Region, the CC be in the current facility at Stewart AFB, New York, and the ACC in the New York (Tenafly) MSR building. It was added that if it was not feasible to relocate the ACC from Detroit to New York, the CC should be in the Missile Master facility at Selfridge AFB, Michigan, and the ACC in the Detroit MSR building.

(S) Three basic CC and ACC siting options were provided in Section VII of the report. Under Option 1,

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the region CC would be located in an existing SAGE CC or DC facility or in the case of only Selfridge AFB in a Missile Master facility; the ACC would be in its designed location within the MSR building. This basic concept along with specific locations for the RCCs and ACCs were recommended by CONAD. Under Option 1; CONAD provided alternative locations:

- Western Region - a. Hamilton AFB-CC; Fort Baker ACC
 b. McChord AFB - CC; Fort Lawton ACC
- Central Region - a. Richards-Gebaur AFB - CC; Whiteman MSR - ACC
 b. Malmstrom AFB - CC; Malmstrom MSR - ACC
- Eastern Region - a. Stewart AFB - CC; New York MSR - ACC
 b. Selfridge AFB - CC; Detroit MSR - ACC
 c. Custer AFS - CC; Detroit MSR - ACC

^u
 (S) A fourth option was covered in Supplement 1 to the 30 August report (requested by the Deputy Secretary of Defense in a memorandum to the CJCS 25 July 1968). Under this option, the ACC would be physically relocated from the MSR building and collocated with the RCC in an existing facility. In its letter accompanying the report, dated 6 September, CONAD said it did not recommend this option because of higher costs, removal of the ACC to a site of greater vulnerability, separation from the parent Army headquarters, and introduction of a degree of impact on the Sentinel System design.

^u
 (S) ADC's Views. ADC's Commander did not agree with CONAD in regard to the latter, however. In a letter to CINCONAD on 11 September, Lieutenant General Arthur C. Agan recommended that CINCONAD preserve his "present lines of operational command by adopting the basic principles of Option 4 in providing the Region Commander a combined air and ballistic missile command post." 18

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(S) CINCONAD replied on 9 October explaining his selection of Option 1 over Option 4. He concluded that he shared the ADC commander's interest and concern, but "to date I have not been presented with sufficient reasoning to alter my earlier recommendation. Comprehensive examination of each of the possible siting options has convinced me that the selection of Option #1 best enables me to accomplish my job and discharge the responsibilities of CINCONAD."¹⁹

^u
(S) On 15 November, the JCS asked CONAD for additional information to expand and clarify certain points to facilitate review of the study report by the JCS.²⁰ The information requested was provided on 20 November 1968.²¹

^u
(S) JCS Approval and Instructions. On 2 December 1968, the JCS notified CONAD that they approved Option 1 as a point of departure for preparation of hardware and software requirements for the necessary interface. They withheld approval, however, of specific locations for the RCCs and ACCs, pending further justification by CINCONAD. The latter was asked to provide justification of the locations by 27 January 1969. The JCS also reaffirmed its conclusions stated in April.

^u
(S) Study Report - Alaska System - August 1968. For Alaskan arrangements for Sentinel, CONAD submitted its report, dated 22 August 1968, on 30 August. As noted earlier, the Army proposed that Alaskan Sentinel forces command and control be exercised by the Seattle ACC. CINCAL recommended that Sentinel be under the operational command of the Alaskan CONAD Region Commander through the Missile Direction Center. CONAD agreed with CINCAL and opposed the Army plan in its message to the JCS on 18 December 1967 and in its study report issued in January 1968. This position was maintained in the August report. Among the study conclusions were that CINCAL, as Commander Alaskan CONAD Region, should be given operational command of Sentinel forces in Alaska; that the Alaskan Region CC should be collocated with the MDC in the Missile Site Radar building at Fairbanks for integrated control of both air and

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missile defense forces; and that this provided a central control facility for air and ballistic missile defense and took advantage of the economies of collocation while providing an approved level of hardness with protective coverage by all programmed defensive forces. CONAD noted that its conclusion as to location of the ACC/RCC was tied to the current assumptions on deployment and other criteria which, if changed, would require reexamination.

(S) CINCAL concurred with the arrangements proposed in CONAD's study.²² He said also that he would study the factors affecting the selection of the CC location and, if warranted, would make recommendations to the JCS after coordination with CINCONAD.

(S) ARADCOM's Views. ARADCOM, on the other hand, did not concur with the recommendations of the CONAD Alaskan study report.²³ ARADCOM said the recommended arrangement continued the existing structure that was geographically oriented toward the air supported threat, gave preeminence to forces and measures to meet the lesser threat, and was not capable of timely response against the ICBM. ARADCOM said that the Alaskan PAR was an important element in CONUS defense and insertion of an additional command level in the operational chain would interfere with system integrity and could degrade the value of the PAR to CONUS defense. ARADCOM contended that CINCAL's authority should be limited during the battle to the worst case situation where Alaskan forces become isolated from the CONUS structure.

(S) In its letter forwarding the study to the JCS, which was sent through DA for coordination, CONAD said it concurred with the conclusions and recommendations of the study and answered ARADCOM's comments point by point.²⁴ CONAD said that the basic issue was the question of operational command. CINCONAD, the letter said, believed that CINCAL, both as commander of a separate unified command and as commander of the region, should exercise operational command from the Alaskan Region CC.

(S) Two of ARADCOM's basic points were that CONAD's plan emphasized the air defense threat and did not provide

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a timely response, and that the Alaskan PAR was important to CONUS defense. CONAD replied that its analysis of Sentinel deployment to Alaska indicated that the Fairbanks MDC, Spartan and Sprint missiles were deployed in defense of the Alaskan PAR and geographic area and provided no damage limiting to CONUS. Defense of the Alaskan PAR would be as effective if CINCAL exercised operational command as command through the Seattle ACC and more effective if communications from the Seattle ACC to the Alaskan MDC were severed. Operational command, CONAD said, should be exercised within the theater not external to it. As for timeliness, CONAD said that its plan in no way altered the Army plan whereby data flowed unimpeded between the Seattle ACC and the Fairbanks MDC. By vesting operational command in CINCAL there would be no change in command technical relationships between Seattle and Fairbanks. Consequently, CONAD concluded, the response timeliness of Sentinel under CINCAL is inherently as rapid as the Army plan provided. Finally, it was CONAD's view that in all situations, including a so-called "worst case" one, there was a need for a single, on-scene commander responsible for the total defense of the Alaskan area.

SENTINEL-SPACETRACK INTEGRATION STUDIES

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(S) Requirement. The JCS directed CONAD to make two studies early in 1968 as part of a larger defense systems integration study requested by DOD's Systems Analysis (SA). The JCS advised on 9 February that ASD/SA had asked for a study to look at what defensive programs could be phased out or integrated once Sentinel was deployed.²⁵ One part of this would be the possibility of Spacetrack-Sentinel integration. The ASD/SA memo stated that much of the information required by Sentinel to assess the intent of detected objects was provided by Spacetrack. A study should be started to investigate the feasibility of a joint Spacetrack-Sentinel defense center, preferably at NORAD Headquarters, Cheyenne Mountain.

^U
(S) The JCS said that the overall effort was to be separated into studies required in two different

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time frames. Two studies would be completed in time to provide inputs to the forthcoming DPM on strategic and defensive forces and the rest of the studies would be done later by the Joint Continental Defense System Integration Planning Staff (see CONAD Historical Summary 1967, pp 27-32 for background on the latter group).

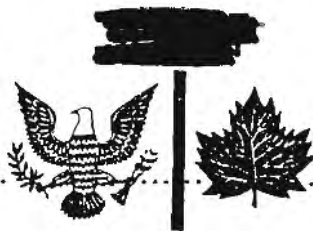
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(S) CONAD was to do two studies in conjunction with the component commands. One was to determine whether the functions of the Space Defense Center and Ballistic Missile Defense Center could be combined into a common center at the CONAD COC. The other was to determine whether the Sentinel PAR to be placed at Fairbanks, Alaska, could provide capabilities that would satisfy the requirements of the Spacetrack sensor at Shemya, Alaska. Both studies were to be provided to the JCS by 1 April.

(U) Work began early in February with the DCS/ Plans and Programs designated as the office of primary responsibility for the two studies.²⁶ Both study reports (dated 25 March) were submitted on 28 March.

^u
(S) Study Part I. The first study (Part I, CONAD Sentinel/Spacetrack Integration Studies) examined three options or alternatives for consolidating in one center the functions proposed for the BMDC and the Space Defense Center.²⁷ The first alternative would have a combined computational facility using common computers, fully integrated computer programs and compatible languages that supported combined Ballistic Missile Control Center (BMCC) and Space Computational Center (SCC) computational requirements. The second alternative was directly opposite. It would have separate SCC and BMCC operational centers with each center supported by separate computational facilities without directed commonality of equipment and computer languages. The third alternative was in between. It would have separate SCC and BMCC operational centers with each supported by separate computational facilities operating with a common type but dedicated individual system data processing equipment.

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^u
(S) Alternative three was recommended as the CONAD position.²⁸ In his letter to the JCS, CINCONAD stated that this alternative would provide for:

1. Evolutionary improvement in Sentinel and Spacetrack facilities.
2. Operational flexibility.
3. Economy by use of common type equipment.
4. Advanced interface techniques.
5. Flexibility in software programs.

^u
(S) The second study (Part II) examined the question of whether the Sentinel System PAR to be located at Fairbanks, Alaska, would provide capabilities that would satisfy the requirements of the Spacetrack radar at Shemya, Alaska. It was also dated 25 March and submitted on 28 March.

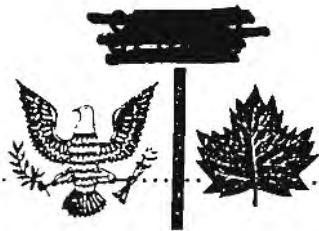
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(S) The two radars, the Sentinel PAR and the Spacetrack planned radar, called at this time the FPS-X, were both UHF multiphased array types. The report stated that both radars were to provide surveillance of targets originating from the Asian landmass and were designed for detection of objects moving at velocities of ballistic missiles and satellites. Each had a separate mission, however, and CONAD's analysis showed that the limiting factors for each mission were the geographical location and the range capability of each radar. The ideal location for the Sentinel PAR was Fairbanks, while for space detection and tracking and collection of radar intelligence the ideal location was Shemya. A dual mission could not be satisfactorily accomplished by either radar so appropriate sensors were required at each location. Therefore, it was CONAD's conclusion that the Sentinel PAR at Fairbanks would not satisfy the requirements of the Spacetrack radar at Shemya. CONAD recommended that an appropriate radar be installed at each location.²⁹

^u
(S) In a letter to the Defense Intelligence Agency's Chief of Staff on 1 April, CONAD's DCS/Intelligence apprised the former of the report findings. It was pointed out that because intelligence collection operations at Shemya were controlled at the national

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the JCS said, had been requested to convene Problem 28 working conferences with representation from the agencies addressed. The meetings were to identify the data transmission requirements and interface points, and develop initial estimates of software, hardware, and costs of employment coordination between Sentinel and Minuteman systems. The problem 28 working conference meetings were not to be interpreted as a permanent organization for resolving the interface problems, the JCS said.

^u
(S) In the above message, the JCS directed that CONAD, SAC, Air Force and Army representatives be prepared to brief the Deputy Director, DR&E, Strategic and Space Systems, late in April. CONAD advised that its representatives would be ready to brief on 30 April on the seven tasks developed at an April Provisional Working Group Conference. In its 25 March message, the JCS said that the estimates were required by 1 September to enable OSD consideration in the FY 1970 DPM and Budget review cycle. On 30 April, the JCS asked for the report to be completed and sent by 1 August.³³ The JCS said that after approval of a concept for Sentinel-Minuteman coordination by the JCS, the responsibility for developing a draft systems integration plan would be assigned to the Joint Continental Defense Systems Integration Planning Staff. In the meantime, on 12 April, CONAD forwarded the minutes of the Problem 28 Provisional Working Group conference to the concerned agencies delineating the series of tasks and agencies to study these tasks in development of hard and software and cost estimates.³⁴ CONAD first asked for inputs from all agencies by 1 August and then when the JCS moved the date up, CONAD moved the date to 1 July.

^u
(S) On 20 May, the JCS informed CINCONAD that DDR&E on 13 May had requested that the CONAD-directed Sentinel-Minuteman Employment Coordination Working Group be reoriented to develop by 1 September a complete plan that would provide for the coordinated employment of Sentinel and Minuteman by the IOC date of Sentinel.³⁵ This plan was to include the operating concept for command and control, the hardware, software, and communications requirements to carry out the

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concept, the development schedules, funding requirements, etc. The JCS directed CINCONAD to establish a full time Sentinel-Minuteman Interface Planning Task Force headed by a general officer. The task force was to include representatives from CONAD, component commands, Army, SAC, DCA, CNO, CSAF, Sentinel System organization, etc. The completed plan was to be provided to the JCS by 1 August 1968.

^u
(S) Army Brigadier General George B. Webster, Jr., NORAD/CONAD Assistant DCS/Operations, was appointed Task Force Director. A planners meeting was convened by CONAD on 27 May and the task force organization and its mission statement were developed and representation for the Policy and Steering Committee established. During the period June through August, extensive study was made of all aspects of the interference problem. During August, the study (dated 15 August 1968) was completed and four volumes distributed to the JCS. These volumes contained the study data base, systems descriptions, technical and operational analysis, organization and administrative information, and recommendations.³⁶

^u
(S) On 13 September, the JCS directed follow-on studies by the concerned agencies. CINCONAD was directed to study the effectiveness of the employment coordination concept, Concept X (also referred to as CODECS, - CONUS Offensive-Defensive Coordination System) and to develop operating procedures and detailed operational plans for concept implementation.³⁷ A new Ad Hoc Study Group was established by the CONAD Chief of Staff and held its first meeting on 30 October 1968.

^u
(S) Concept X was a preliminary concept developed by the Sentinel-Minuteman Coordination Task Force for accomplishing coordination of offensive and defensive missile systems during simultaneous operations. In a letter to the Director, Joint Continental Defense Systems Integration Planning Staff on 13 November, outlining the CONAD plan for analysis of Concept X, CONAD described CODECS (Concept X) as involving:³⁸

the prevention or reduction of fratricide (accidental or unavoidable destruction

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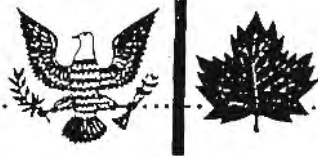
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of offensive missiles by defensive missiles) through a variety of actions and techniques carried out jointly and separately by organizations responsible for employing offensive and defensive missiles in a common environment.

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SECTION II - SPACE DEFENSE WEAPONS

CURRENT PROGRAM

^U
(S) Background. Since May 1964, there had been in operation a satellite intercept system termed Program 437. The 437 SIS consisted of the command, control and support elements that were an integral part of the Space Defense Center and the SPADAT System and the Program 437 weapon system at Johnston Island. The latter consisted of a ground-based interceptor missile complex manned and operated by USAF ADC units. The 10th Aerospace Defense Group and the 25th Aerospace Defense Squadron (ADS) were based as tenants at Vandenberg AFB, California. Rotational combat launch crews of the 25th ADS and the 24th Support Squadron were at Johnston Island. The missile inventory consisted of four Thor missiles, two operationally ready on two pads (launch emplacements - LE-1 and LE-2) at Johnston Island and two at Vandenberg for backup and training.

^U
(S) Current Operations. During 1968, prior to 1 November, operations were conducted in accordance with CONAD Operation Order 301C-67, 14 July 1967, as amended. Operation Order 301C-68 was issued on 1 November 1968. The latter order (Annex B, Concept of Operations) stated that CINCONAD exercised operational command of the 437 SIS through the CONAD COC/SDC. The SDC performed the engagement computations at the Cheyenne Mountain computer facility with backup computers available in the ADC Data Automation Complex at Ent AFB. In the event that the CONAD ALCOP assumed command, target data would be provided by NAVSPASUR. The CONAD COC (or ALCOP) would send targeting data and engagement orders to the 437 weapons system. The alert readiness posture was in accordance with the Satellite Alert Conditions (SATCONS) declared by CINCONAD or higher authority.

^U
(S) As in the 1967 plan, three SATCONS were specified in the 1968 plan:

SATCON 3 - Normal readiness condition with reaction time of not more than 24 hours with two missiles



emergency operational status. LE-1 decontamination was completed and the missile replaced on 29 March. Following this, it was found that the missile on LE-2 had rust corrosion. It was replaced and the launch emplacement brought to full operation on 21 April.

NORAD/CONAD REQUIREMENTS

^u
(S) NORAD had expressed a requirement in its Objectives Plans for a satellite interceptor system and issued a Qualitative Requirement (NQR 2-64) on 6 January 1964 for a Satellite Interceptor System. In the CONAD submission to JSOP 1970-1977, 16 October 1967, CONAD recommended improvement and expansion of the system currently available to CONAD by developing and deploying an improved ascent satellite interceptor with improved altitude and range, accuracy, and real-time data transmission. CONAD also recommended that a satellite inspection negation system, using the co-orbital rendezvous technique, be developed and deployed, and that Nike X changes to improve its FOBS capability be implemented.

^u
(S) In the current NADOP (1971-1978, 20 September 1968), NORAD's recommendations were to include in the mission of Sentinel/Nike X the interception of satellites, develop a negation capability for the co-orbital inspection systems, and develop a high altitude negation option that would provide for rapid deployment when appropriate threats were recognized. NORAD wanted a high altitude system by 1974 dependent upon system development and urgency of the threat.

LOCKHEED PROPOSAL

^u
(S) CONAD became interested in a proposal presented by the Lockheed Missile and Space Company at the end of November 1967 for an early time satellite interceptor capability. The proposal was for an orbital multiple mission system founded on the Lockheed Agena vehicle in combination with proven boosters and employment of space sensors under Air Force development.

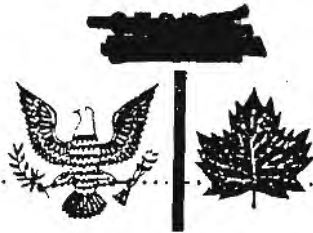
Declassified per 14 Dec 2006 memo



^u
(S) On 20 January 1968, CINCONAD wrote to the JCS requesting the latter's support and action to get an early and detailed evaluation of this concept.⁴² CINCONAD said that the concept appeared to be particularly attractive because it would use available, proven, items and techniques and would be compatible with current sensors. CINCONAD also wrote to the Air Force Chief of Staff advising him of the letter to the JCS.⁴³ CINCONAD said that ADC had just sent a letter to the Air Force expressing a similar interest and recommending that USAF issue a Requirements Action Directive to cause AFSC to study this proposal.

^u
(S) The Air Force Chief of Staff replied on 31 January that he shared concern over the inability to get approval for an improved satellite interceptor system.⁴⁴ He explained that the Air Force had considered the Lockheed concept and it was promising. But the problem was not lack of feasible and effective concepts but rather an inability to convince the approval authority that there was a significant threat from satellite systems. General McConnell said that General Reeves' assistance in further illuminating operational deficiencies based on the threat spectrum would contribute to the Air Force effort.

^u
(S) The JCS answered in March along lines similar to those expressed in the letter from the Air Force Chief of Staff. The Lockheed concept was considered attainable, the JCS said, but a demonstration would take resources which could, considering threat priorities, be spent more effectively to develop means to defend against the total threat. The JCS concluded that they considered no action on the Lockheed proposal was warranted at this time.



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CHAPTER V
 BALLISTIC MISSILE AND SPACE
 WEAPONS DETECTION SYSTEMS

SECTION I - OPERATIONAL SYSTEMS

OTH MISSILE DETECTION SYSTEM

(U) ~~(S)~~ Background. On 31 December 1965, the Over-The-Horizon Forward Scatter Missile Detection System (440L) began reporting data to the NCOC on launches from Soviet missile test complexes. At that time, the system was still in research and development test bed status and had two transmitter sites in the Far East and five receiver sites and a data correlation center in Europe. The system was to detect missile launches by observing "irregularities" on high frequency transmissions between these sites located on opposite sides of Soviet launch complexes.

(U) ~~(S)~~ The 440L System was to partially satisfy a NORAD qualitative requirement (NQR 1-64) for detecting missiles that could be launched from the Sino-Soviet area in a south-polar trajectory to hit North America. USAF said this system was to complement and/or backup BMEWS and give missile launch and attack warning in semi-automated real time to the NCOC. NORAD's views on the mission of the system were stated to ADC in February 1967. NORAD said the terms "complement BMEWS" and "backup" were inaccurate and misleading. Recommending a revised mission statement, NORAD said the system was to:

1. Provide early warning of mass missile attack originating from the Sino-Soviet land mass.

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2. Provide knowledge of research and development, and operational testing by the USSR and Communist China of ICBMs, space vehicles, and nuclear explosive devices.

(u) ~~(S)~~ As noted above, the system was in the research and development stage but planning was underway to upgrade it to operational status. In April 1966, USAF directed its Systems Command to revise the 440L site plan so the system would meet operational requirements. The initial operational capability (IOC) date was set for FY 1968. However, later in 1966, DOD deferred \$13.2 million in production funds causing a delay in the planned initial operation. In September 1967, the Raytheon Corporation was awarded a system design contract calling for IOC in June 1969.¹

(u) ~~(S)~~ At this same time, September 1967, the JCS finished a study of a weapons system which the Soviets were thought to be developing. A number of launches of this Soviet system, called the Fractional Orbital Bombardment System (FOBS), had been detected and reported by 440L. The JCS study, dated 13 September, recommended accelerating the 440L System by improving its coverage and reporting time to give a near-term and partial solution to counter this new threat.

(u) ~~(S)~~ In November 1967, USAF received approval for 440L to reach an interim limited operational capability by 1 March 1968. In addition to the current sites in the Philippines and Okinawa, USAF's plan for transitioning the system to operational status called for a transmitter site at Tokorozawa, Japan, to be operational by the end of February 1968. Improved coverage of Soviet operational missile fields would be gained by moving two receiver sites -- one from Spain to Germany, the other from Greece to Cyprus -- and installing a fourth transmitter site in the Far East.²

(u) ~~(S)~~ Interim Capability Operation. On 1 January 1968, after direct teletype communications had been established between the NCOC and the data correlation center at Aviano, Italy, a two-month "shakedown" period began for evaluating 440L equipment and operating

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procedures. A second dedicated teletype circuit was added on 16 February for greater reliability. This allowed simultaneous operation of two full-time duplex circuits. Also, a dedicated voice circuit for exchanging amplifying information was established on 1 March between Aviano and the NCOC.³

(u) (S) Until computerized operations started, 440L data would be routed without delay through the NCOC to the SAC Command Post and the National Military Command Center (NMCC). NORAD would then contact these centers (through the JCS Alerting Network) within one minute after receiving a 440L message to confirm its accuracy or to give a "disregard" notice. When NORAD assessed a reported missile launch as a threat to the CONUS, the NMCC was to convene an emergency telephone conference with the commanders-in-chief of all unified and specified commands. CINCNORAD would then be asked to give a situation briefing, including confirming data from other warning systems.⁴

(u) (S) Just prior to reaching the interim capability date, Major General M. J. Ingelido, ADC DCS/Plans, and Colonel Spencer S. Hunn, for ESD, sent a joint message to SAC, DCA, and NORAD.* They pointed out that the system would reach an interim capability on 1 March 1968 and they believed that it would be able to detect a mass launch against the United States. However, they cautioned that 440L was far from being fully operational and, therefore, its capabilities were limited. Listed as some of the deficiencies in the system, which were to be corrected before IOC in June 1969, were these:⁵

1. Except for a small contingent at the correlation center, the system was operated and maintained by contractor personnel.

* (U) Later, Col. Hunn was promoted to brigadier general and assigned to NORAD as Director of Systems Development on 1 August 1968.

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2. The number of transmitter locations and channels were limited.

3. All present receivers and transmitters required modification and reinstallation from transportable vans into permanent buildings.

4. There was only limited computer capability at the correlation center.

5. The communications network was at best marginally adequate.

(u) ~~(S)~~ Computerized output of 440L data to users was to have started about 1 April 1968 but, because some equipment items were not available, automated operations started in the NCOC on 1 July. Previously, on 25 June, NORAD had informed the organizations concerned that both BMEWS tactical summary data and NORAD-evaluated 440L warning information would be sent to them over dedicated teletype circuits.* Also, SLBM warning information would be sent over these circuits when that system became operational, NORAD said.⁶

(u) ~~(S)~~ In addition to the correlation center at Aviano, Italy, 440L transmitter (T) and receiver (R) sites were at the following locations:⁷

T-1 Wallace AS, Philippines
T-2 Awase, Okinawa
T-3 Tokorozawa, Japan (operational Feb. 1968)
T-4 Chitose, Japan (operational Dec. 1968)

* (U) These organizations included the JCS, DIA, SAC, LANTCOM, PACOM, DCA, NECPA, and NEACP.

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- *R-1 Ayios Nikolaos, Cyprus (operational April 1968 with equipment moved from Larrisa, Greece)
- R-2 San Vito, Italy
- R-3 Aviano, Italy
- R-4 Rothwesten, Germany (operational Feb. 1968 with equipment moved from San Pablo, Spain)
- *R-5 Feltwell, England (changed from R-6 to R-5 on 12 July 1968)

(u) ~~(S)~~ Procedural Changes. In June 1968, both NORAD and SAC became concerned over a number of missed detections and false reports by 440L that occurred during 7-14 June. On 2 July, NORAD sent SAC and the JCS the results of an analysis indicating that out of five missile launches only one was reported normally. Of five false reports, two were associated with earthquakes and three with magnetic disturbances. NORAD said that improved methods were under study for recognizing earthquake and solar flare effects on 440L propagation.⁸

(u) ~~(S)~~ Shortly thereafter, on 5 July and again on 16 July, false reports indicating multiple launches were made which generated an Alarm Level 1 (the highest level). NORAD told the JCS on 19 July that the false report rate for multiple launches was significantly higher than had been anticipated and the problem was under study by ADC and ESD. NORAD recommended that it stop sending its computer-generated messages containing 440L threat value and alarms until the system could satisfactorily discriminate between actual multiple launches and other disturbances.⁹

(u) ~~(S)~~ The JCS told NORAD on 31 July to continue sending the messages until a decision could be made based on recommendations from the users. The JCS decision, sent to NORAD on 13 August, was to continue

* (U) The RAF took over from Raytheon complete operation and maintenance of R-1 and R-5 on 1 June 1968.

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the messages because DIA, CINCLANT, and CINCSAC wanted them. SAC had told the JCS on 2 August that it could not make automatic force responses based on a computer program which allowed an unacceptably high false alarm rate. SAC said it would revert to using data sent from Aviano for initial event alerting and NORAD/SAC/NMCC conferencing procedures for event assessment. The NORAD computer-generated message was to be used for post-event analysis only, SAC said, but felt these messages should be sent so that all interested agencies could help in solving the problems. "Once again it must be emphasized," SAC commented to the JCS, "that SAC has a critical requirement for the data 440L is designed to provide. Consequently, urgent remedial action must be taken by all responsible agencies to achieve the earliest possible system operational capability."¹⁰

(u) (S) In an effort to improve system performance, representatives of the 440L Steering Group (ADC, 14th Aerospace Force, and NORAD), met on 19 August to discuss a course of action. It was agreed that the "confidence" tag (low, medium, or high) should be eliminated from alert messages sent by the correlation center. NORAD felt this action would give the users more meaningful data because a valid confidence value could not be determined by the correlation center during the alerting phase. Confidence would be reported in later messages. Also, it was agreed that a switch would be installed in the NCOC to give the Command Director the capability of preventing the automatic transmission of a 440L alarm level until the threat could be evaluated against other intelligence and warning systems. NORAD informed the JCS and other users of these proposed changes on 22 August.¹¹

(u) (S) SAC disagreed with this approach and recommended to the JCS on 27 August that a meeting be held to examine the implications of the changes noted above. SAC said its analysis of alerting messages from the correlation center showed the value of the confidence tag. During the period 1 March to 30 June 1968, SAC stated, 75 per cent of all ICBM/ESV (earth satellite vehicle) launches that had been reported with high

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confidence in the first alerting message were later confirmed as actual launches. Moreover, 69 per cent of all ICBM/ESV events reported initially with low confidence were later cancelled or assessed as false alarms. SAC said that without this confidence tag it would have to treat all alerting messages as having high confidence to avoid an extra five to ten minutes delay in reacting.¹²

(u) (s) At a meeting held on 13 September by ADC, SAC agreed to the changes proposed by NORAD with the qualification that the correlation center provide "confidence" within ten minutes after launch time. On 18 September, NORAD informed the JCS and other users that these procedural changes would provide for manual release of 440L alarm levels, elimination of confidence reporting in the alerting messages, and use of a revised method for assigning weights to event messages to give more realistic threat values. NORAD said these changes were not to be considered permanent but were intended to give the earliest possible operational improvements. Manual control of alarm levels from the NCOC went into operation on 1 October and confidence reporting was eliminated from alerting messages on 20 November 1968. However, no changes were made to give more realistic threat values because NORAD and ADC had conflicting views on the matter.¹³

(u) (s) Finally, these differences were settled and on 31 December NORAD asked the JCS for comments on a proposal to not allow the generation of alarm levels during the interim capability of the system until the missile count reached or exceeded five missiles. NORAD said the present system was "incapable of providing the precise data predicted for the final system configuration and necessary for precise and reliable threat value and alarm level generation."¹⁴

BALLISTIC MISSILE EARLY WARNING SYSTEM

(u) (s) Attack Assessment. On 17 August 1967, Air Staff representatives briefed JCS staff members on a proposed concept for improving the Ballistic Missile

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Early Warning System (BMEWS) so that it would give attack assessment information. The JCS told CONAD on 30 August that such information was needed to help in determining if North America was under attack, who was attacking, and the scope of the attack. The JCS asked CONAD for recommendations and comments on the concept.¹⁵

(u) (S) CONAD replied on 11 October 1967 that it believed the proposal was the most promising method for getting a high degree of missile launch and impact accuracy using the present BMEWS equipment. However, CONAD pointed out several areas that needed further study.¹⁶ After intensive analysis, NORAD sent additional comment on 11 April 1968. NORAD told the JCS its analysis indicated that without modifying equipment at the sites, BMEWS could give a basis for attack assessment. This would be done by adding a relatively simple and inexpensive program routine to the missile warning computers in the NCOC. NORAD said it was continuing work on ways to improve assessment accuracy and asked for guidance on several questions.¹⁷ Also, NORAD representatives briefed the results of their work to JCS staff members on 16-17 April 1968.¹⁸

(u) (S) On 29 April, the JCS informed NORAD that computer program and procedural changes were to be done as soon as practicable. The JCS said CINCNORAD should report attack assessment information to include the name of the attacking country and whether the attack was probably directed against SAC forces only, urban/industrial complexes only, or a combination of the two. A target date of 1 January 1969 was set for operations. If procedures could be worked out in time, the JCS hoped to have a test run during Exercise High Heels, scheduled for 17-25 October 1968.¹⁹

(u) (U) On 15 September 1968, NORAD made a computer program change to its Combat Operations System for processing missile attack assessment data. An early assessment of the type of an attack was to be gotten by processing the distances between predefined targets (163 urban/industrial complexes, 37 SAC bases, and nine SAC missile fields) and BMEWS predicted

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impact locations. A mathematical computation of these values was to result in an attack assessment.²⁰

(u) (s) In the meantime, the JCS had asked NORAD on 11 June 1968 for recommendations on an ADC analysis paper which considered another way for BMEWS to provide attack assessment. This paper, the JCS stated, outlined a way of determining launch point and impact prediction that seemed to be worth developing. Three options for modifying equipment at Sites I and II had been considered in the paper: (1) computer program changes, (2) computer program changes with radar antenna modifications, and (3) option 2 plus pulse compression modifications. The JCS said they were considering asking USAF to develop option 3.²¹

(u) (s) NORAD sent its recommendations to the JCS on 14 June 1968. NORAD advised against option 3 because the cost (\$3.7 million) of pulse compression for attack assessment appeared completely unjustified. NORAD said there appeared to be a measurable payoff in modifying the tracking radars if a limited raid was considered likely. Under mass raid conditions, this modification would give limited improvement in some cases. NORAD said that if a tracker radar modification was to be approved, then it recommended either option 1 or 2.²²

(u) (s) On 24 July 1968, the JCS directed USAF to proceed with option 1 (computer program modification) at Sites I and II. This work was to be coordinated with NORAD to assure integration of the data and reporting procedures. The IOC date was set for 1 August 1969.²³

(u) (s) The importance of the modifications at Sites I and II was heightened after officials examined the results of the attack assessment technique used during High Heels 68. On 13 December 1968, after discussions with NMCC personnel, NORAD told the JCS that this technique should not be used for making operational decisions in the event of an actual attack because of current errors in BMEWS impact data. After the modifications were made at Sites I and II, NORAD said it would

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then evaluate the validity of the data and inform the JCS of the results. However, NORAD said it did not object to using the technique employed during High Heels 68 in future training exercises.²⁴

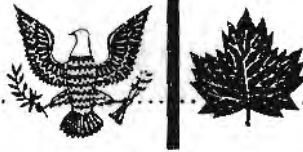
(u) (S) Satellite Detection and Tracking. Early detection and orbit determination of satellites had been a goal of NORAD for some time. As stated in NQR 2-66, 22 April 1966, NORAD's goal for probability of detecting a foreign spacecraft before its first pass over the NORAD area of responsibility was that it should be as near 100 per cent as possible. The NQR further stated that by 1970 such detection probabilities should be developed for all satellites on inclinations of 25 to 120 degrees and, beyond 1970, to satellites with inclinations from 0 to 180 degrees.

(u) (S) BMEWS had the additional mission of providing detection data on satellites passing through its coverage. In November 1967, CONAD concurred with procedures proposed by ADC for alerting BMEWS Sites I and II to assist in initial detection and orbit determination of satellites.²⁵ NORAD wanted Site III, the joint U.S.-U.K. site at Fylingdales, to also assist in detecting early revolutions of certain satellites. In a letter to ADC in December 1966, NORAD had said it was particularly interested in satellites with apogees of 100 to 200 nm and inclination angles between 50 and 65 degrees. In nearly every case, NORAD stated, these satellites passed through Site III radar coverage during the first five revolutions. However, Site III radars had range limitations (doppler filter limits) that prevented collecting data on most of these revolutions. NORAD, suggesting that the radar range be extended, asked ADC for recommendations on a way to overcome this handicap.²⁶

(u) (S) Based on a study by ADC, and taking into account some disadvantages felt by NORAD to be insignificant, NORAD asked ADC on 26 April 1967 to have the radar range limits expanded.²⁷ Action taken by ADC resulted in approval of \$1 million in FY 1969 funds to modify the Site III radars.²⁸ On 12 March 1968, the RAF approved the project in principle, subject to certain considerations.²⁹

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(u) (S) On 15 April 1968, ADC published a required operational capability (ROC 7-68) document that called for modifying Site III's three AN/FPS-49 tracking radars and the Missile Impact Prediction computer program.³⁰ However, on 17 September ADC asked NORAD to concur on withholding action on the ROC. ADC said that testing was being held whereby, in exchange for data from the SDC to the U.K. Space Technical Current Intelligence Center, the Royal Radar Establishment tracking radar at Malvern, U.K., was responding to SDC tasking. This testing was to end by mid-September 1968 and a formal U.S.-U.K. agreement was expected for exchanging space object data. If the agreement was forthcoming and the Malvern radar could be tasked on a 24 hour per day basis, then ADC proposed to cancel the ROC for Site III.³¹

(u) (S) NORAD told ADC on 30 September that action to implement the ROC should proceed. NORAD said it did not object to the testing of Malvern's capability. If the Malvern radar could fulfill the requirement, NORAD said it would then examine suggestions to defer and/or cancel the ROC.³²

(u) (S) Warning For Alaska. In September 1967, the Commander of the Alaskan NORAD Region asked NORAD to make a study to find whether it was practical to give warning of a ballistic missile (primarily IRBM) attack against Alaska by modifying equipment at BMEWS Site II. NORAD's study of the matter showed that equipment modifications were technically feasible with estimated cost at \$250,000 - \$350,000, plus any communications costs.³³

(u) (S) On 2 February 1968, NORAD sent this information to SAC and the JCS and asked if IR/MRBM warning data were required in their command centers in the event Site II was modified.³⁴ SAC replied that it would ask for transmission of the data to its command center if the modification was authorized.³⁵ However, a Top Secret message from the JCS on 13 February stopped any further action until other studies concerning the future of BMEWS were completed.³⁶

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SPACE DETECTION AND TRACKING SYSTEM

(u) (S) AN/FPS-85 Radar IOC. The AN/FPS-85 phased array detection and tracking radar at Eglin AFB, Florida, reached initial operational capability (IOC) on 20 December 1968.³⁷ That date came nearly four years after a fire (on 5 January 1965) almost totally destroyed the radar facility during construction. New contracts were let to rebuild the radar and have it operational by 1 July 1968.³⁸ Technical problems, mainly with the computer program and radar interface and control equipment (RICE), delayed the start of operations.³⁹

(u) (S) While the AN/FPS-85 had been given additional missions (see below), it was designed primarily to detect, track, and identify space objects.⁴⁰ The radar was to use computerized, instantaneous radar beam positioning and multiple transmitter and receiver elements to give simultaneous detection and tracking on a mix of known and unknown targets. The following were listed as the radar's capabilities:⁴¹

1. Provide twice per day detection of nearly all satellites between 75 nm and 2000 nm orbital altitude.
2. Detect a 1.0 meter² space object at 3354 nm (2000 nm altitude at the equator) with a 95 per cent probability.
3. Track 200 known objects concurrently or 20 unknown objects concurrently.
4. Obtain Signature Analysis data on five objects concurrently (at a data rate of 10 cycles per second).
5. Store 3000 orbital element sets within the computer system (expandable to 5000 element sets).

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(u) (S) AN/FPS-85 Additional Missions. Besides the mission on space objects, the AN/FPS-85 was assigned four additional operational missions. These missions were described in NORAD's operational employment concept for the radar (NOEC 1-68, 19 Feb. 1968, and Change 1, 20 May 1968) as follows:

1. To detect, track, and identify sea launched ballistic missiles and to provide missile launch and impact information to the NCOC. (See SLBM Detection & Warning System in this chapter for other details.)

2. To interact with NAVSPASUR on unknown space objects and special known space objects, which are within the capabilities of the two systems, and to maximize the rapid accumulation of data on these objects.

3. To function as a backup facility to the Space Defense Center to include computational data analysis and computational support of the space defense weapons systems.

4. To function as a test facility for developing and refining the technical capabilities and employment concepts of the above stated missions.

(u) (S) The missions noted in items 1, 2, and 3 above, were to be tested for operational acceptability after the radar reached IOC. The JCS approved NOEC 1-68 on 17 April 1968.⁴²

(u) (S) On 20 August 1968, USAF notified ADC that contract negotiations to provide a Space Defense Center backup capability at the AN/FPS-85 were being deferred until the Air Staff reviewed and acted on a plan for space surveillance.⁴³ NORAD advised the JCS on 30 September 1968 that it had approved a recommendation from ADC to assign the backup mission to the ADC Computer Programming and Analysis Center (also referred to as the Group I facility) at Ent AFB for the 1968-1973 time period. Included in the rationale for this action was that about \$2.75 million would be saved, the job could be done with only minor modifications

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to existing communications equipment, the overload condition at the AN/FPS-85 would be relieved somewhat, and there was currently no wartime need for a Space Defense Center backup capability.⁴⁴

(u) (S) NORAD told the JCS, however, that it still had a long term requirement for increased survivability through redundant computational facilities. NORAD said it would periodically re-evaluate the requirement for having the AN/FPS-85 serve as backup for the Space Defense Center.⁴⁵

(u) (S) On 31 October, the JCS approved the assignment of the backup mission to the Group I computer facility at Ent AFB. Also, the JCS said that NOEC-1-68 and NORAD planning documents should be changed to reflect the backup mission assignment.⁴⁶

(u) (S) Baker-Nunn Camera Relocations. Of the five Baker-Nunn cameras available to SPADATS, USAF ADC had four and the Canadian Forces had one. These cameras served to track satellites beyond the range of radars, to determine precise satellite orbits for radar calibration, and to help maintain the satellite catalogue. The method of operation was to photograph sun-illuminated satellites against a star background. The position of a satellite could then be calculated from the known positions of the stars.⁴⁷

(u) (S) Because the camera sites at Oslo, Norway, and Sand Island, in the Pacific, were plagued with bad weather and the camera at Oslo was further hampered by a three-month period of daylight, ADC asked USAF in September 1966 for permission to close these sites and relocate the cameras. (Of the other two ADC cameras, one was at Edwards AFB in operation and one was being refurbished at McClellan AFB.) ADC wanted to move the Oslo camera when the contract with the University of Oslo expired. The camera at Sand Island was to be moved after that date. The camera at Oslo ended operations on 30 June 1967 and it was sent to McClellan AFB for refurbishing.⁴⁸

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(u) (S) The planning for relocating the cameras was to have two in the Northern Hemisphere (Edwards AFB and San Vito, Italy) and two in the Southern Hemisphere (Australia and New Zealand). The site in Italy was not expected to be operational before September 1969. Because of this delay, ADC asked USAF in November 1967 to approve the installation of a camera on an interim basis at a site near Jupiter, Florida. ADC explained that this site in Florida had been used by the Smithsonian Astrophysical Observatory (SAO) as a Baker-Nunn site but was being vacated because of a cut in funds. ADC pointed out several advantages of using the camera rather than keeping it in storage and that SAO had informally offered the site.⁴⁹

(u) (U) On 12 January 1968, USAF approved the establishment of this interim site provided suitable arrangements could be made with SAO.⁵⁰ Arrangements were made and the camera was installed at the Florida site, reaching initial operation on 5 June and becoming fully operational on 8 September 1968.⁵¹

(u) (S) Also, progress was made on site locations in the Southern Hemisphere. On 9 July 1968, the Government of New Zealand announced that Mt. John had been selected as a Baker-Nunn camera site. It was estimated that construction at the site would be completed in October 1969. In Australia, Perth was identified as the desired location.⁵²

(u) (S) Space Computational Center. The largest operating element contributing to the NORAD SPADAT System was the USAF ADC Spacetrack System. The Spacetrack Center was integrated with the Space Defense Center in the NORAD Cheyenne Mountain Complex. In August 1967, USAF asked OSD for funds in FY 1968 to make a master plan study for the future evolution of Spacetrack and for \$3 million in FY 1969 military construction funds for modifying facilities outside the NCMC to house a separate Spacetrack Center.⁵³ On 9 December 1967, OSD approved funds for the master plan study but deferred the request on the Spacetrack Center.⁵⁴

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(u) (S) In the meantime, Lieutenant General Glen W. Martin, USAF DCS/Plans and Operations, had written to General Reeves on 30 October 1967 suggesting that a Space Computational Center (which would serve as a separate Spacetrack Center) might be built within the NCMC. General Reeves agreed with the idea and on 12 December 1967 asked Lieutenant General Arthur C. Agan, the ADC Commander, for his views of the matter. General Reeves said that studies by the NORAD staff had shown that construction in the three empty chambers of the NCMC would yield from 41,000 to 54,000 square feet of additional floor space depending upon whether the buildings had three or four stories. Of this space, General Reeves stated that 35,000 to 40,000 square feet could be made available for the SCC or other uses. Also, General Reeves said he felt that a hardened SCC was highly desirable.⁵⁵

(u) (S) On 28 December 1967, General Agan agreed to locating the SCC in Cheyenne Mountain.⁵⁶ In June 1968, USAF again requested funds for building the SCC. On 4 October 1968, OSD approved \$3 million of FY 1970 funds for construction.⁵⁷ *

* (U) The SCC was incorporated as an integral and essential element of the future NCOC/NCMC, as described in the NCOC Master Plan. For details of this plan, see Chapter Six.

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SECTION II - NEAR-OPERATIONAL SYSTEMS

SLBM DETECTION & WARNING SYSTEM

(u) ~~(S)~~ Status. AVCO was awarded a contract in December 1965 that called for modifying line-of-sight radars to detect missiles launched from submarines. DDR&E had made \$20.2 million available for developing a system that would meet the current threat from short range missiles. NORAD felt that funds should be limited to the minimum needed to insure warning for SAC. The system, termed the SLBM Detection and Warning System (AN/GSQ-89), was to consist of modified AN/FPS-26 height finder radars (AN/FSS-7s) at seven sites along the U.S. coastline. Data would be sent from the sites by communication links with computers in the NCOC, where the data would be processed and warning information displayed at user locations. In addition, the AN/FPS-85 phased array radar at Eglin AFB, Florida, was to contribute to the system. FSS-7 radars were to be at the following sites:

- Z-38 Mill Valley AFS, Calif.
- Z-65 Charleston AFS, Me.
- Z-76 Mt. Laguna AFS, Calif.
- Z-100 Mt. Hebo AFS, Ore.
- Z-115 Fort Fisher AFS, N.C.
- Z-129 MacDill AFB, Fla.
- Z-230 Laredo, Tex.

(u) ~~(S)~~ Designed for a short lead time, the system was to have reached interim operational capability in December 1967. That date slipped to 31 December 1968 and then to 31 March 1969 because of a combination of reasons, including contract changes, lack of technical data, power tube development, antenna rotary joint arcing, and unacceptable missile threat processing.⁵⁸

(u) ~~(S)~~ AN/FPS-85 SLBM Mission. As noted above, the AN/FPS-85 phased array detection and tracking radar at Eglin AFB, Florida was to contribute to the SLBM Detection and Warning System. The SPADATS sensor function of this radar reached initial operational capability

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on 20 December 1968. Testing of the radar's SLBM function was expected to begin in February 1969.⁵⁹

(u) ~~(S)~~ Several problems associated with the SLBM function, which NORAD/CONAD had been trying to correct since early 1967, were still to be worked out. Two major problems were the need to reduce the minimum detection range from 165 NM to 40 NM, and reduction of the beam elevation from 5° to 2.5°. One other serious problem was that the lack of proper discrimination testing would increase the false alarm rate beyond acceptable limits. Negotiations were to continue among NORAD, ADC, and ESD to solve these problems.⁶⁰

NORAD EXPANDED MISSILE WARNING SYSTEM (NEMWS)

(u) ~~(S)~~ Background. A concept for integrating the processing and displaying of information from all missile warning systems was recommended in a message from NORAD to the JCS on 5 July 1966 and was explained in greater detail at a meeting two days later. Before that time, planning had called for two different computers in the NCOC driving the BMEWS display panels in the National Military Command Center (NMCC) and its alternate (ANMCC). Since the computers operated at different rates of speed, this arrangement would have prevented simultaneous updating of the displays in these command centers. Recognizing the need for having the displays driven at the same rate and for data processing to be done by a highly reliable computer, NORAD wanted to modify the BMEWS Display Information Processor (DIP) so it would serve all users as the primary computer for all missile warning systems. This modification would enable the DIP to process data from BMEWS, the SLBM Detection and Warning System, and the 440L System and to drive missile warning displays at the NCOC, SAC, NMCC, ANMCC, and the NECPA. The JCS approved NORAD's proposal on 13 July 1966.

(u) ~~(S)~~ In September 1966, USAF directed its Systems Command to begin work on getting displays for the various command posts. Responsibility for the DIP modification, after first having been given to the AF Logistics Command, was assigned to Systems Command on 15 June

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1967. One item that delayed work on the DIP was solving the problem of DIP/display interface. It was hopefully settled in November 1967 when it was agreed that a small standard computer would be used as a message buffer for interface. This scheme would enable the NCOC to process and display both real and test data for the three missile warning systems using either the DIP or the backup computer. Backup was to be provided by the NORAD Combat Operations System (425L) computer.

(U) ~~(S)~~ Status. This single integrated system of data processing equipment and displays was termed the NORAD Expanded Missile Warning System (NEMWS). Modifications to the DIP, renamed the Modified Central Computer Display Set (MCCDS), started on 1 October 1968.⁶¹ Display facilities, known as the Missile Warning Display Subsystem, were installed at the NCOC, NMCC, ANMCC, and SAC awaiting operation of the MCCDS.⁶²

(U) The target date of 31 December 1968 had been set for initial operation of the system. However, on 23 December NORAD informed all concerned that technical interface difficulties would delay operations at least until mid-January 1969.⁶³

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CHAPTER VI COMMAND AND CONTROL

SECTION I - STUDIES AND PLANS

NCOC MASTER PLAN

(U) Background. In November 1965, the JCS requested a master command and control plan for each unified and specified command. Further guidance was provided in a memo in February 1966. No deadline was set for submission, however. JCS guidance was purposefully left general because of the difference in the various unified and specified commands.

(U) NORAD described its plan, which it termed the NCOC Master Plan, as one that would define and describe the NORAD/CONAD Combat Operations Center configuration and organization for the 1968-78 time period. It would identify and substantiate the incremental improvements required in this period to cope with changing requirements.

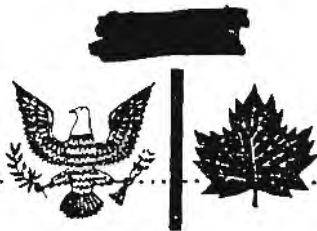
(U) NORAD's DCS/Plans and Programs (J-5) was given overall responsibility for the master plan. The J-5's Directorate of Systems Development (NPSD) was given the task of directing the planning effort under guidelines set down by the NPSD Director and an Executive Council. The latter was made up of colonel or equivalent representatives from various J-staffs and the component commands and was chaired by the Director, NPSD. The major activities were done by working groups. Work officially began on 20 December 1966 with a meeting of the Executive Council. To begin with, publication of the Master Plan was set tentatively for November

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1967. As work progressed through 1967, however, problems and delays arose causing several readjustments of the schedules.

(U) The Operations Committee completed its work on three concepts in mid-November 1967 and in late November began work on a fourth which had been submitted by the Combat Operations Center and the Directorate of Computer Program Control and presented to the Executive Council on 22 November. The reports of the work of the Operations Committee were distributed in late December.¹ Meanwhile, the Technical Committee was working on the technical, facility and cost factors and completed work on the last concept early in February 1968. The Concept Selection Board convened on 14 February. Board recommendations were given to CINCNORAD on 9 April and the ADC and ARADCOM commanders were briefed on 10 and 11 April.² An Operational Concept Summary was then developed for forwarding to the JCS.

^u
(S) Concept Summary. On 17 May 1968, the report, entitled NORAD Combat Operations Center Concept Summary, was submitted by CINCONAD to the JCS.³ CINCONAD's letter of transmittal reiterated the objective of the Master Plan effort (provide a guide for the evolution of the NCOC/NCMC for the next ten years). The first thing to be done, however, CONAD said, was to identify the most effective concept to govern configuration at the end period after all known new systems were operational and all current systems to be replaced had been phased out. Upon adoption of the concept, detailed time-phased planning would follow. The NCOC concept proposed had been concurred in by the ADC and ARADCOM commanders, CINCONAD said.

^u
(S) The three commands had examined a spectrum of options ranging from a maximum delegation of operational functions to the component commands to a maximum retention of functions by NORAD. The selected concept proposed a command post and seven operating divisions within the NCOC which, together with two component operated centers and subordinate unified region commands, provided the means for NORAD to exercise operational control over air, ballistic

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missile, and space defense forces. This was detailed by CINCONAD in his letter as follows:

1. Air defense operational control procedures remain essentially unchanged.

2. For ballistic missile defense, CINCONAD exercises operational command of the Sentinel System through a component-operated Ballistic Missile Control Center (BMCC) and through a subordinate unified commander....

3. CINCORAD operational control of space defense forces is exercised through a component-operated Space Computational Center (SCC) with an emergency option direct to the subordinate elements of sensor or intercept systems.

^U
(S) The JCS responded on 14 June 1968 with a request for additional information and clarification of a number of areas, stating that this had been found necessary after review by the services and elements of the OJCS.⁴ The JCS asked that CONAD and component representatives meet with service and OJCS representatives to give detailed briefings and take part in discussions. The meetings were held the second week of July.⁵

^U
(S) Following these meetings and after review of the Concept Summary by the JCS, it was decided that the JCS should give tentative approval to the concept so that work on the NCOC Master Plan could continue. In a message dated 15 August 1968, the JCS advised CINCONAD that the NCOC Concept Summary, as the 1978 configuration, was tentatively approved for planning purposes subject to certain revisions.⁶ The latter included changes in the description and functional statements of the Space Computational Center and the Ballistic Missile Defense Center (BMDC). The latter had been called by CONAD a Ballistic Missile Control Center (see above) and the JCS asked that the original term, BMDC, be used for consistency and understanding. The Master Plan, the JCS said, was to be

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confined to the internal configuration of the NCOC and NCMC, exclusive of the NORAD/CONAD subordinate structure. CONAD was asked to provide an initial estimate of costs, manpower requirements, phasing, and scheduling by 1 September 1968. The JCS also asked that the NCOC Master Plan be furnished them by 1 March 1969.

^U
(S) Estimate of Costs and Manpower. CONAD's initial estimates of costs, manpower requirements, phasing and scheduling were provided to the JCS on 28 August 1968.⁷ The major costs were in connection with construction of three buildings, one four-story and two three-story, in Cheyenne Mountain, additional cooling equipment, and increased power generation to meet current deficiencies and added requirements. The total manpower requirements were estimated at 1800 by the FY 1973-1976 period which included the NCOC and associated functions, the Space Computational Center and Technical Control Center (ADC operated), and the Ballistic Missile Defense Center (ARADCOM operated). CONAD said that manpower and costs were phased in accordance with the initial operational capability (IOC) dates for the major organizational elements of the NCMC. IOCs were listed as October 1972 for the NORAD Computer System, January 1973 for the Space Computational Center, and March 1973 for the Ballistic Missile Defense Center. CONAD said that these dates were highly tentative, depending upon funding and construction. CONAD asked for approval of the required funding and said it would continue to support ADC in actions for design and construction of facilities for the Space Computational Center (see Chapter V for coverage of the Space Computational Center).

^U
(S) The JCS acknowledged receipt on 18 September 1968 and said that support of funding would be determined by analysis of the Master Plan details.⁸

(U) On 11 September, CONAD asked the Electronic Systems Division of AFSC to take the responsibility of system engineer for the modernization program for the NCMC.⁹

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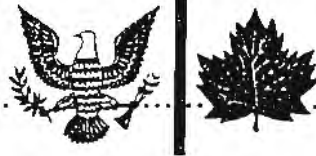
(U) NCOC Master Plan. As noted above, the JCS in their 15 August message requested that the Master Plan be furnished them by 1 March 1969. However, NORAD speeded up work on the plan to get it in in time to insure submission in support of critical FY 1970 funding. Copies of the completed plan were delivered to the JCS on 6 December 1968.10

^u
(S) The plan consisted of five volumes (I- Introduction, II- Operations, III-Technical, IV- Communications, and V- Resources). The Master Plan and the requirement for it were explained in Volume I as follows:

Within the first few months of operation of the NCOC in the NCMC, it became apparent that a Master Plan for the evolution of the NCOC from the present configuration to 1978 was essential. The NCOC Master Plan defines and describes a specific operational configuration for the NORAD Combat Operations Center during the period 1968-1978. This configuration will best provide for the effective coordination and interface between weapon and surveillance systems assigned for conducting the overall defense of the North American continent against aerospace attack. The NCOC Master Plan takes into account those defense systems to come into being and those to phase out as well as relationships to exist with external commands and agencies at significant points in time. It provides a basis for funding data for use by the JCS, military departments, and DOD, and will serve as the basis for development of NCOC performance specifications.

^u
(S) Volume V, Resources, of the plan provided the following table of major systems/functions in the NCMC:

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Present
Systems/Functions

NCOC
SDC and Central Computer
& Display Facility
Intelligence
Weather
ADR/CRYPTO

DCA

Future
Systems/Functions

NCOC/NCS (NCOC Computer Sys-
tem)
SCC (Space Computational
Center)
Intelligence
Weather
ADR/CRYPTO
BMDC
ADC-CC (ADC Computer Center)
AUTOSEVOCOM
DCA

^u
(S) To accommodate the future NCMC, as planned by NORAD (Volume V- Resources), 30,000 square feet of additional space would be required. NORAD planned to acquire this through construction of three additional buildings in existing empty adits in the NCMC, two of which would be three-storied and one four-storied. Among other requirements would be expansion of utilities, electric power and cooling capacity being of primary concern. The FY 1970-1972 investments requirements totalled \$81.4 million. Of the latter, \$3 million would be funded by the Air Force Integrated Command and Control Systems. The manpower requirements would total 1,853. This was broken down as follows: NCOC - 434, SCC - 315, ADC-CC - 80, BMDC - 145, and ADC facility and technical support - 879. Personnel for the NCOC would come from NORAD and for the BMDC from ARADCOM, and the rest would come from ADC.

^u
(S) Follow-On Action. Among the major problems at the end of 1968 was the securing of funds for timely construction and upgrading of the power and air conditioning to meet scheduled IOCs of the major systems.¹¹ IOCs for three major systems were listed by NORAD in the Master Plan, Volume V, as follows: for the NCS - October 1972, SCC - January 1973, and BMDC - March 1973. Following submission of the plan, there still remained numerous activities requiring follow-on action.¹² These included the BMDC-SCC interface, the refinement of warning functions between

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NORAD and components, and the command, control and communications action for support of the plan.

COMMAND AND CONTROL STRUCTURE FOR BALLISTIC MISSILE DEFENSE

(U) See Chapter IV, ABM System and Space Defense Weapons, for coverage of this subject.

STUDIES OF AIR DEFENSE-FAA JOINT USE OF NATIONAL AIRSPACE SYSTEM (NAS) CENTERS

^u
(S) Need for Joint Use of NAS. In the early 1970's, the Federal Aviation Agency would implement a CONUS-wide automated system of 20 Air Route Traffic Control Centers (ARTCC) using Burroughs 9020 computer systems. This new automated system would be known as the National Airspace System (NAS). In the interest of economy, joint military-FAA use of NAS facilities had long been considered. Now the matter was imperative. Military surveillance and control facilities were being greatly reduced, the SAGE system was nearing the end of its life expectancy, and there was no pure military follow-on system to replace the SAGE system. The only other system than the NAS to be available in the early to mid-1970s was the BUIC III system which was designed to perform a part-time backup mission and could not replace SAGE full time without extensive improvement.

^u
(S) Background. In early 1966, FAA proposed a DOD-FAA study to explore joint use of NAS facilities with emphasis on control centers.¹³ In July 1966, DOD concurred and named USAF as its executive agency for joint use planning. USAF, in turn, designated ADC to act for the Air Force. A comprehensive study, with participation from NORAD, was conducted jointly by ADC and FAA from April through August 1967. The study examined the operational, technical and economic feasibility of joint use of NAS facilities. The study report, published on 1 September 1967, reported that joint use was feasible and recommended a configuration of ten Joint Control Centers (JCCs).¹⁴ USAF approved the study and recommended a favorable decision from DOD.

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(u) ~~(S)~~ As noted above, because the FAA system was soon to begin to be implemented, action as soon as possible was vital. But by February 1968, DOD approval to go ahead with further study or any other action had not been received. On 13 February 1968, NORAD appealed to the JCS to help to get a decision from DOD so that joint planning efforts could be continued.¹⁵ NORAD pointed out that since the above study had been finished, coordinated efforts on program development had stopped, that FAA had progressed to the implementation phase of their NAS program, and that delay in planning would raise procurement costs and slip operational capability dates. USAF, in the meantime, had solicited DOD approval. The JCS answered that problems related to phase-down of radars and control facilities were causing a delay but that OSD had indicated that a decision would be forthcoming shortly.

(u) ~~(S)~~ DOD Commitment. On 20 April 1968, Assistant Secretary of Defense, Paul H. Nitze, sent a letter to the Secretary of Transportation, Alan S. Boyd, committing DOD to joint use. Stated Mr. Nitze:¹⁶

The Department of Defense joins the Department of Transportation in commitment to the concept of joint use of radars and control centers whenever this is feasible and economically sound, and will not jeopardize the timely achievement of NAS objectives for air traffic control.

Mr. Nitze also reaffirmed that Mr. Robert H. Charles, Assistant Secretary of the Air Force, was his DOD representative to the FAA, and that the Air Force would continue to be responsible through Mr. Charles for detailed planning of a joint system for air traffic control and air defense.

(u) ~~(S)~~ Plans and Studies. On 23 April, DOD requested the Air Force to begin a full-scale planning effort with FAA for a joint use system.¹⁷ The joint planning effort was to be based upon concepts and guidelines of the current Development Concept Paper for CONUS Air Defense and upon the force structure

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stated in PCD Z-7-096. Among the parameters stated was that the basic ground environment concept was peripheral deployment supplementing AWACS which was the primary subsystem for surveillance and control. However, the plan was to provide an excursion on the peripheral radar deployment for consideration in the event of Canadian withdrawal from the system.

(u) (S) On 10 May 1968, USAF charged ADC with responsibility to act for the Air Force in this planning effort with FAA.¹⁸ A number of planning studies were made in the next few months by ADC and FAA representatives and by ADC alone with technical assistance from FAA.

(u) (S) A joint ADC-FAA group began work at the end of May on a plan for joint use and completed their work with a published report on 19 July 1968. This "Plan for Joint Use of NAS for Air Defense and Air Traffic Control (U)" examined two options representing different command and control levels of integration. In Option I, air defense and enroute air traffic control functions would be collocated and performed in seven Joint Control Centers (JCCs) located around the U.S. periphery. SAGE direction centers and BUIC III sites would be inactivated in phase with the establishment of JCCs. In Option II, air defense and surveillance functions would be performed within seven Joint Surveillance Centers (JSCs). Air defense command and control would be performed at 13 BUIC III sites in the U.S. and two in Canada. ADC felt that Option II provided the better military capability.¹⁹

(u) (S) The above was superseded, however, by an ADC study dated 1 September 1968, "Atmospheric Defense Command and Control and Surveillance Study (U)."²⁰ This study resulted from a DOD memorandum to the Secretary of the Air Force on 29 June 1968. The Air Force, in turn, on 16 July 1968 directed ADC to make a study addressing three periods: the years preceding IOC of the new force (1969-1972), the years during which the new force was becoming operational (1973-1975), and the period after the F-106/AWACS/OTHB force became operational (1976-1978). The study was to examine at least

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three different levels of ground environment: the level specified in the Program Change Decision; the level recommended by the Air Force; and a minimal level in which the ground environment was used for peace-time functions only, with the addition of a small number of command and control aircraft for battle management of groups of interceptors and AWACS. At the minimal level, surveillance radars (except OTH) would be operated solely by the FAA, and direction centers would be fully integrated with the traffic control centers of the NAS.

(u) ~~(S)~~ The following table lists general force requirements proposed in the 1 September 1968 study for each level and options provided under levels 1 and 3:21

LEVEL 1		LEVEL 2	LEVEL 3	
I	II		I	II
CCs	CCs	CCs	CCs	CCs
ADIVs (8)	ADIVs (8)	ADIVs (7)	ADIVs (8)	ADIVs (8)
AD/JCCs (7)	AD/JSCs (7)		AD/JCCs (7)	AD/JSCs (7)
		AWACS NCCs (7)	AWACS NCCs (7)	AWACS NCCs (7)
BUIC III*	BUIC III (13)	BUIC III (13)	BUIC III*	BUIC III
	NCC/NWCC	NWCCs (13)		NWCCs (7)
RADARS	RADARS	RADARS	RADARS	RADARS
OTHB (2)	OTHB (2)	OTHB (4)	OTHB (4)	OTHB (4)
AWACS (42)	AWACS (42)	AWACS (55)	AWACS (55)	AWACS (55)

*To be phased out when JCCs and AWACS are phased in.

(u) ~~(S)~~ ADC recommended Level 2, consisting of three regional combat centers, seven AWACS NORAD control centers and 15 BUIC IIIs (13 CONUS) be approved in lieu of joint use of FAA/NAS centers. Following a briefing of the Air Force Chief of Staff on 21 October by the ADC Commander, the former concurred with the ADC recommendation but asked that there be included with the Level 2 forces a limited integration and interface with the FAA NAS through the establishment of seven joint identification centers and use of inputs from selected FAA radars. An ADC message of 25 October amended the study and supported the decision made on 21 October.

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(u) (S) FAA indicated that ADC's FPS-24 and FPS-35 radars were not acceptable and that it would not agree to use them in the NAS and also that it would not use the FPS-27 unless it was modified.²² ADC and FAA jointly developed a ROC for a search radar that could meet the needs of both. ADC sought approval of this radar and for modification of some FPS-27 radars. In the meantime, FAA was also seeking approval for a radar program of its own. ADC recommended to USAF, therefore, that a joint radar planning group (made up of USAF, FAA and Army representatives) be tasked to define a national surveillance network to meet the CONUS requirements for USAF air defense, FAA air traffic control, and Army air defense.²³

(u) (S) PBD Action. Program Budget Decision 364, 9 December 1968 (discussed in Chapter I) stated that the concept of joint use of FAA NAS centers had already been approved by the Air Force, OSD and FAA and immediate steps should be taken to implement the integration. Air Force additions, the PBD said, to FAA NAS centers would include the operating space necessary to house three display consoles and nine Air Force personnel per shift. Seven of these Joint Control Centers would apparently suffice, the PBD stated, and the Air Force and FAA should draw up definitive plans for immediate participation.

PLAN FOR THE IMPLEMENTATION OF EXECUTIVE ORDER 11161
(DOD/FAA RELATIONSHIPS)

(U) Background. Executive Order 11161 was signed by the President in 1964 directing DOD and FAA to plan for probable transfer of the latter to DOD in time of war. A Memorandum of Understanding was signed by DOD and FAA (7 March 1966/13 April 1966) to facilitate implementation of the executive order. In June 1966, the Secretary of Defense asked the JCS to develop proposed directives to implement the provisions of the executive order and the DOD-FAA Memo of Understanding. Then in February 1967, the JCS directed CINCNOAD to develop, in consultation with FAA and in coordination with other commands, a basic plan to implement the executive order and memo.

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(U) NORAD Plan. A NORAD (NOOP-E) study group was formed in March 1967 and a draft plan was sent out for review and coordination to all interested commands and agencies in June. The plan had been revised and send out again by the end of the year. The plan established the relationships that were to prevail between DOD elements, operational commands in the NORAD area of responsibility plus CINCLANT (Puerto Rico) and CINCSOUTH (Canal Zone) and the FAA and the responsibilities and tasks of the organizations involved in three situations:²⁴

1. War when FAA becomes an adjunct of DOD
2. War when FAA is not an adjunct
3. National emergencies short of war

(U) On 1 March 1968, NORAD submitted the draft plan to the JCS for approval and final coordination with FAA.²⁵ NORAD recommended that the plan be signed and promulgated at DOD level. The plan had not been approved by the end of 1968.

STUDY OF RELOCATION OF NORAD HEADQUARTERS

(C) In June 1968, the NORAD Chief of Staff directed that a three-phase study be made to review the recommendations of a study by NORAD's DCS/Operations (J-3) in 1966 to examine the use of space in Colorado Springs. The J-3 study recommended that the ADC plan for developing a NORAD/ADC/ARADCOM complex at Peterson Field, east of Colorado Springs, be approved.²⁶ The J-3 study also recommended that the ADC plan be reviewed periodically.

(C) The group doing the first phase of the 1968 study was tasked to re-examine possible relocation sites for NORAD and the component commands, to determine the options available in view of operational requirements and other considerations, and determine the order of desirability of options considered and the manning strengths involved. The second and third phases of the study were to consider engineering aspects and analysis of all revelant factors.

(U) The study had not yet been completed and staffed at the end of 1968.

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SECTION II - ALTERNATE FACILITIES

NORAD HARDENED ALTERNATE COMMAND POST (ALCOP)

^u
(S) Background. Headquarters Central NORAD Region was designated as the NORAD ALCOP. The latter was established in the SAGE building at Richards-Gebaur AFB, Missouri. NORAD designated the Central NORAD Region as its alternate command post in November 1957, shortly after NORAD was formed. Since 1962, however, NORAD had been trying to establish its ALCOP in Northern NORAD Region's hardened combat center facility at North Bay, Ontario. In 1960, the JCS had directed all unified commands to have alternate command elements in hardened, dispersed, or mobile facilities. Because of the questionable survivability of the Richards-Gebaur AFB facility, USAF suggested use of the hardened North Bay combat center. NORAD agreed and asked that it be established initially in a manual mode and automated later. On 3 May 1963, the JCS approved relocation of the ALCOP to North Bay. The RCAF advised in December 1963 of Canadian Cabinet approval of the manual ALCOP on the understanding that installation could be done within the terms of the governmental agreement for NORAD.

^u
(S) Plans and requirements were submitted to DOD in 1965, but the Secretary of Defense turned them down because of costs. The latter were scaled down and in August 1965, the Secretary said he would consider transfer of the ALCOP on receipt of a firm plan. NORAD sent the JCS an ALCOP Basic Plan on 26 January 1966. To man the North Bay ALCOP, NORAD proposed 48 U.S. spaces and 45 Canadian spaces (for a total of 93). The Secretary of Defense approved the plan on 29 June 1966.

^u
(S) Reaffirmation of the Requirement. In the meantime, the headquarters of Canadian Forces Air Defence Command was collocated with NNR Headquarters at North Bay, and action on the ALCOP was held up. In January 1968, the JCS told NORAD that the requirement for the ALCOP had been under consideration by the Canadian Government since March 1966 and had been a

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continuous agenda item of the PJBD. With the impending renewal of the NORAD Agreement, the PJBD was expected to ask for an answer from Canada on the ALCOP. For this reason, the JCS asked for an affirmation from CINC NORAD on the ALCOP requirement.²⁷ On 26 January, CINC NORAD reaffirmed to the JCS "an immediate and continuing requirement for a NORAD ALCOP at North Bay, Ontario, Canada."²⁸

^u
(S) Amendment of the ALCOP Basic Plan. On 21 March 1968, NNR proposed to amend the Basic Plan to reduce the manpower required for direct assignment to the ALCOP.²⁹ NNR's plan would lower the manning on the ALCOP JTD from 93 spaces to 55 spaces. No functions would be eliminated. This would be accomplished by fully manning certain functions during increased alerts or exercises by augmentation from the CF ADC/ NNR staffs. Of the reduction of 38 spaces from the ALCOP JTD, 29 would be accounted for by augmentation. Nine spaces could be deleted by assignment of responsibility for tactical communications maintenance to Canadian Forces Communications System. Twelve of the 38 spaces saved would be U.S. and 26 would be Canadian.

^u
(S) In this manner, manpower costs for the ALCOP would be lowered, and it was hoped Canadian approval of the plan could be obtained. NNR stated that it was unlikely that the Government would approve the manpower allocation in the Basic Plan. NNR stated that renewed emphasis in Canada on economy, reduced defense budgets, and a reduction in the total manpower establishment made a review of the Basic Plan necessary. NORAD's concurrence was requested.

^u
(S) On 25 April 1968, NORAD advised NNR that it agreed with the proposal with minor exceptions.³⁰ NORAD added that the 1966 Basic Plan was still supported by NORAD, the JCS and DOD and it hoped that the efforts of NNR and Canadian Forces Headquarters in preparing to resubmit the Plan would result in early Canadian approval. In July, at the request of Canadian Forces Headquarters, CINC NORAD confirmed that he approved the proposed amendments to the Basic Plan.³¹ Canadian Forces Headquarters said it was preparing a submission

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proposing approval of the Basic Plan with the proposed amendments lowering the JTD personnel.

BUIC III

(S) ^u Background. As an outgrowth of a June 1961 directive from the Secretary of Defense for providing more command and control system survivability, a system to backup the primary SAGE system was approved in March 1962 for implementation in two phases. The first phase, BUIC (Backup Intercept Control) I, a manual system, was completed in 1962. The second phase, BUIC II, was a semiautomated system using the AN/GSA-51 computer.

(S) ^u An improved, expanded AN/GSA-51A BUIC III system was approved by DOD in November 1964. An interim deployment in FY 1966-67 of 14 BUIC IIs (13 operational and one training) was directed, giving way to 19 BUIC IIIs in FY 1968-69. The Secretary of Defense reaffirmed 19 BUIC III centers in 1965. Two of the BUIC III centers were to be placed in Canada. One of the U.S. centers, at Tyndall AFB, was to be a training location initially.

(S) ^u By 1 April 1966 all BUIC II centers had become operational. According to initial planning, the 13 BUIC II sites were to be retrofitted with BUIC III equipment and six other sites added.

(S) ^u Program and Schedule Changes. As noted in Chapter I, in keeping with the reduction of the ground environment, the Secretary of Defense decision in PCD Z-7-096, December 1967, decreased the number of BUIC IIIs to 15, deleting four centers, to be reached by FY 1970 and directed a cut to ten centers in FY 1975. The remaining sites also included two for Canada. The Tyndall AFB BUIC III was to be used primarily as a training facility, according to NORAD Operation Plan 335N-67 (BUIC III), Change 2, but would have an operational capability at DEFCON 3 or higher after completion of implementation testing. The BUIC III AN/GSA-51 installation was completed at Tyndall on 7 March 1968.³²

(S) ^u Because of the deletion of four centers, computer program problems, and other problems, a meeting

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was held in March 1968 at ESD to develop a new schedule. With the dropping of four BUIC IIIs, now nine BUIC IIs were to be retrofitted to BUIC III and six new centers added. Category II testing began on 16 April 1968. This program was delayed three months because of unforeseen computer program problems uncovered during Category I tests.³³ The new schedule set operation for the first site (first operational site - Z-10, North Truro, Mass.) for 15 August 1968 and for the last site for the end of December 1969.³⁴ This schedule was published in Change 2, 6 September 1968, to NORAD Operation Plan 335N-67.

(u) ~~(S)~~ Operation of Z-10 was not met on this date, however, because of delays in communications installation caused by the New England Bell strike and certain key personnel shortages.³⁵ Site Z-115, Ft. Fisher, North Carolina, became the first BUIC III to become operational -- on 15 December 1968.³⁶ Z-10 and Z-61, Port Austin, Michigan, reached limited operation by the end of December. After the delays of the initial sites, the program got back on schedule.

(u) ~~(S)~~ A matter of concern was that several divisions would be without backup capability for a long period with the scheduled removal of the BUIC II equipment and the new operational dates for replacement of BUIC IIIs. This could not be avoided because of the loss of equipment to Southeast Asia and lack of funds to expedite installation and implementation testing.³⁷

(u) ~~(S)~~ This possibility of loss of backup capability and inability to do anything about it because of shortage of time and of cost was recognized in the aforementioned Change 2 to NORAD Operation Plan 335N-67. In the basic plan, it was stated unequivocally that CINCNORAD required continuous backup control be maintained during the reconfiguration period. In Change 2, the requirement was modified:

CINCNORAD normally requires that a continuous backup control and weapons commitment be maintained in each NORAD division. However, late changes in the BUIC III schedule

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for a given site caused by equipment modification delays, etc., may result in a period of no backup in some divisions. These periods will have to be tolerated in the interest of the overall program. Where interim backup facilities are activated, no constraints as to type are imposed. They can be fully manual or automated....

(u) ~~(S)~~ Co-Manning of BUIC III Centers. Canadian and U.S. co-manning of BUIC centers that would assume control of both U.S. and Canadian forces had been under consideration for some time, but the requirements had not been worked out. Finally on 12 September 1968, NORAD submitted requirements to both the JCS and Chief of Defence Staff. They were advised that NORAD required ten Canadian Forces manpower authorizations for co-manning at two sites in the U.S. and ten USAF manpower authorizations for co-manning at the two sites in Canada.³⁸

(u) ~~(S)~~ The four BUIC III centers were Z-40, Othello, Washington, Z-65, Charleston, Maine, C-5, St. Margarets, N.B., and C-8, Senneterre, P.Q. NORAD explained that the co-manning was for authentication and custodial duties associated with release of nuclear warheads by U.S. personnel in Canada and national interests in the NORAD control of weapons in both countries. The manpower actions, NORAD said, were essentially a one-for-one trade-off of U.S. and Canadian manpower spaces. The manpower requirement was identical in numbers of spaces, rank, and skill for each of the BNCCs in the two countries. Component (USAF ADC and CF ADC) manpower requirements would be reduced by the number of NORAD co-manning authorizations when the co-manning of BNCCs was affected. No additional manpower authorizations would be required.

(u) ~~(S)~~ The CF authorizations required at each of the two U.S. sites were one captain, one lieutenant, one warrant officer and two sergeants. The USAF authorizations required at each of the two Canadian sites were one captain, one lieutenant and three master sergeants. NORAD told the JCS that the USAF portion could



be satisfied by the transfer of present USAF ADC manpower authorizations for BUIC III to NORAD and this was concurred in by ADC.

(u) ~~(S)~~ On 27 September 1968, the JCS approved the transfer of ten spaces from USAF ADC to NORAD.³⁹ This would add five spaces to the JTDs for the 41st NORAD Division and for the 36th NORAD Division.

(u) ~~(S)~~ NORAD informed Canadian Forces Headquarters of the JCS approval.⁴⁰ The CF Headquarters replied on 30 October that a delay was regretted and the subject was under study. NORAD would be advised as soon as possible on the outcome.⁴¹

(u) ~~(S)~~ In the meantime, however, on 29 October, NNR recommended raising the rank of the U.S. authorized positions at the two Canadian BUIC III sites from two officers and three NCOs to five officers. NNR said the NORAD-recommended rank was inappropriate for the functions and inconsistent with established policy.⁴² Because of the requirement for these personnel to be responsible around the clock for nuclear weapons release and custodial duties, NNR said, all five positions should be officer rank. NNR also proposed distributing the ten CF personnel proposed to go to two U.S. BUIC III sites to seven sites located along the border.

(u) ~~(S)~~ NORAD concurred with the first recommendation of NNR to make all U.S. spaces officers (two captains and three lieutenants at each site) in a message to CANFORCEHED and NNR on 29 November 1968.⁴³ NORAD pointed out that the change would be possible only if CF Headquarters concurred in this and was able to supply CF personnel in like grades and numbers for co-manning at the two U.S. sites. NORAD did not concur with NNR's second proposal, stating that further co-manning was not necessary at this time.

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SECTION III - OPERATIONAL PROCEDURES

ADOPTION OF LEVELS IN PLACE OF MODES OF OPERATION

(U) Use of the term "mode" to describe conditions of normal or degraded operations under the SAGE system began in the earliest plans for SAGE. USAF ADC plans and papers in 1955 made an early effort to describe modes of operation or employment and a March 1956 CONAD operations plan described four modes of operation under SAGE (I or normal through IV autonomous). The term, later refined and standardized, continued to be used over the years to 1968.

(U) In January 1968, NORAD advised its regions and component commands that it had decided to replace the term with "levels" of operation so as to provide a clearer picture of the status of command and control facilities.⁴⁴ NORAD explained that reporting of levels would provide more complete information than reporting modes and would allow for a quick-look means of determining status of facilities at the COC level. Levels of operation were to be applicable to all NORAD echelons. Partial implementation was directed for reporting from region combat centers to the NORAD COC on 1 March 1968 and full implementation for all echelons on 1 July 1968.⁴⁵

(U) Levels 1 through 5 replaced the old Modes I through IV, except in Alaska where Levels A through E were to be used. The latter was required because of differences between the configuration in Alaska and the other regions. The new levels were included in appropriate publications or revisions thereto, such as Change 5 to NORAD Operation Order 300N-67 (ADNAC), 19 August 1968; and Change 6 to NORADM 55-1, NORAD Combat Surveillance and Tactical Action Reporting Procedures, 1 July 1968.

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(U) The levels for NORAD, except the Alaskan Region, were as follows:

Level 1. DC is operational and there is no degradation in the backup system.

Level 2. DC is operational and there is some degree of degradation in the backup system for the DC concerned.

Level 3. DC is operational and there is no backup available.

Level 4. DC is inoperative and the backup facilities are in control of the division.

Level 5. The Division is under autonomous operation.

For the Alaskan Region, they were as follows:

Level A. The primary NCC is operational and the backup NCC is operational.

Level B. The primary NCC is operational and the backup NCC is nonoperational.

Level C. The primary NCC is nonoperational and the backup NCC is exercising control of the area.

Level D. The primary NCC is exercising control of the area manually.

Level E. The primary NCC and the backup NCC are both nonoperational and unable to exercise control of the area.

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CHAPTER VII
COMMUNICATIONS

~~SPECIAL HANDLING REQUIRED
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~The information contained in this document will not be
disclosed to Foreign Nationals or their representatives.~~

~~EXCLUDED FROM AUTOMATIC REGRADING;
DOD DIR 5200.10 DOES NOT APPLY~~

~~Group 1~~

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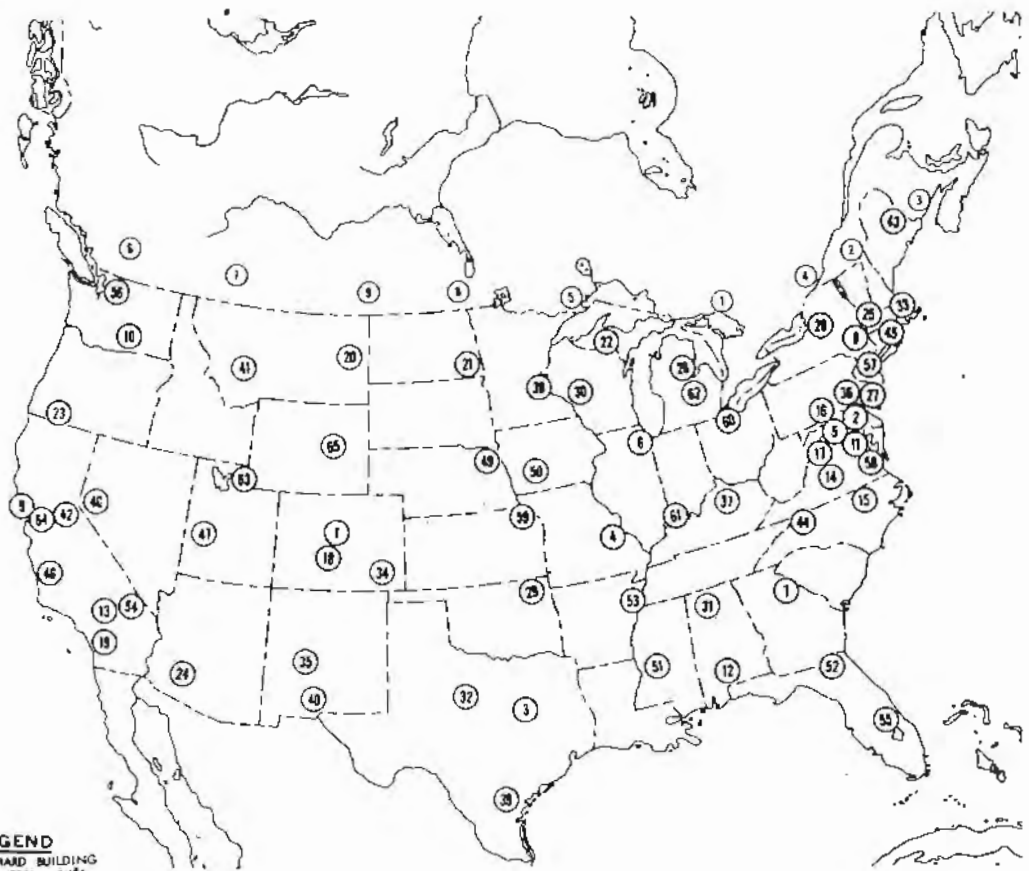


AUTOMATIC SWITCHED VOICE NETWORK (AUTOVON)

(U) Background and Status. In 1960, NORAD, ADC and commercial communications companies developed a concept for an automatic dial telephone switching network. The first phase, nine switching centers to serve NORAD regions, was approved in July 1961. On 4 May 1963, DOD approved the combining of the four Army SCAN centers with five of the NORAD first phase centers to form the initial CONUS AUTOVON system being developed by the Defense Communications Agency. A world-wide AUTOVON system was being set up by the latter agency as the single long-haul system for all elements of the DOD. Integration of the SCAN-NORAD/ADC centers was on a phased basis with two centers integrated first and then tested. The first integration was on 1 November 1963 and a test held in December of the Hillsboro, Missouri, and Monrovia, Maryland, switches. Combining of the SCAN-NORAD/ADC networks was completed on 2 April 1964, forming the initial CONUS AUTOVON. One additional center was added at Faulkner, Maryland, for a total of ten by the end of 1964.

(U) As currently planned, the AUTOVON network was to consist of 65 CONUS, nine Canadian, and 24 overseas switching centers. By the end of 1967, the CONUS network had been expanded from the original ten centers to 36. Ten additional centers were added during 1968 to bring the CONUS total to 46. The CONUS program was scheduled to be completed in 1972. Eight of the ten switches activated in 1968 were delayed from their original dates. Two switches were added in January. Four more were to be added on 28 April but were delayed to 16 June because of the telephone workers strike.² Later, the other four switches were delayed from 4 August to 29 September.³

(U) The first three of the nine Canadian automatic switching centers were activated on 4 August 1968.⁴ One additional switch was activated in November. This made a combined Canadian-U.S. total of 50 switches. The other five Canadian switches were set for operation in 1969.



LEGEND

* HARD BUILDING
INTERIM SWPS

LOC NO	OFFICE
1	COLORADO SPRINGS, COLO
2	FAULKNER, MD
3	ENNIS, TEXAS
4	HILLSBORO, MO
* 5	MONROVIA, MD
6	NORWAY, ILL
7	ROCKDALE, GA
8	ROSWDALE, NY
9	SANTA ROSA, CALIF
10	YAKIMA, WASH
# 11	ARLINGTON (PENT.), VA
# 12	BREWTON, ALA
* 13	MOJAVE, CALIF
* 14	CHARLOTTESVILLE, VA
* 15	CHATHAM, NC
* 16	HAGERSTOWN, MD
* 17	LEESBURG, VA
* 18	CHEYENNE MTN COMPLEX (PBX)
# 19	JULIAN, CALIF
# 20	BILLINGS, MONT
# 21	FARGO, ND
# 22	IRON MTN, MICH
23	MEDFORD, ORE
24	APACHE, ARIZ
* 25	CHESTERFIELD, MASS
26	ROSCOMMON, MICH
27	CEDARBROOK, NJ
# 28	TULLY, N.Y.
29	MOUNDS, OKLA
30	STEVENS PT, WIS
31	JASPER, ALA
32	SWEETWATER, TEX
* 33	LITTLETON, MASS
* 34	LAMAR, COLO
* 35	SOCORRO, NM
* 36	POTTSTOWN, PA

1968	
* 37	WILLIAMSTOWN, KY
38	WYOMING, MINN
39	SEGUIN, TEX
40	FAIRCRES, NM
41	EAST HELENA, MONT
42	LODI, CALIF
43	DOVER-FOXGROFT, ME
* 44	STANFIELD, NC
* 45	CHESHIRE, CONN
* 46	SAN LUIS OBISPO, CALIF

TOTAL: 46

1969	
47	DELTA, UTAH (MAR)
48	TOPAZ LAKE, NEV (MAR)
* 49	LYONS, NEBR (OCT)
* 50	BOONE, IOWA (MAR)
51	PICKEN, MISS (MAR)
* 52	ELLISVILLE, FLA (MAR)
53	MEMPHIS JCT, ARK (MAR)
54	TURQUOISE JCT, CALIF (MAR)
55	POLK CITY, FLA (MAR)
56	NORTH BEND, WASH (OCT)
* 57	NETCONG, NJ (OCT)
* 58	MOSELEY, VA (OCT)
59	FAIRVIEW, KAN (OCT)
60	TOLEDO JCT, OHIO (OCT)

TOTAL: 60

1970	
61	TERRE HAUTE, IND
62	PARMA, MICH (JAN)

TOTAL: 62

1972	
* 63	HYRUM, UTAH (UNSCHE)
* 64	DUNNINGAN, CALIF (UNSCHE)
* 65	PLATIE, WYO (UNSCHE)

TOTAL CONUS SWITCHES: 65

CANADIAN SWITCHES

1968	
2	SHERBROOKE, QUEBEC
3	FREDERICTON, NEW BRUNSWICK
4	SMITH FALLS, ONTARIO
5	FORT WILLIAM, ONTARIO

1969	
1	SUDBURY, ONTARIO (APR / OCT)
4	HANLEY, BRITISH COLUMBIA (JAN / MAR)
7	LETHBRIDGE, ALBERTA (JUL / OCT)
8	PORTAGE, MANITOBA (JUL / OCT)
9	REGINA, SASKATCHEWAN (JUL / OCT)

TOTAL CANADIAN SWITCHES: 9

*** HARD BUILDING**

11	DRANESVILLE, VA (HARD) REPLACES ARLINGTON, 1969 (OCT)
20	GLENDIVE JCT, MONT (SOFT) REPLACES BILLINGS, 1970
21	WHEATLAND, ND (SOFT) REPLACES FARGO, 1970



(u) ~~(S)~~ Autovon Analysis/Test Plan. In 1966, the JCS directed DCS, in conjunction with NORAD, to prepare an analysis/test of AUTOVON performance after integration of SAGE/BUIC subscribers. The JCS had validated for NORAD 52 unrestricted, world-wide and 3,887 NORAD/SAGE/BUIC Flash precedence capabilities. The JCS expressed concern that NORAD Flash subscribers, because they represented a major portion of all AUTOVON Flash subscribers, could limit access to AUTOVON non-NORAD users. The objectives of the analysis/test were to evaluate the various limitations imposed on certain NORAD access lines in light of the NORAD mission, evaluate the Flash and Immediate service provided to NORAD, determine whether additional measures were necessary to improve or supplement service to AUTOVON Flash and Immediate users, and resubmit location-by-location requirements for Flash precedence capability on AUTOVON access lines.⁵

(u) ~~(S)~~ The analysis/test was held in October 1966 combined with Exercise High Heels/Desk Top VIII. All traffic data were furnished DCA, Washington, for evaluation. The analysis was received by NORAD in mid-September 1967. The JCS directed NORAD to evaluate the analysis and provide comments. The NORAD report on the AUTOVON Analysis/Test was sent to the JCS on 15 March 1968.

(u) ~~(S)~~ In its report, NORAD included a detailed discussion of the analysis/test objectives.⁶ The first objective concerned limitations on NORAD access lines, such as a limit on the destination switches open to NORAD subscribers. NORAD said it concurred in this limitation. There were very few occasions when a requirement existed to transact official business between a NORAD and a non-NORAD community of interest. But within a geographically-large community of interest, such as NORAD, additional controls could be made to the benefit of that community. Such controls, NORAD said, should have a geographic basis, dictated possibly by Region boundaries.

(u) ~~(S)~~ The second objective was to evaluate the Flash and Immediate service to NORAD. NORAD said that

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bearing in mind that AUTOVON did not guarantee a business-as-usual capability under nuclear attack and that the completion rates of NORAD-originated messages in the voice and special grade networks were in excess of 55.7 and 90.8 per cent, respectively, the service provided was regarded as adequate to support NORAD mission-essential activities under the conditions stipulated by the analysis/test.

(U) ~~(S)~~ The third objective was to determine whether additional measures were necessary to improve service. NORAD referred to its previous suggestion that within a geographically-large community of interest, control should be instituted on an area basis. The final objective was to resubmit location requirements for Flash precedence capability. NORAD felt that this was not required, at least at the present time. NORAD said its analysis, supported by the DCA report, showed that NORAD's use of AUTOVON did not adversely affect other users. NORAD said that undoubtedly cuts could be made in the number of Flash precedences, but there was no evidence that these reductions would have a perceptible impact outside the SAGE/BUIC community of interest.

(U) ~~(S)~~ Among the conclusions stated in the NORAD report was that NORAD use of Flash precedence did not adversely affect non-NORAD users of AUTOVON.⁷ It was also concluded that the limitations imposed on NORAD by the JCS had been effective without detracting from NORAD's ability to carry out its mission, there was merit in implementing "area controls" within a geographically-large community of interest, and concurrent use of AUTOVON did not contribute to the message failure rate of non-NORAD users.

(U) ~~(S)~~ The JCS reply dated 27 May 1968 recommended that a detailed study of access line survivability be made by DCA, AUTOVON user commands review and evaluate service and requirements for AUTOVON use and report problems or major changes in requirements to the JCS, and future analysis/tests of AUTOVON be limited to analysis of recurring data or to specific areas

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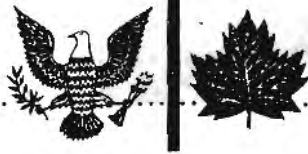


within the AUTOVON system.⁸ As a follow-on to the analysis/test, NORAD was taking action to reduce use of Flash precedence, with the objective of reducing self-imposed competition within its own community of interest.⁹

VLF/LF MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NET
(487L)

(u) ~~(S)~~ The JCS-approved plan for the Minimum Essential Emergency Communications Net (MEECN) was contained in a memo dated 7 October 1966. Five nets were established by the JCS for the MEECN. NORAD was assigned to MEECN Bravo Two (CINCSAC Net) and would guard SAC Headquarters transmitter frequency (Silver Creek, Nebraska) with alternate 15th Air Force transmitter (Hawes, California) and second alternate transmitter on board the National Emergency Airborne Command Post (NEACP). As established at that time, NORAD was to have receive-only facilities at eight locations equipped with 487L AN/FRR-75 receivers. These were to be located at the NORAD COC; the region combat centers at WNR, NNR, CNR, ENR and SNR; the Alaskan Region alternate combat center (Murphy Dome); and Johnston Island. To implement the program, USAF tasked ESD to provide NORAD's receivers. NORAD designated ADC as the action agency for coordinating the installation of the receivers.

(u) ~~(S)~~ Three of the NORAD locations were dropped, however, In June 1968, NORAD decided that a receive terminal at Johnston Island was unnecessary and the JCS were advised that the requirement was withdrawn.¹⁰ The JCS approved the deletion on 1 November 1968.¹¹ In early July, the JCS informed NORAD that the requirement for receivers at Canadian sites had been deleted and so all planning action on the NNR receiver was cancelled.¹² Finally, elimination of the Southern NORAD Region removed the requirement for a receiver at that location. As a result of these actions, the total planned for installation was reduced to five receivers (COC, CNR, ENR, WNR and ANR ALCOP).¹³ A JCS paper in December confirmed the changes.¹⁴



(U) ~~(S)~~ An initial target date of February 1969 was set for completion of all NORAD installations. The final site survey for the NCOC was held in February 1968. Original planning called for the antenna location on top of the mountain but a location within the tunnel was also being investigated. Due to complications introduced by antenna location uncertainties at the NCOC and the possible decommissioning of CNR, the original operational target date was deferred to October 1969.

TELEVISION LINK BETWEEN NORAD CMC AND ENT AFB

(U) ~~(S)~~ In February 1965, NORAD submitted a requirement to the JCS for a secure intersite television link for the exchange of intelligence and other information. The Secretary of Defense deferred a decision on the requirement until NSA gave technical approval for the use of microwave links for the transmission of intelligence and SSO traffic and until the NORAD requirement was revalidated. NORAD's DCS/Intelligence prepared a requirements study revalidating the requirement and this was submitted to the JCS with a letter signed by CINCNORAD on 8 February 1967. CINCNORAD's letter pointed out that he had to be kept up to date on all available intelligence regardless of security level. The TV link, he said, would give him the intelligence on which to base decisions in the shortest possible time.

(U) ~~(S)~~ In the accompanying requirements study, it was explained that the NCMC and Ent AFB were twelve miles apart. The concept of operations required that Intelligence support requirements of CINCNORAD and staff and the component commanders at either or both places. The TV link would make it possible to provide information immediately to either site, eliminate the need for continuous travel between sites, and minimize the facilities and personnel needed.

(U) ~~(S)~~ Again in June 1967, OSD deferred a decision until an engineering plan and cost effectiveness analysis could be made and considered. The plan and cost

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effectiveness analysis for the system was submitted to DOD in October 1967. In a memorandum dated 22 January 1968 to the Secretary of the Air Force, the Secretary of Defense approved the NCMC-Ent AFB TV link on a field test basis.¹⁵ The Air Force was tasked to implement the system with funding to be accomplished within resources currently available to the Air Force. In a message to ADC on 20 February 1968, USAF stated that because of a shortage of FY 1968 RDT&E funds, this program could be supported only if ADC could identify a source of funding from within ADC.¹⁶ USAF recommended that if funds could not be found, that FY 1970 funding be programmed and start of the project be deferred until approval of the FY 1970 program.

(u) ~~(S)~~ ADC answered that it knew of no available funds not already identified with other priority programs.¹⁷ ADC said that it had referred the requirement to NORAD.

(u) ~~(S)~~ In a letter on 20 August 1968, the Air Force informed NORAD's DCS/Intelligence that it was programming FY 1970 funds for the project.¹⁸ NORAD sent a message on 27 August to the Air Force, JCS, and DCA, pointing out that such a delay would result in a rise in costs far beyond a normal annual increase and requesting that FY 1969 funding be made available.¹⁹

(u) ~~(S)~~ Immediate funding action remained uncertain, however. Funds were included at one time in the Consolidated Intelligence Program (CIP) and then later divided among several other programs with some funds left in the CIP for the monitors, cameras and consoles.²⁰ In October 1968, the USAF cognizant office stated informally to NORAD that it would be May 1969 before any real action would be taken to get adequate funding.²¹

NORAD ATTACK WARNING SYSTEM (NAWS)

(u) ~~(S)~~ By March 1966, AT&T had installed equipment at 61 locations, the total programmed for initial NAWS configuration. The final NAWS configuration was to

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include locations in the Alaskan and Northern Regions. Following successful testing, NORAD accepted the initial NAWS on 22 April 1966.

(U) ~~(S)~~ NORAD planned to provide NNR and ANR with the NAWS capability by July 1967 to complete the system. However, because of communication lead times and financial staffing at CANFORCED, the target date for NNR slipped. The equipment was installed in NNR during October 1967. On 1 November 1967, NNR, 36th Division, Loring AFB, and Dow AFB were added to the NAWS. The circuits were tested prior to final acceptance. The NAWS equipment at NNR became operational on 3 December 1967.

(U) In the meantime, the target date for ANR also slipped. Equipment was delivered during late October 1967 and installation began in December. The region terminal equipment became operational on 18 March 1968.²² The 37th FIS terminal equipment became operational in April 1968. The installation of the Eielson terminal equipment was delayed, however, due to a missing relay which arrived in April. The Eielson terminal finally became operational on 30 August 1968, completing the current Alaskan program.²³

(U) ANR requested, however, NAWS coverage for the Galena and King Salmon combat alert centers.²⁴ NORAD approved the requirement and programming and installation action was taken by AAC. Funding was approved for installation of equipment at these sites under an add-on to the FY 1969 White Alice program.²⁵ Operation was set for June-July 1969.

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2. NELC (NECO-S) Historical Report, May-June 1968.
3. NELC Weekly Summary of Staff Activity, 30 June 1968.
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5. NORAD to JCS, "NORAD Report - AUTOVON Analysis/ Test (U)," 15 March 1968 (57).
6. Ibid.
7. Ibid.
8. As in Note 2.
9. As in Note 2.
10. As in note 2.
11. NORAD to 1957th Comm Gp, "487L MEECN (U)," 29 November 1968 (57).
12. As in Note 2.
13. As in Note 2; NORAD to Rgns, "487L Minimum Essential Emergency Communications Net (U)," 6 August 1968 (57).
14. NELC (NECO-S) Historical Report, November-December 1968.
15. NECO-F, M/R, "NORAD NCMC-Ent AFB TV Link (U)," 23 February 1968 (57).
16. Msg, CSAF to ADC, AFOCC, 20 February 1968 (51X57)
17. Msg, ADC to CSAF, ADOAC-CE, 29 February 1968 (51X57).

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18. NINT Historical Report, July-August 1968.
19. Msg, NORAD to CSAF, NICA, 27 August 1968 (51X57).
20. NINT Historical Report, September-October 1968.
21. Ibid.
22. NELC Historical Report, March-April 1968.
23. Ibid., July-August 1968.
24. Ibid., September-October 1968.
25. Ibid., November-December 1968.

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CHAPTER VIII

NUCLEAR DETONATION DETECTION AND B / C REPORTING SYSTEMS

SECTION I - NBC WARNING AND REPORTING SYSTEM

NORAD STUDY OF AUTOMATING NBC REPORTING

(u) ~~(S)~~ Background. The NORAD Nuclear Biological Chemical (NBC) Warning and Reporting System went into operation on 1 January 1966. This system was made by combining two separate manually-operated systems which had been set up originally on an interim basis awaiting the development of automated systems. The follow-on automated systems were hampered by cost and technological problems and it seemed that any operational use of such systems, as then planned, was a number of years away.

(U) The mission of the NBC Warning and Reporting System was to detect, identify, and report all nuclear detonations (except tests) and the enemy use of biological/chemical weapons and the resulting contamination in or adjacent to the CONUS, Alaska, the DEW Line and its extensions. (Reports from Canada were made through NBCWRS interface with Canada's National Survival Attack Warning System. For details of this arrangement, see CONAD Historical Summary, 1967, pp. 124-126). Detection and warning teams were to report data on NBC activity to reporting stations. Reports were to be relayed through NORAD divisions and regions to the NORAD COC where they would be evaluated and, if appropriate, warning would be sent to the JCS and other headquarters.

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(u) ~~(S)~~ Concerned about its responsibilities for reporting this information to the JCS, NORAD recommended that the JCS approve a concept for the automatic telling of NBC attack data from the NORAD COC to the National Military Command Center (NMCC) and its alternate (ANMCC). NORAD asked that it be appointed to make a study to determine the best way for automated reporting. NORAD felt that automatic telling would make NBC data more timely, accurate, and meaningful. In addition, NORAD submitted, for approval, formats for reporting NBC data (2T reports) and recommended that JCS Pub. No. 6 be changed to require reporting appropriate portions of these reports to the NMCC/ANMCC. Currently, NORAD sent nuclear detonation reports by teletype and voice to the national command centers but biological and chemical attack data were not reported because the JCS had not stated a need for such data.

(u) ~~(S)~~ On 11 September 1967, the JCS directed NORAD to make a study as had been outlined. And because the findings of this study could have an impact on the world-wide reporting system (the Joint Operational Reporting System), the JCS told unified and specified commanders to respond to the study as requested by NORAD.

(U) Study Recommendations. NORAD held a conference of all concerned on 16-19 January 1968* Based on considerations brought out at this conference, NORAD made a study titled, "A Study on the Most Feasible Means for Automatic Telling of Nuclear, Biological, Chemical Information to the National Military Command

* (U) The following were represented at this conference: JCS, CSA, CNO, CSAF, CMC, CINCAL, CINCLANT, CINCEUR, CINCSTRIKE, CINCSAC, OCD, OEP, Canadian NSAWS, DCA, and NORAD.

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System," dated 10 May 1968. This study recommended testing of a system which had the following essential elements:¹

1. Adoption of a target catalogue which would list and assign numerical identifiers to possible nuclear weapons targets on the North American continent. This catalogue would be used by all contributors and users of the reporting system.

2. Adoption of a simplified NUDET reporting format which would use data point catalogue numbers to identify specific data points. The simplified reporting format would provide a data point identifier, locations in latitude/longitude, and date/time of the detonation.

3. Revision of the NORAD Combat Operations System computer data base to permit increased automatic correlation of NUDETS.

4. Installation on a test basis in Western NORAD Region of data phone and associated data processing (called data-phone) equipment for more rapid and accurate reporting of NUDETS.

(u) (S) NORAD sent this study to the JCS on 17 May 1968 and asked for approval of the recommendations noted above. NORAD said if approval came before the end of May, the proposed improvements could be tested during Exercise High Heels 68 (scheduled for 17-25 October 1968). In addition, NORAD proposed the installation of an improved voice circuit for forwarding data to the NMCS and other users.² The JCS answered in a message of 6 June 1968 approving the recommendations in principle and directing that a test be made of the data-phone system. Also, the JCS directed that a test be made for improving voice reporting of nuclear detonations. NORAD was to analyze and evaluate the tests and inform the JCS of the results.³

(u) (S) In this message of 6 June, the JCS requested the Defense Communications Agency (DCA) to work with CINCNORAD in providing resources and conducting testing.

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On 24 June 1968, NORAD asked DCA to provide the money for renting and installing the data phones and IBM data processing equipment. NORAD said the test would be held in the Western NORAD Region and asked that the equipment be installed by 23 August to allow for check-out before the play of Exercise High Heels.⁴

(u) ~~(S)~~ DCA answered on 15 July that it believed NORAD component commands and/or associated military services should provide the money for testing in support of the NORAD mission. However, DCA said it would arrange for getting and installing the equipment if NORAD, in turn, would arrange for repayment of DCA.⁵

(u) ~~(S)~~ Repayment was arranged through ADC, but in August, NORAD was advised by IBM that equipment could not be delivered to the Western Region until 1 November. As a result, plans for testing the data-phone system during High Heels 68 were dropped.⁶

(U) On 16 December, NORAD published Operations Plan 306N-68, "Test of Data Phone for NUDET Reporting." According to this plan, tests would be made and final results were to be sent to the JCS in March 1969. A decision was then to be made on whether to install a continent-wide automatic system.⁷

(u) ~~(S)~~ NBC Reporting Procedures Revised. NORAD informed all concerned on 10 September 1968 that, based on the NORAD study of 10 May, it was revising the NBC Warning and Reporting System to improve NUDET reporting. NORAD felt that certain changes were needed to overcome the delays in gathering and correlating data. These changes, made effective at region level and above on 15 September and below region level by 30 November 1968, called for reporting by target numbers, by latitude/longitude, and data simplification. Also, a program change to data processing equipment in the NCOC was made to handle the increased traffic expected from the elimination of data correlation at NORAD divisions and regions.⁸

(u) ~~(S)~~ Voice Conference Test. NORAD planned to test the new reporting procedures in conjunction with the

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JCS-directed test during High Heels 68 for improved voice reporting of NUDETS. For this latter test, the JCS approved on 15 July a NORAD proposal for a voice network using AUTOVON connections with a conference bridge capability. ADC was to have this network for linking the NCOC with the NMCC and various other military and civilian command centers available by 15 October 1968.⁹

(u) ~~(S)~~ On 17 September, NORAD informed the JCS and all concerned of procedures that would be used on the conference bridge arrangement.¹⁰ However, a NORAD evaluation of this method of reporting during High Heels 68 showed that it was not a significant improvement over the existing method. The reasons given for this conclusion were that equipment and procedures had not been set up in time for the users to become familiar with them and that the NCOC had little control on the conference bridge. The problem was to be examined further by NORAD.¹¹

NUCLEAR FALLOUT WARNING

(u) ~~(S)~~ On 30 December 1967, the JCS told NORAD that the NMCS required timely information on probable areas of radioactive contamination. The JCS asked NORAD to include in its study for automating NBC reporting, plans and procedures for predicting and reporting radio-active fallout in the CONUS, including offshore, to the command centers of the NMCS.

(u) ~~(S)~~ Additional requirements for fallout warning were sent by the JCS in a paper of 10 April 1968. The JCS directed CINCNORAD, in collaboration with the Office of Civil Defense (OCD), to submit recommendations to the JCS on a system for reporting fallout predictions, expected radiation levels at preselected points, and actual radiation intensities.¹²

(u) ~~(S)~~ On 8 July, NORAD sent the JCS the following recommendations:¹³

1. The NMCS make direct fallout predictions and forecast expected radiation levels using reports of



nuclear detonations provided by NORAD, other unified/
specified commands, and civilian agencies.

2. Fallout warning requirements for off-
shore CONUS be provided within the existing OCD and
U.S. Coast Guard Agreements.

3. NORAD, in coordination with OCD, provide
monitored radiation levels for point locations to the
NMCS.

4. USAF and OCD provide reports from aerial
and ground observations to NORAD citing crater pre-
sence resulting from nuclear detonations.

5. The JCS issue appropriate directives or
requests to the appropriate military and civilian
agencies to implement these recommendations.

(U) NORAD's recommendations were approved by the
JCS on 14 August 1968.¹⁴



SECTION II - BOMB ALARM SYSTEM (MODIFIED INTERIM)

BACKGROUND

(U) The Bomb Alarm System became operational on 1 September 1962 with sensors at 100 sites: 98 in the CONUS, one at Thule BMEWS Site, and one at Clear BMEWS Site. The system was designed to automatically report nuclear detonations to the NCOG and other key military and civilian agencies.

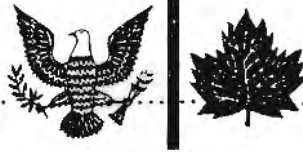
(u) ~~(S)~~ Planning got underway in 1965 to revise the system so it would serve the National Military Command System as an attack assessment system. In 1966, some thought was given to expanding the system to design capacity (120 sites) but this idea was dropped. NORAD felt that 100 sites were enough to give a representative sampling for attack assessment and recommended against expansion. Also, there were 34 sites at military bases which were either closing or had lost some importance as targets.* Instead of expanding the system, it was decided to select replacements for these 34 outdated sites. The new list included four sites in Canada. And while the system was primarily to serve as an attack assessment means, it was to continue serving NORAD as an automatic way of detecting nuclear detonations.

(u) ~~(S)~~ The Secretary of Defense approved a USAF request on 9 November 1966 to reconfigure and improve the Bomb Alarm System to give it an attack assessment capability. This decision approved relocating 34 of the 100 sites, improving the NMCS display system, and improving the sensitivity of the sensors.

(u) ~~(S)~~ In a letter of 10 March 1967 to USAF, NORAD concurred with a Western Union proposal for revising

* (U) Of these 34 sites, 33 were still in operation.

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the system. However, NORAD said the following conditions had to be met:

1. The modified sensors were to detect nuclear detonations with yields between two kilotons (400 KT was the lower detection limit of current sensors) and fifty megatons at all altitudes up to 20,000 feet.

2. Canadian concurrence was required for the inclusion of four sites (Montreal, North Bay, Ottawa, and Toronto) in Canada.

3. The name of the modified system was to be changed to show that it was a nuclear attack assessment system.

(U) ~~(S)~~ The name of the system was changed on 1 July 1967 to Bomb Alarm System 210A (Modified Interim). After the system was revised, it was to be renamed the Attack Assessment/Bomb Alarm System.

(U) ~~(S)~~ Modified sensors were tested in Florida and Oklahoma where there was intense thunderstorm and lightning activity. Although some officials felt that lightning would trigger a sensor set to detect low-yield nuclear detonations, testing showed that it had little effect on the sensor. Both NORAD and ADC were satisfied with the overall performance of the sensor.

(U) ~~(S)~~ On 15 December 1967, NORAD informed the JCS that discussions with the agencies concerned showed that no one was sure what effect electromagnetic pulse (EMP), caused by high-yield nuclear detonations, would have on the system. NORAD said that total reliance should not be put on the system to provide attack assessment because it might not survive the first minutes of a mass nuclear attack.

SYSTEM RECONFIGURATION STATUS

(U) The contract for reconfiguring and enhancing the system was signed with Western Union in February 1968. The contract called for the work to be completed

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in August 1969.¹⁵ Site surveys and design and engineering of equipment required much of the rest of 1968 to complete.¹⁶ Western Union's implementation plan called for revising the system as follows:¹⁷

PHASE I - modifications at Display and Master Control Centers to allow adding new target areas and deleting outdated areas in a minimum of down time.

PHASE II - installation of equipment at sensor sites, Signal Generating Stations, and Master Control Centers, and activation of 34 new target areas.

PHASE III - addition of the attack assessment function.

PHASE IV - final circuit routing and power-proofing (emergency power) of the system.

(U) During the redesign work, expansion of the system to its design capacity was brought up again. On 26 April 1968, Western Union asked NORAD to consider expanding the system to its 120-site capability. The reasons for recommending this action were that it would be more efficient and cheaper by doing the work now rather than later.¹⁸ On 6 May, NORAD told the JCS of the proposal, saying it believed the present target list was adequate for attack assessment and there was no need for expansion at this time. NORAD asked the JCS for their views on the matter.¹⁹ The JCS answered on 9 May and agreed with the NORAD position.²⁰

(u) ~~(S)~~ To meet one of the conditions that NORAD had noted in its letter of 10 March 1967, mentioned above, USAF tried to get Canadian concurrence for including the four sites in Canada in the revised system. On 28 October 1968, Brigadier General W. J. Grant, of the Canadian Defence Liaison Staff in Washington, informed USAF that Canada agreed in principle with the installation of the system at Montreal, Toronto, Ottawa, and North Bay. But because of other budget commitments, Canada would have no money to spend on the system until at least FY 1969/1970. General Grant said that further

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word on the matter was expected after April 1969. As a result, USAF said no action would be taken to include these sites in the program until funding arrangements were made.²¹

(U) (S) A change in SAC requirements was expected to have an impact on several site locations. On 20 November 1968, SAC asked ADC to program sensor sites for six bases where SAC was to remain operational. These bases were Vandenberg, Davis-Monthan, Malmstrom, Warren, McConnell, and Whiteman. Conversely, SAC said it had been directed to withdraw its forces from six other bases where sensor sites would not be needed afterwards.²² On 26 December, NORAD asked the JCS for a decision on the matter. NORAD recommended that the bases where SAC was to remain operational should be included in the revised system and the bases where SAC was leaving should be dropped.²³

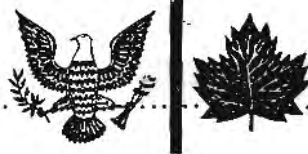
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CHAPTER IX

NORAD / CONAD MISSION,
ORGANIZATION AND MANNING ACTIVITIES

SECTION I - MISSION ACTIVITIES

RENEWAL OF THE U.S.-CANADIAN NORAD AGREEMENT

(u) ~~(S)~~ CINCNORAD/CINCONAD Views. Formal negotiations began on 6 September 1967 for renewal of the NORAD Agreement. The initial agreement, concluded on 12 May 1958, provided that NORAD would be maintained for ten years or such shorter period as agreed by both countries. A new agreement or renewal of the 1958 agreement was necessary, therefore, to continue NORAD in existence. CINCNORAD's views on the future of NORAD had been sought by the military chiefs of both countries and CINCONAD's views had also been requested under two alternatives: CINCNORAD to have the air defense mission or to have the aerospace defense mission. CINCNORAD submitted his views on 23 December 1966; see following subsection on CINCNORAD's recommended changes to his terms of reference.

(u) ~~(S)~~ CINCONAD submitted his views on 23 January 1967. He strongly opposed any separation of missions, that is, giving NORAD only the air defense mission. He stated that "air and missile defenses must be directed by a single individual, and this individual, in order to achieve optimum effectiveness, should be CINCNORAD." CINCONAD pointed out the problems, confusion, loss of effectiveness, and violation of basic strategic principles that would result if NORAD were limited to air defense. CINCONAD stressed also that the primacy of NORAD should be assured and that CONAD should be used only when necessary.

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(U) ~~(S)~~ In December 1967, the JCS asked CONAD's comments on the U.S. draft presented on 6 September and the Canadian proposal in response. The Canadian note stated the willingness of the Canadian Government to open negotiations for renewal of the NORAD Agreement in substantially its same form. The Canadian note also specified that renewal of the agreement would in no way commit the Canadian Government to participate in ABM defense. CONAD replied to the JCS that its position as covered in the 23 January letter remained the ultimate objective. CONAD went on to say, however, that it was apparent that the environment was not conducive to inclusion of the provisions of this letter in the negotiations at this time. Therefore, CONAD concurred with the renewal as presented.

(U) Exchange of Notes. Through an exchange of notes on 30 March 1968, the two Governments agreed to continue the agreement for a period of five years effective 12 May 1968.¹ It was agreed that a review of the agreement could be undertaken at any time by request of either party and it could be terminated by either after such review following a period of notice of one year. Another matter of importance was the fact that it was agreed that renewal did not involve in any way a Canadian commitment to participate in an active ballistic missile defense.

(U) Revised terms of reference would now be necessary and work was started on this task. The JCS requested CINCNORAD's views on revising and updating the Terms of Reference.²

CINCNORAD's RECOMMENDED CHANGES TO HIS TERMS OF REFERENCE

(U) ~~(S)~~ On 24 July 1968, CINCNORAD sent his recommended changes to the NORAD Terms of Reference to the Chairman of the JCS and the Chief of the Defence Staff.³ The submission was similar to that provided on 23 December 1966 to the JCS and CDS in response to a request for CINCNORAD's views on his future mission and requirements to fulfill his mission (see above).

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(u) ~~(S)~~ As in December 1966, CINCNORAD's views were submitted in two parts. The first part was termed rationale for change and the second provided recommended changes to the terms of reference paragraph by paragraph with the reason for each change. The first part, "CINCNORAD's Views on the Mission of NORAD," covered four areas that were the same areas on which CINCNORAD had been asked to comment in 1966. The four areas were as follows:⁴

1. The Adequacy of the Principles Upon which the Command was formed in Terms of Current and Future Needs.

In his comments, CINCNORAD reviewed the changes that had taken place in the threat since NORAD's establishment. He pointed out that it was evident that the speed and destructiveness of offensive weapons made the need for defense in depth more necessary than ever before and there was an increased requirement to engage the enemy far from population centers. Such damage limiting measures, CINCNORAD said, could best be accomplished by a centralized command able to react instantly and authoritatively. CINCNORAD concluded that the principles in the NORAD Agreement provided a sound foundation for what he termed a necessary and effective alliance.

2. The Applicability of the Commander's Terms of Reference in Terms of Current and Future Needs.

CINCNORAD said that his terms were not accurate for either current or future needs and required updating. He recommended two major changes requiring approval, he said, of authority higher than the JCS or CDS. CINCNORAD recommended first that his mission be changed from defending against air attack to aerospace defense of the continental U.S., Alaska, and Canada. The second major change recommended was to authorize communication between CINCNORAD and the chiefs of the services, either directly or through their components, on single service matters, rather than only through the components as currently authorized.

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3. The Need for Adjustments to the Current Organizational and Command Arrangements.

CINCNORAD said that the NORAD Agreement and the Terms of Reference were clear as to command arrangements and these arrangements were satisfactory. He pointed out a need, however, for a means for more complete and timely consultation between governments on major changes to the NORAD structure.

4. The Interrelationship of Defensive Systems Deployed Against Manned Bombers and Ballistic Missiles.

CINCNORAD emphasized as strongly as possible the importance and need for a single command directing an integrated defense. There was no sharp line dividing missile and air defense:

They overlap, support, and can even interfere with one another unless they are closely controlled by a single command. Any more detailed analysis would uncover a myriad of problems and weaknesses resulting from separation of the two types of defenses. The familiar military principles of simplicity, unity of command, and conservation of resources appear particularly applicable. It is essential for a continental aerospace defense force to operate under a single commander.

(u) ~~(S)~~ In the second part of his submission, CINCNORAD recommended specific paragraph by paragraph changes to the terms of reference, some major, some minor, such as updating terminology. Of the major changes, the most important could be summed up in the change of mission from air to aerospace defense.

(u) ~~(S)~~ New terms had not yet been approved by the end of 1968. In November, the JCS informed CONAD of a memorandum from the Deputy Secretary of Defense on the change in mission sought by CINCNORAD. The Deputy Secretary stated that he did not believe that a recommendation to the CDS that the mission be expanded from

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air to aerospace defense was either politically timely or militarily pressing at the present time.⁵ The option should remain open, however, he added, for further consideration as U.S. space and missile defense systems developed.

REQUEST FOR CHANGE IN COMMAND DESIGNATION

(u) ~~(S)~~ Effective 15 January 1968, the USAF component command of NORAD/CONAD, the Air Defense Command, changed its designation to Aerospace Defense Command.⁶ CINCONAD felt that this was also an appropriate move for CONAD and NORAD. On 10 January 1968, CINCONAD asked the JCS for a change in designation of CONAD to Continental Aerospace Defense Command, noting that the current Unified Command Plan assigned CONAD responsibility for defense against space systems.⁷ CINCONAD also asked that during the final phase of negotiation for renewal of the NORAD Agreement that consideration be given to a similar change in designation for NORAD. This change, CINCONAD pointed out, would not necessitate a change in mission at this time.

(u) ~~(S)~~ The JCS replied on 28 February that they did not consider a change to the NORAD designation propitious at this time.⁸ Furthermore, the JCS said that they felt that because of negotiations for renewal of the NORAD Agreement it was also inadvisable to redesignate CONAD at this time.

CANADIAN-U.S. COOPERATIVE STUDIES ON AEROSPACE DEFENSE

(u) ~~(S)~~ On 19 December 1968, CINCINORAD was advised by message from the Chairman of the JCS and the Chief of the Defence Staff that at a meeting of U.S. and Canadian officials on 5 December it was agreed that Canadian-U.S. working groups would be formed at NORAD Headquarters to perform cooperative studies on aerospace defense under the overall chairmanship of CINCINORAD.⁹ The working groups were to examine air defense matters initially and were to be prepared to examine, if Presidential approval of a statutory determination on release of atomic information pertinent to Sentinel was obtained, the optimum ABM system for

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North America, ignoring the national boundary. The aim of the studies was "the expeditious preparation of a series of costed options for future aerospace defense of North America to Fiscal Year 1978 which will meet national objectives within national guidelines."¹⁰

(U) ~~(S)~~ National objectives and proposed guidelines were provided. The general approach to the project was to be in the first instance to consider North America as one entity to be defended and in the second instance to identify national contributions required that would be in accord with the national objectives and guidelines. CINCNORAD was to develop terms of reference, project structure and stages, and target dates for accomplishing the project, including the means of ensuring Canadian-U.S. participation in the studies. Comments and proposed terms of reference were to be provided the JCS and CDS by 15 January 1969.

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SECTION II - NORAD/CONAD HEADQUARTERS
ORGANIZATIONAL AND MANPOWER CHANGES

FY 1970 JOINT MANPOWER ANNUAL SUBMISSION

(U) The NORAD Joint Manpower Program (JMP) for FY 1970 was submitted in a letter dated 28 December 1967. For the second year in a row no additional manpower spaces were requested at the time of this annual submission. A priority request for more spaces was submitted on 8 April 1968 for the Combat Operations Center and the Directorate of Computer Program Control, as discussed below.

NORAD HEADQUARTERS MANNING

(U) The NORAD/CONAD Joint Headquarters Table of Distribution (JTD) for 1 January 1968 showed a total of 979 personnel authorized which included 424 officer spaces, 331 enlisted spaces, and 224 civilian spaces. Included in the total of 979 were 38 Canadian Forces spaces. By mid-year, the total for the headquarters had increased to 994, of which 34 were Canadian Forces spaces, for a net gain of 15 spaces. Fourteen additional spaces were approved for the NCOG, as discussed below, four spaces were added from SNR and one from NNR, making a total of 19 spaces added.¹¹ Four Canadian Forces spaces were deleted.

(U) The 1969 JTD, dated 6 January 1969, showed the same total for the headquarters -- 994, of which 34 were Canadian Forces spaces. Making up the 994 total were 430 officer spaces, 339 enlisted spaces, and 225 civilian spaces. A number of organization changes were included in the JTD. These are covered in appropriate sections below.

ADDITIONAL MANPOWER SPACES FOR NORAD COC AND DIRECTORATE OF COMPUTER PROGRAM CONTROL

(U) A total of 57 spaces had been included in the Air Force Command, Control and Communications Program, January 1967, and approved by DOD for FY 1969 for the

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Combat Operations Center and the Directorate of Computer Program Control. Fourteen of the 57 were for the COC and 43 for Computer Program Control. On 8 April 1968, NORAD submitted a priority request to the JCS for 43 of the 57 spaces effective 1 July 1968.¹² Twenty-nine were for Computer Program Control and 14 for the COC. NORAD stated that since movement of the COC to Cheyenne Mountain and the introduction of the computer programming capability into NORAD Headquarters, the workload of these agencies had grown tremendously. Detailed justification by grade, skill and organizational element was included. NORAD asked that the remaining 14 spaces (of the 57) be allocated effective FY 4/69. These spaces were to be provided to the Advanced Systems Division of the Directorate of Computer Program Control. This division was re-engineering and redesigning the 425L computer program system for the FY 1973 time period. (See also section on civilian hiring restrictions).

(U) The JCS replied on 28 May that the whole 57 spaces were approved for planning purposes.¹³ But authorization was deferred pending analysis of the concept of operations in the NCOC Master Plan.

(U) NORAD again asked for the 43 spaces, however, on 6 June.¹⁴ NORAD asked for priority consideration of these spaces which, it said, were urgently needed for current operations. The 14 COC spaces were needed to support CINCNORAD's overall management responsibility for the Cheyenne Mountain Complex and COC staff support. The 29 spaces for Computer Program Control were needed for maintenance of the current NCOC computer program to keep the system current with the changing environment. NORAD explained that these 29 spaces were separate from the 14 spaces for the Advanced Systems Division. These latter were tied to the NCOC Master Plan but not the other 29 or the 14 for the NCOC.

(U) The JCS replied on 1 July approving the 14 spaces for the NCOC.¹⁵ The 29 spaces for Computer Program Control were again approved for planning purposes, but authorization was again deferred pending analysis of the NCOC Master Plan. The JCS referred back to its

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approval of 28 spaces for Computer Program Control in 1967, stating that these spaces could be used for maintenance of the current system. Later manpower increases, the JCS said, could be used to program for advanced systems once the NCOC Master Plan was approved.

UPGRADING ACTION.

(U) One of the manpower actions following the closing of the Southern NORAD Region on 1 July 1968 (see section on unit deletions, this chapter) was the upgrading of a colonel space to a brigadier general space. NORAD had asked initially in 1964 to raise the grade of its Director of Systems Development (J-5) from Air Force colonel to brigadier general because of the increasing responsibilities of this position. The JCS had at first turned down NORAD's request and then had approved it in 1966 provided NORAD could furnish the space from its own resources.¹⁶ Because of deletion of the SNR, a major general space would be available. On 29 February 1968, NORAD asked the JCS to authorize this space for the Director of Systems Development effective 1 July 1968 and to lower it to brigadier general.¹⁷ In a message on 15 March, the JCS approved the request.¹⁸ To fill the position, Brigadier General Spencer S. Hunn was assigned effective 1 August 1968.¹⁹

(U) In the meantime, NORAD's increasing analytical, study and planning responsibility brought about a reorganization of the whole J-5 in an effort to improve the command's capability in these areas. General Hunn was moved to a newly-established position, Assistant Deputy Chief of Staff, Programs, J-5 (see section on J-5 reorganization, this chapter). The renamed Directorate of Systems was headed by a colonel. These changes became effective on 6 January 1969.

ASSIGNMENT OF MANPOWER AND ORGANIZATION DIRECTORATE TO DCS/PERSONNEL

(U) Prior to April 1966, the NORAD/CONAD Directorate of Manpower and Organization was under DCS/Plans (J-5). One of the recommendations of the JCS Management-Manpower Survey of the headquarters made in early

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1966 was to move this directorate from J-5 to DCS/Personnel (J-1). NORAD did not agree with this at the time, advising the JCS that in NORAD's opinion Manpower and Organization should be directly responsive to the Chief of Staff because of the number of surveys and studies that had to be accomplished.²⁰ When these were completed, NORAD said, location of this office could be reconsidered.

(U) On 1 April 1966, the directorate was established as a separate directorate reporting directly to the Chief of Staff. This arrangement continued until 1 February 1968 when this office was placed under DCS/Personnel.²¹ This change was included in the 1968 NORAD JTD, amendment number two, effective 1 February 1968.

CANADIAN CO-MANNING*

(U) ~~(S)~~ In September 1967, Canadian Forces Headquarters advised NORAD of probable defense cuts to be made by Canada. The Canadian Government was directing cuts in defense spending for FY 1968-69 of \$220 million of which Canadian Forces ADC's share was \$17 million. Included in the proposals for achieving these savings was a reduction in Canadian co-manning. In November 1967, the Chief of Defence Staff, General J. V. Allard, requested CINCNOAD's views on where the cuts could be made. General Allard said that the Defence Council had directed a cut of fifty per cent, but because USAF and NORAD had indicated that this would compromise the operational efficiency of the NORAD system the Minister had given tacit approval to cut some 35 to 40 positions. General Allard suggested that cuts of this size could be made by eliminating the co-manning positions at Eastern NORAD Region and at the 35th NORAD Division where there was little Canadian territory of operational interest. Also, he said, cuts could be

* (U) See Chapter VI for co-manning of BUIC III centers.

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made in co-manning in the Central NORAD Region which had no assigned Canadian interceptor squadrons.

(u) ~~(S)~~ CINCNOAD replied on 14 December 1967 that DOD was considering organizational changes that would affect U.S. spaces and could affect Canadian spaces. For this reason, he said, he would like to wait until the DOD matter was settled before he made recommendations on Canadian positions.

(u) ~~(S)~~ General Reeves made his recommendations in a second letter to General Allard on 19 January 1968.²² The NORAD Commander-in-Chief said that the organizations programmed for change by DOD did not contain any Canadian co-manning positions. However, he intended to reduce Canadian co-manning by 45 spaces to become effective on 1 July 1968 if General Allard had no objections. General Reeves said he had considered the operational impact on the command together with suggestions made by General Allard in choosing the spaces to be cut. The 45 spaces were to be cut as follows:²³

<u>Unit</u>	<u>Number Cut</u>
Western NORAD Rgn Hq	9
25 NORAD Div Hq	2
Central NORAD Rgn Hq	2
28 NORAD Div Hq	1
29 NORAD Div Hq	1
Eastern NORAD Rgn Hq	1
34 NORAD Div Hq	1
35 NORAD Div Hq	21
36 NORAD Div Hq	1
Hq NORAD	4
NORAD Band	2
	<u>45</u>

(u) ~~(S)~~ Each region affected was advised of the cuts in messages on 9 February 1968. USAF ADC was also advised of the cuts on this date. NORAD told ADC that



in selecting the spaces to be cut the operational impact plus a suggestion from Canadian Forces Headquarters on co-manning in the 35th Division were considered.²⁴ NORAD explained that CFHQ felt it was difficult to support the maintenance of personnel in a division that had no Canadian forces under its control and a very small portion of Canadian territory within its boundaries. NORAD asked ADC for replacement of manpower in the combat center at Western NORAD Region (five spaces) and the direction center at the 35th Division (16 spaces).

(u) ~~(S)~~ Eastern NORAD Region objected to the cuts, asking for retention of two officer spaces and eight airman spaces in the 35th Division and one airman space at ENR Headquarters.²⁵ NORAD replied that its decision could not be reconsidered.²⁶ NORAD advised that USAF ADC had agreed to replace the positions in the direction center of the 35th. ENR then asked for retention of one Canadian operations staff officer in the 35th Division for liaison duties.²⁷ NORAD replied that the cut had to stand at 45 spaces and none of the deleted spaces at the 35th could be kept. NORAD suggested, however, transferring a Canadian space from the 34th to the 35th Division.²⁸

(u) ~~(S)~~ On 30 April, the JCS was advised of the 45-space reduction. NORAD said that the only JTD action required at the time was replacement of one intelligence officer at CNR Headquarters which would be submitted separately.²⁹

DELETION OF CANADIAN FORCES LIAISON POSITIONS

(u) ~~(S)~~ In 1959, the Canadian Army took over responsibility for the Canadian attack warning system. The Canadian Army asked to establish a warning staff of several Army officers in the NORAD COC. But space was limited and facilities nearly saturated so NORAD asked for a reconsideration of this requirement. However, NORAD said it was willing to have a Canadian Army officer attached to NORAD Headquarters in a liaison capacity if the Canadian Chiefs of Staff desired. In

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June 1961, the latter told NORAD that a Canadian Army Liaison officer would be added to the NORAD staff. Accordingly, an officer was appointed and reported to Headquarters NORAD on 7 August 1961.

(U) In December 1967, the Chief of the Defence Staff, General Allard, proposed to CINCNOAD that this position be withdrawn and the duties assumed by an RCAF officer of the rank of Group Captain currently on the NORAD staff.³⁰ During normal times, the latter would wear two hats -- one as a regular staff member and one as Canadian Forces Liaison Officer (CFLO) on matters concerning the Canadian National Survival Attack Warning System (NSAWS) and the Nuclear Detonation and Fall-out Reporting System (NDFRS).^{*} On increased alert, exercises, etc., he would have responsibility for these systems as a primary duty.

~~(C)~~ CINCNOAD agreed to the proposal in principle in a letter on 12 January 1968.³¹ It was ultimately decided at NORAD Headquarters that the Canadian Forces officer in the NBC/Damage Branch of the Directorate of Operations (J-3) was the most logical one to assume the duties of the deleted liaison officer position.³² This position at the time was a Canadian major, but raising it to lieutenant colonel had already been proposed. General Reeves proposed this means of taking over the liaison duties to General Allard.³³ The latter agreed in a letter on 4 June, adding that the upgrading appeared warranted in light of the additional duties.³⁴ He stated that upgrading the major position to lieutenant colonel would be approved concurrently with deletion of the colonel liaison position.^{**} Effective 18 October 1968, the liaison duties were assumed by the Canadian incumbent in NORAD's NBC/Damage Branch.³⁵

* (U) For background and 1967 reconfiguration of these systems, see CONAD Historical Summary 1967, pp 124-126.

** (U) Deleted also was a liaison corporal, clerk typist, position.

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REORGANIZATION OF NORAD J-5 STAFF SECTION

(U) On 9 May 1968, NORAD's Deputy Chief of Staff for Plans and Programs, J-5, recommended to the Chief of Staff that J-5 be strengthened and reorganized to improve NORAD's analysis, study, and planning capability.³⁶ The deputy chief said that planning capability had to be improved in two respects. First, NORAD's overall force posture planning had to be better substantiated in terms of analytic backup. It had to be more credible to all levels of the Defense Establishment, and NORAD had to be more confident that recommended force requirements stemmed from realistic appraisal of the task and that the force mix was the best option both for adequacy and attainability. Secondly, he said that NORAD's planning had to be more flexible and more responsive. He pointed out that inability to give timely, supportable, high-confidence answers to questions arising from changing situations meant that decisions would be made without the benefit of all significant viewpoints.

(U) The deputy chief also cited as reasons for making changes in J-5 the need to more effectively state system requirements in such documents as qualitative requirements, operational employment concepts, etc., and elimination of contradictory statements between documents; systems integration efforts; the NCOC Master Plan effort; and so on.

(U) Specifically, he proposed restructuring J-5 to improve studies and analysis capability (including cost analysis) and to meet such requirements as planning to effect the evolution of the NCMC and to interface with the Joint Continental Defense Systems Integration Planning Staff (JSIPS). Not only a reorganization of J-5 itself would be necessary, but some reassignment of personnel currently outside of J-5 would be required. He mentioned assignment of civilian analysts from J-3 and personnel from the computer programming field.

(U) The Chief of Staff authorized J-5 to proceed with development of a proposed reorganization.³⁷ On 8 July, J-5 submitted a proposed reorganization in

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accordance with guidelines stated by the Chief of Staff.³⁸ The reorganization continued to be considered, however, and on 1 October, the Chief of Staff forwarded to the staff sections concerned for comment a proposed J-5 reorganization.³⁹ In this memo, the Chief of Staff pointed out that a review of the headquarters joint staff organization was in order because of the complexities of the problems facing NORAD in the future. "The advent of new weapons systems and the requirement for their integration make it vital that we have the capability to communicate our thinking to the JCS and OSD staffs," he stated. Because of this, the Chief of Staff said he had asked J-1 (Personnel) to develop a preliminary proposal for possible headquarters joint staff changes.

(U) The first step was the J-5 reorganization. Among the changes proposed at this time was the creation of two new directorates in J-5. One of these, command and control, would assume the advanced systems function currently in the Directorate of Computer Program Control (the latter was directly under the Chief of Staff at this time). The other, systems and systems analysis, would, among other things, assume a portion of the operations analysis function of J-3.

(U) It was ultimately decided, however, not to split up these directorates.⁴⁰ The upshot was the reassignment of the entire Directorate of Computer Program Control and the Directorate of Operations Analysis (which was in J-3) to J-5 effective 1 November 1968.⁴¹

(U) Effective 6 January 1969, (the date of the new NORAD/CONAD JTD), a reorganization of J-5 went into effect. Under the DCS/Plans and Programs were created two assistant deputy positions, Assistant DCS/Plans and Assistant DCS/Programs. Under Plans were established five directorates: Plans, Policy, Financial Management, Analysis, and Studies and Gaming. Under Programs were established two directorates: Systems and Computer Programs. Before the reorganization, J-5 had four directorates: Plans and Policy, Systems Development, Plans and Analysis, and Programs and

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Financial Affairs. J-5 functions were now broadened to include analysis, computer programming matters, planning for integration of new systems, development of the NCMC and COC, etc. Some modification and redistribution of the functions of the directorates were made.

CIVILIAN HIRING RESTRICTIONS

(U) The Revenue and Expenditure Control Act, Public Law 90-364, 28 June 1968, imposed limitations on civilian hiring on all departments and agencies in the Executive Branch of the U.S. Government. The act established a long term goal of reducing civilian personnel to the on-board strength of 30 June 1966. This goal was to be achieved by a selective hiring program wherein only three civilians could be hired for every four vacancies that occurred.

(U) Following passage of the act, CONAD Headquarters received no specific instructions on its implementation although it queried both the JCS and the USAF Headquarters Command. In early August, a limited hiring freeze was established within CONAD to avoid continuing hiring on a one-for-one basis.⁴² This freeze permitted the honoring of any firm commitments, but did not allow for continued recruitment for other vacancies.

(U) In a letter dated 27 November 1968, USAF HEDCOM advised that the civilian hiring limitations imposed by the act were applicable to USAF Special Activity Units. Inasmuch as CONAD civilian personnel were so categorized, this made the law applicable to CONAD. The Director of Manpower and Organization, J-1, so advised all staff sections. All regions and divisions were also directed to comply with the act.

(U) CONAD informed the JCS on 11 December that it had received this guidance and had established a program to implement the hiring requirements.⁴³ After explaining certain problems it had that could affect the command's ability to totally comply with the directions received, CONAD said that it intended to

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continue to operate within the spirit of the law as long as mission accomplishment was not impaired. If this happened, CONAD continued, an examination would be made of all vacancies and action taken to start limited hiring to fill extremely sensitive and mission-oriented positions.

(U) One such release was made for the Advanced Systems Division of the Directorate of Computer Program Control. To provide spaces for this division, the JCS had authorized 28 civilian spaces effective 1 July 1967. By the time NORAD imposed the "freeze" on civilian hiring in August 1968, half of these positions had been filled. As a result of the necessity to go ahead with the computer program design concept for the advanced system, the remaining 14 positions were released and recruiting was underway at the end of the year.⁴⁴

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SECTION III - NORAD/CONAD REGION/DIVISION
ORGANIZATIONAL AND MANPOWER CHANGES

FY 1968-69 UNIT DELETIONS AND COMMAND STRUCTURE RECON-
FIGURATION

(u) ~~(S)~~ Closing of the 20th and 21st Divisions. Back in November 1963, the Secretary of Defense had directed the closing of four SAGE direction centers and two combat centers. Two DCs and two CCs had been closed in 1966. The two remaining direction centers, 20th Division, Truax Field, Wisconsin, and 21st Division, McGuire AFB, N.J., were first scheduled for closing on 1 June 1968, but this was changed by NORAD/CONAD Operation Plan 330-67 to 1 April 1968 to provide more lead time. Then, because of a reduction in USAF operating funds, the closing date was moved up to 18 November 1967. Discontinuance was made effective 1 January 1968 by NORAD/CONAD general orders.

(U) Reconfiguration of the structure to provide for the loss of the two direction centers was detailed in Operation Plan 330-67 and was to take place on 1 April 1968. This plan provided for the 30th Division taking over entirely the area of the deleted 20th and for the 35th Division to take over most of the area of the deleted 21st Division and for the 33d Division to take over the rest of the area of the 21st. The 1967 plan also provided for the 36th Division to expand westward to take over the eastern part of the area and forces of the 41st Division. The 41st Division was to expand westward to absorb the eastern portion of the area and operational control of the forces of the 29th Division. However, in December, 1967, it was decided to postpone the portion of the reconfiguration affecting the 29th, 36th and 41st Divisions from 1 April to 1 November 1968 to allow time to see the impact of the OSD-ordered cuts which would require further reconfiguration.

(u) ~~(S)~~ NORAD finally decided against making the portion of the reconfiguration affecting these divisions as scheduled and so advised Northern and Central

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Regions on 15 March 1968.⁴⁵ The major reason was that DOD planned to phase out the 36th Division direction center in FY 1970. If this happened, NORAD told the regions, the only way to cover the area would be to expand the 41st Division to the east. If this had to be done, NORAD continued, considerable money would have been wasted in the westward expansion. NORAD made a strong objection to the closing of the 36th Division to the JCS on 2 April 1968 -- see Chapter One.

(U) A new reconfiguration plan was issued on 1 March 1968, for FY 1968, NORAD/CONAD Operation Plan 330-68. This plan, as the previous one, provided for the 35th Division to take over a major part of the phased-out 21st Division and for the 33d Division to absorb the rest of the area of the 21st on 1 April 1968. The reconfiguration affecting the 29th, 36th and 41st Divisions in the previous plan was not included.

(U) Closing of the Southern NORAD/CONAD Region and 30th NORAD/CONAD Division. As discussed in Chapter One, Secretary of Defense-directed force reductions included deletion in FY 1/69 of the combat center at Gunter AFB, Alabama, SCC-9 (Southern NORAD/CONAD Region/14th Air Force) and the direction center at Sioux City, Iowa, SDC-22 (30th NORAD/CONAD Division/30th Air Division). The Southern Region and the 30th NORAD/CONAD Division were discontinued on 1 July 1968.⁴⁶ USAF ADC moved Headquarters 14th Air Force from Gunter AFB to Ent AFB without personnel or equipment and redesignated its 9th Aerospace Defense Division (the division operating missile and space warning units) as the 14th Aerospace Force.⁴⁷ ADC discontinued its 30th Air Division Headquarters effective 18 September 1968.⁴⁸ Effective 1 July 1968, ARADCOM discontinued its 5th Region, Gunter AFB, and reorganized its structure into three regions (1st, 2d and 6th).⁴⁹

(U) Reconfiguration of the NORAD/CONAD structure was provided for in Operation Plan 332-69, 22 April 1968. The Southern Region had two divisions under it, the 32nd in the eastern half and the 31st in the western half of the region. In the reconfiguration, Eastern

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FY 1968 RECONFIGURATION

SOURCE: Appendix 1 to Annex B, Operation Plan 330N-68 and 330C-68, 1 March 1968



SOURCE: Appendix 1 to Annex B, Operation Plan 332N-69 and 332C-69, 22 April 1968



NORAD/CONAD Region took over the 32nd Division and Central NORAD/CONAD Region took over the 31st Division. These divisions were reassigned effective 1 July 1968.⁵⁰ Four divisions, the 28th, 29th, 31st and 34th divided up the area of the phased-out 30th Division. USAF ADC's 1st Air Force took over responsibility for the 32d Air Division and ADC's 10th Air Force took over the 31st Air Division effective 1 July 1968.⁵¹ ARADCOM's 1st and 2d Region assumed responsibility for the territory and units of the discontinued 5th Region.

MANPOWER ACTIONS RESULTING FROM SNR AND 30th DIVISION CLOSING

(U) With deletion of the Southern Region and the 30th NORAD/CONAD Division, a redistribution of part of the personnel of these units was necessary. On 13 May 1968, NORAD submitted to the JCS its proposal for this redistribution. Southern Region had 59 NORAD manpower spaces and 30th Division had six spaces on their JTDs, for a total of 65. NORAD proposed to use 34 of these spaces to support realignment of functions taking place because of loss of the two headquarters, thus returning 31 spaces to the JCS.⁵² NORAD proposed distribution as follows:⁵³

32d NORAD Division	-- 17 spaces
• Eastern NORAD Region	-- 11 spaces
Central NORAD Region	-- 1 space
Headquarters NORAD	-- 5 spaces

(U) In a message on 17 June, the JCS approved the manpower actions proposed.⁵⁴ Of the five spaces transferred to Headquarters NORAD, one would result in simply an upgrading, making a net gain of four spaces. This was the upgrading of the Director of Systems Development position, discussed above. The Air Force major general (08) space at SNR was deleted, added to Headquarters NORAD and downgraded to brigadier general (07), and an Air Force colonel (06) space was deleted from NORAD Headquarters. The manpower actions were effective 1 July 1968.



SECTION IV - NORAD/CONAD PERSONNEL CHANGES OF NOTE - 1968

HEADQUARTERS NORAD/CONADCommand Section

Brigadier General Sterling P. Bettinger, USAF became Assistant Chief of Staff 1 August 1968, replacing Brigadier General G. E. Pinkston, USAF. General Bettinger had been Director of Plans and Policy, DCS/ Plans, NORAD/CONAD.

Secretary, Joint Staff

Lieutenant Colonel Lester A. Fowler, USAF, became Director of Administrative Services 20 July 1968, replacing Lieutenant Colonel H. P. Davis, USAF.

Public Affairs

Colonel Horace E. Frink, USAF, became Director of Public Affairs 1 December 1968, replacing Colonel M. Frank, Jr., USAF.

Combat Operations Center

Major General Richard S. Abbey, USAF, became Director, Combat Operations Center 1 February 1968, replacing Major General J. N. Ewbank, Jr., USAF.

Brigadier General Norman L. Magnusson, CF, became Deputy Director, Combat Operations Center 16 December 1968, replacing Brigadier General W. Weiser, CF.

DCS/Intelligence J-2

Captain Patrick Faircloth, USN, became Assistant Deputy Chief of Staff, Intelligence 29 March 1968, replacing Captain G. F. Vance, USN.



Colonel Thomas B. Johnson, USAF, became Director of Threat Assessment 18 November 1968, replacing Colonel A. L. Cox, USAF.

Col A. G. Whitley, USAF, became Director of Intelligence Computer Applications 21 September 1968, replacing Colonel M. J. Piatnitzka, USAF.

DCS/Operations J-3

Brigadier General George B. Webster, Jr., USA, became Assistant Deputy Chief of Staff, Operations 17 May 1968, replacing Brigadier General L. N. Taylor, USA.

Brigadier General William L. Mitchell, Jr., USAF, became Director of Operations 15 June 1968, replacing Brigadier General R. C. Crawford, Jr., USAF.

Colonel Page E. Smith, USA, became Director of Operational Training, Testing and Evaluation 1 July 1968, replacing Captain B. S. Weber, USN.

DCS/Logistics J-4

Colonel Daniel F. Sharp, USAF, became Assistant Deputy Chief of Staff, Logistics and Director of Logistics 8 August 1968, replacing Colonel W. R. Poindexter, USAF.

DCS/Plans and Programs J-5

Major General William W. Wisman, USAF, became Deputy Chief of Staff, Plans and Programs, 18 August 1968, replacing Major General P. H. Greasley, USAF.

Brigadier General John R. Kullman, USAF, became Director of Plans and Policy 29 August 1968, replacing Brigadier General S. P. Bettinger, USAF.

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Brigadier General Spencer S. Hunn, USAF, became Director of Systems Development 1 August 1968, replacing Colonel K. N. Retzer, USAF.

DCS/Communications and Electronics J-6

Colonel Elmo A. Elliot, USAF, became Assistant Deputy Chief of Staff, Communications and Electronics 31 July 1968, replacing Colonel L. N. O'Connor, USAF.

HEADQUARTERS U. S. ARMY AIR DEFENSE COMMAND

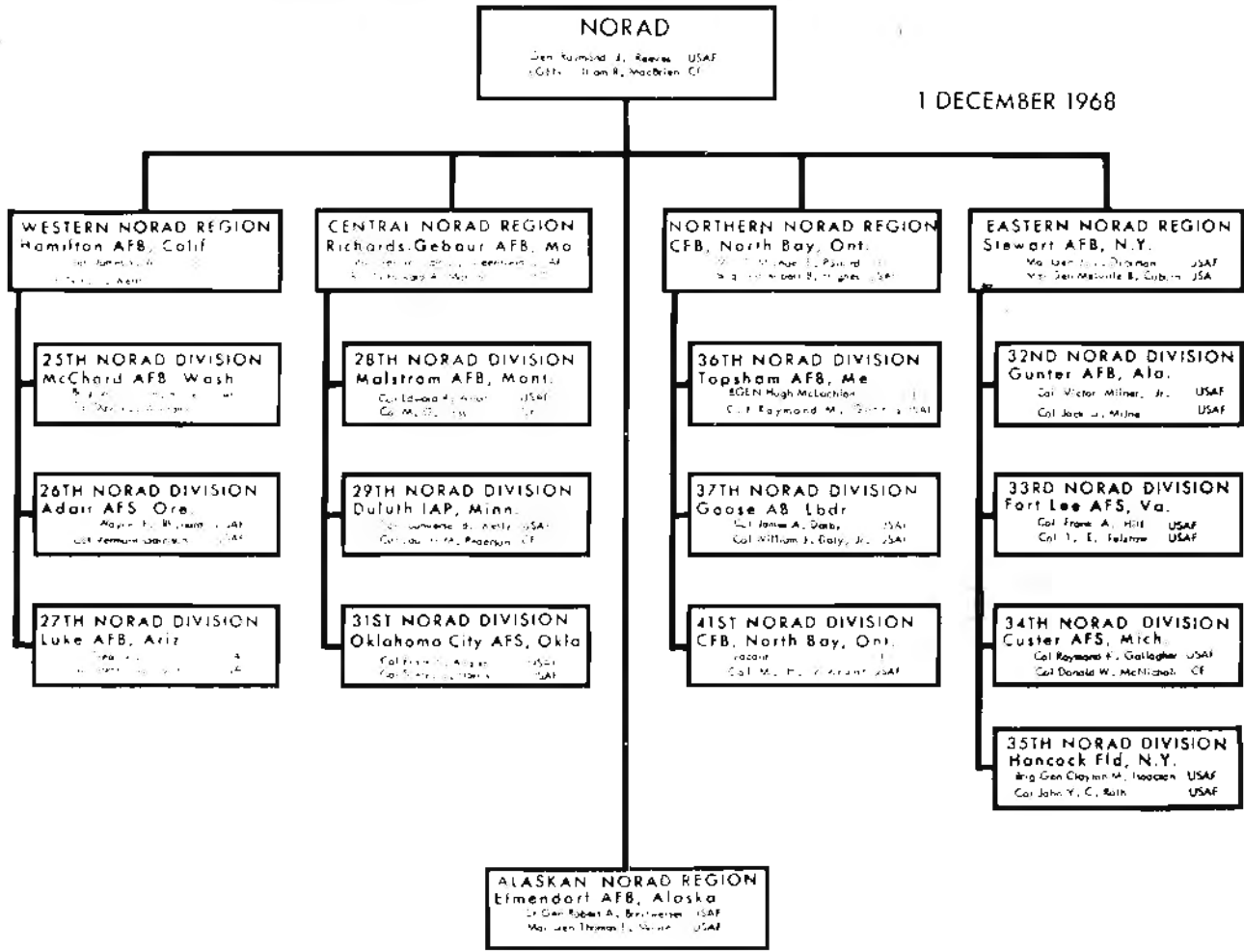
Lieutenant General George V. Underwood, Jr., USA, became Commanding General ARADCOM 1 July 1968, replacing Lieutenant General Robert Hackett, USA.

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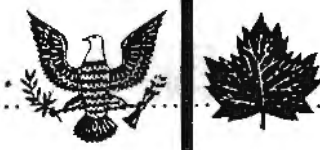


NORAD COMMANDERS

1 DECEMBER 1968



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GLOSSARY OF ABBREVIATIONS USED IN THIS REPORT

AAC	Alaskan Air Command
ABM	Anti-Ballistic Missile
ACC	Area Coordination Center
ACR	Alaskan CONAD Region
ADCSP	Advanced Defense Communications Satellite Program
ADMS	Air Defense Missile Squadron
ADNAC	Air Defense North American Continent
ADWC	Air Defense Weapons Center
AEW	Airborne Early Warning
AEW&C	Airborne Early Warning and Control
ALCOM	Alaskan Command
ALCOP	Alternate Command Post
ALRI	Airborne Long-Range Radar Inputs
ANG	Air National Guard
ANMCC	Alternate National Military Command Center
ANR	Alaskan NORAD Region
ARNG	Army National Guard
ARTCC	Air Route Traffic Control Center
ASD/SA	Assistant Secretary of Defense/Systems Analysis
ASM	Air-to-Surface Missile
AUTOVON	Automatic Switched Voice Network
AWACS	Airborne Warning and Control System
BMCC	Ballistic Missile Control Center
BMD	Ballistic Missile Defense
BMDC	Ballistic Missile Defense Center
BMEWS	Ballistic Missile Early Warning System
BNCC	BUIC NORAD Control Center
BUIC	Back-up Intercept(or) Control
CADIN	Continental Air Defense Integration, North
CADIZ	Canadian Air Defense Identification Zone
CANFORCEHED	Canadian Forces Headquarters
CC	Combat Center
CDS	Chief of Defence Staff
CEL	Combat Evaluation Launch
CFB	Canadian Forces Base



CFHQ	Canadian Forces Headquarters
CIP	Consolidated Intelligence Program
CNR	Central NORAD Region
CODECS	CONUS Offensive-Defensive Coordination System
CONUS	Continental United States
DA	Department of the Army
DCA	Defense Communications Agency
DCS	Defense Communications System
DCS/...	Deputy Chief of Staff/...
DDR&E	Director of Defense Research and Engineering
DEFCON	Defense Readiness Condition
DIA	Defense Intelligence Agency
DIP	Display Information Processor
DOB	Dispersed Operating Base
DOT	Department of Transportation
DPM	Draft Presidential Memorandum
DSCP	Defense Satellite Communications Program
DSCS	Defense Satellite Communications System
ECCM	Electronic Counter Countermeasures
ECM	Electronic Countermeasures
EDICT	Evacuation and Dispersal of Interceptors from Critical Targets
EMP	Electromagnetic Pulse
ENR	Eastern NORAD Region
ERD	Equipment Readiness Date
ESD	Electronic Systems Division
ESV	Earth Satellite Vehicle
FCS	Fire Control System
FERD	Final Equipment Readiness Date
FIS	Fighter Interceptor Squadron
FYDP	Five Year Defense Program
HEDCOM	Headquarters Command (USAF)
IDCSP	Initial Defense Communications Satellite Program
IMI	Improved Manned Interceptor
IOC	Initial Operational Capability



JCC Joint Control Center
JMP Joint Manpower Program
JSC Joint Surveillance Center
JSIPS Joint Continental Defense Systems
Integration Planning Staff
JTD Joint Table of Distribution

LRR Long-Range Radar

MCCDS Modified Central Computer Display Set
MDC Manual Direction Center; Missile Di-
rection Center
MEECN Minimum Essential Emergency Communica-
tions Net
MITRE Massachusetts Institute of Technology,
Research and Engineering (Corporation)
MOBS Multiple Orbital Bombardment System
MSR Missile Site Radar
MSS Master Surveillance Station

NADOP North American Aerospace Defense Objec-
tives Plan
NAS National Airspace System; Naval Air
Station
NAVSPASUR Naval Space Surveillance System
NAWS NORAD Attack Warning System
NBCWRS Nuclear, Biological, Chemical Warning
and Reporting System
NCC NORAD Control Center
NCMC NORAD Cheyenne Mountain Complex
NCOC NORAD Combat Operations Center
NCS NCOC Computer System
ND NORAD Division
NDFRS Nuclear Detonation and Fallout Report-
ing System
NEACP National Emergency Airborne Command
Post
NECPA National Emergency Command Post Afloat
NEMWS NORAD Expanded Missile Warning System
NMCC National Military Command Center
NMCS National Military Command System
NNR Northern NORAD Region
NOEC NORAD Operational Employment Concept
NQR NORAD Qualitative Requirement

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NSAWS National Survival Attack Warning System
NUDET Nuclear Detonation
NXPO Nike X Project Office

OCDC Office of Civil Defense
ORT Overland Radar Technology
OSD Office of the Secretary of Defense
OTH Over-the-Horizon

PAR Perimeter Acquisition Radar
PBD Program Budget Decision
PCD Program Change Decision
PCR Program Change Request
PJBD Permanent Joint Board on Defense

RAF Royal Air Force (U.K.)
RCC Region Combat Center
RDT&E Research, Development, Testing and Evaluation

RICE Radar Interface and Control Equipment
ROC Required Operational Capability

SAGE Semi-Automatic Ground Environment
SAO Smithsonian Astrophysical Observatory
SATCON Satellite Alert Condition
SCATANA Security Control of Air Traffic and Air Navigation Aids

SCC Space Computational Center; SAGE Combat Center

SCCF Satellite Communications Control Facility

SDC Space Defense Center; SAGE Direction Center

SIS Satellite Intercept System
SLBM Submarine Launched Ballistic Missile
SLCM Submarine Launched Cruise Missile
SNR Southern NORAD Region
SPADATS Space Detection and Tracking System
SSO Security Service Office

TACMAR Tactical Multi-Function Array Radar
TACSATCOM Tactical Satellite Communications

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UE	Unit Equipment
UHF	Ultra High Frequency
WNR	Western NORAD Region

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NORTH AMERICAN AEROSPACE DEFENSE COMMAND

28 DEC 1998

MEMORANDUM FOR N-SP/HO

FROM: N/J3V

SUBJECT: Declassification Review – CONAD Command History 1969

1. We have reviewed the subject document and declassify it with the following exceptions:
 - a. Chapter V, "ABM System and Space Defense Weapons." Rationale: Contains capabilities that still apply today.
 - b. Chapter VI, "Ballistic Missile and Space Weapons Detection Systems." Rationale: Contains capabilities that still apply today.
 - c. Chapter VII, "Command , Control, and Communications." Rationale: Contains details of Cheyenne Mountain configuration and operations that still apply today.
2. These portions must retain the present classification in the document to protect existing procedures and/or capabilities. N/J3 POC is SMSgt Williams, N/J3W, 4-4041.

R.F. SMITH
Colonel, USAF
Vice Director of Operations





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CONTINENTAL AIR DEFENSE COMMAND

COMMAND HISTORY (U) 1969

1 JULY 1970

COMMAND HISTORY DIVISION
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HEADQUARTERS CONAD

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**General Seth J. McKee, USAF, Commander-in-Chief NORAD/CONAD, and
Lieutenant General Edwin M. Reyno, CF, Deputy Commander-in-Chief, NORAD.**



PREFACE

The CONAD Command History for 1969 was prepared as required by and in accordance with guidance outlined by the Joint Chiefs of Staff in SM 247-59, 5 March 1959 and SM 665-69, 3 October 1969. These memorandums require that commanders of unified and specified commands submit annually by 1 July a historical report that provides " a compact record of the activities of unified and specified command headquarters, . . . a comprehensive understanding of the operations of the headquarters, the problems faced by the headquarters, and the status of the command." An additional objective is the "preservation of the history of unified and specified command headquarters in order that no important phase of U.S. armed forces history may be lost."

The command history, therefore, covers as fully as time and personnel permit all historically significant activities in North American aerospace defense that impact on the responsibilities of the Commander-in-Chief. Because of the nature of the missions, responsibilities and organization of the command, the historical report covers both CONAD and NORAD and should be considered a history of CONAD/NORAD. JCS SM 922-59, 16 September 1959, provides specifically for coverage of NORAD activities.

1 July 1970



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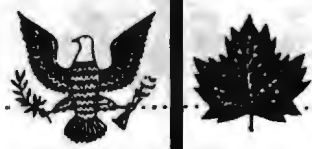
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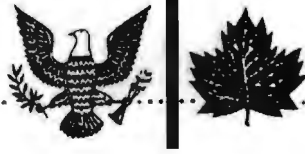


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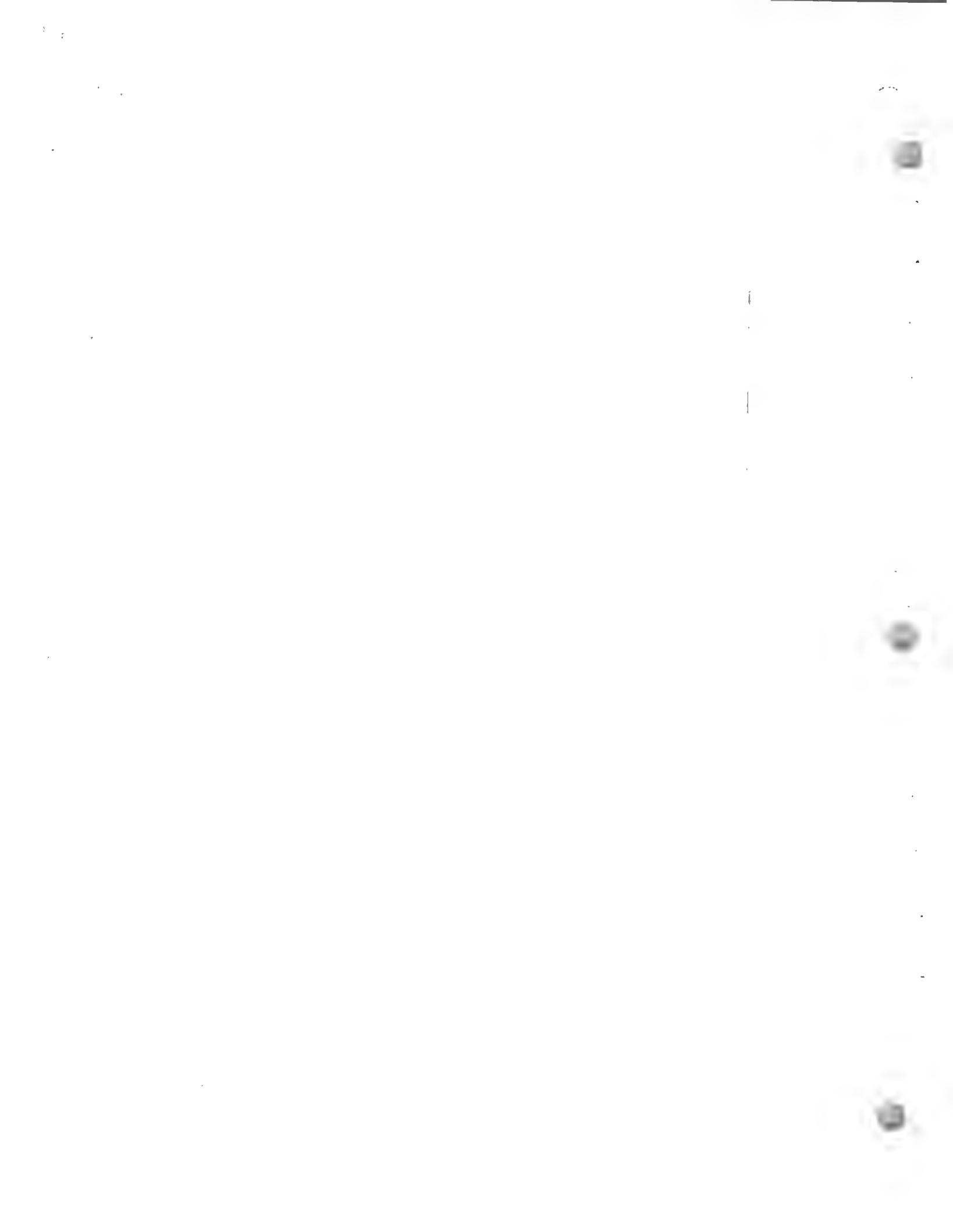
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CHAPTER I

ORGANIZATION AND MANPOWER ACTIVITIES

SECTION I - NORAD/CONAD REGION/DIVISION ORGANIZATIONAL CHANGES

PCD Z-9-002

(u) ~~(S)~~ Background from FY 1968. DOD Program Change Decision Z-7-096, 16 December 1967, directed implementation of a plan for a modernized continental air defense. The PCD directed phase-down of the current system for transition to the modernized system by the mid-1970s. Included in this phase-down was the current command and control structure. To be phased out, according to this PCD, would be all the current region combat centers (except the one in Alaska) and the current direction centers (divisions).

(u) ~~(S)~~ At the end of FY 1967, NORAD had 16 division direction centers and six region combat centers. Two divisions (20th and 21st) were closed in November 1967 as part of a DOD-directed reduction ordered much earlier (1963). As a first increment of the phase-down directed by PCD Z-7-096, the Southern NORAD/CONAD Region, Gunter AFB, Alabama, and the 30th NORAD/CONAD Division, Sioux City, Iowa, were discontinued on 1 July 1968. USAF ADC discontinued its 14th Air Force and 30th Air Division at the same locations. ARADCOM discontinued its 5th Region, Gunter AFB, and reorganized its structure into three regions.

(u) ~~(S)~~ The other combat centers except the one in Alaska, were to be phased out in FY 1970. Also, two more SAGE direction centers were to be closed, reducing the NORAD total from 13 to 11 in FY 1970.

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(u) ~~(S)~~ PCD Z-9-002. The program for Air Force forces established by the above PCD was modified by a new PCD, Z-9-002, approved on 18 January 1969. As explained in this PCD, the Air Force had submitted four Program Change Requests asking that the original plan be modified. A later Air Force study suggested other changes. A Program Budget Decision (364), 9 December 1968, and a decision on a reclama to this PBD (PBD 364R), 18 December 1968, addressed some of the issues in the Air Force PCRs and its study. As a result, this PCD updated the original modernization plan.

(u) ~~(S)~~ Under the previously approved program of PCD Z-7-096, 16 December 1967, as noted above, four more combat centers (region headquarters) were to be closed in FY 1970 (only the one in Alaska would be retained). The Air Force recommended that three of the four combat centers be kept for three years. PBD 364 stated that the Air Force desire to retain the combat center function appeared valid at least until AWACS became available. This PBD restored three of the four combat centers through FY 1973 and PCD Z-9-002 approved this restoration. Only one combat center was to be closed in FY 1970, the one at Richards-Gebaur AFB, Missouri (Central NORAD/CONAD Region).*

(u) ~~(S)~~ In regard to direction centers, the NORAD divisions, the previously approved program phased down from 13 to 11 (9 SAGE and 2 manual) in FY 1970 and retained this number through FY 1972. The number of direction centers (DCs) was then to be cut to six. The two DCs (SAGE) scheduled for phase out in FY 1970 were the 26th NORAD/CONAD Division, Adair AFS, Oregon, and the 36th NORAD/CONAD Division, Topsham, Maine.

* (U) The other combat centers were at Hamilton AFB, California (Western NORAD/CONAD Region); Stewart AFB, New York (Eastern NORAD/CONAD Region); North Bay, Ontario (Northern NORAD Region); and Elmendorf AFB, Alaska (Alaskan NORAD/CONAD Region).

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They were scheduled for closure the last quarter of FY 1970. PBD 364 moved this date up to the first quarter of FY 1970.

(u) ~~(S)~~ PCD Z-9-002 programmed the 11 direction centers a year longer, however, than had been previously approved, reducing from 11 to 6 (4 SAGE and 2 manual) in FY 1974. The PCD explained that this was "to more closely agree with the phase in of AWACS and the phase out of the other elements of the SAGE/BUIC system." In FY 1975, however, the remaining six DCs were to close.

(u) ~~(S)~~ PCD Z-9-002 programmed 15 BUIC centers (which included two in Canada) through FY 1974, reducing to just the two in Canada in FY 1975. The BUIC centers would be replaced with joint FAA/DOD control centers (JCCs). In FY 1974-75, 11 JCCs were to be established, in accordance with this PCD. The primary system was to be the Airborne Warning and Control System (AWACS). PBD 364 stated the OSD concept that AWACS would not only provide the primary wartime surveillance capability but would provide the primary wartime command and control capability. The PBD went on to say that since FAA had a command and control capability for air traffic control purposes, ADC could piggyback on these facilities (NAS centers) to provide peacetime command and control capability. In other words, it was OSD's view that there was no point in maintaining a separate land-based command and control system with a wartime capability to support AWACS.

(u) ~~(S)~~ Closure of the Hamilton CC Instead of the Richards-Gebaur CC. In the meantime, in a message on 2 January, USAF announced that its program (PD 70-4) was revised to inactivate the combat center at Richards-Gebaur AFB in FY 1/70.2 ADC advised all concerned of the USAF program revision, stating that a two-region configuration in the CONUS had been directed but that



CONAD and ADC were trying to justify keeping the combat center at Richards-Gebaur AFB in place of the one at Hamilton AFB.³

(u) ~~(S)~~ NORAD advised its component and region commanders and Canadian Forces Headquarters of the plans to reconfigure the command in a message on 28 January.⁴ NORAD said that one combat center, either Western or Central, and two direction centers, the 26th and 36th Divisions, were to be closed. NORAD outlined its proposed plans for reconfiguration including boundary changes, force assignment, etc. Comments and recommendations were asked from those addressed. One problem was what to do with the Alternate Command Post (ALCOP) at Richards-Gebaur AFB if that combat center closed. NORAD proposed that if Central was closed, the ALCOP be moved to Stewart AFB, New York, (earlier CONAD had suggested collocation of the ALCOP with the combat center at Hamilton, but changed shortly to Stewart). If Western were eliminated, the ALCOP would remain in place. NORAD said in its 28 January message that it planned to redesignate the Central Region as the Western Region in this case.

(u) ~~(S)~~ On 15 March 1969, the JCS informed CONAD that on 13 March the Deputy Secretary of Defense had approved the request to retain the combat center at Richards-Gebaur AFB instead of the combat center at Hamilton AFB.⁵ NORAD advised all concerned of this decision on 17 March and stated that a NORAD/CONAD Reconfiguration Plan was being processed for immediate publication.⁶

(u) ~~(S)~~ Problem of the 34th and 29th Divisions' Boundaries and Assignment. One matter that brought considerable attention was that of the structure and assignment of the 34th Division and the 29th Division. In its 28 January message, NORAD said that the 34th

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NORAD/CONAD Division would expand northward and would take in the eastern portion of the 29th Division. The 34th NORAD Division would be assigned then to Northern NORAD Region (NNR). The 34th CONAD Division would be assigned to the Eastern CONAD Region for CONAD operational control.

(U) ~~(S)~~ Central Region said that placing the 34th NORAD Division in NNR instead of Eastern NORAD Region (ENR) would cause logistics problems.⁷ ADC and ENR both objected to reassigning the 34th NORAD Division to NNR and recommended retention of the 34th by ENR. ADC pointed out that the 41st NORAD Division had a dual DC/CC role and would have a major increase in load from the reconfiguration.⁸ This was one reason ADC felt that the 34th NORAD Division should stay with ENR where there would be no degradation of computer support capability. Probably a more important reason was unity of command and support, ADC pointed out. If placed under ENR, ADC stated, a single commander would have operational, training, administrative, logistical and inspection support responsibilities.

(U) ~~(S)~~ NORAD replied to ADC and the regions on 14 February that it would not change its decision to place the 34th NORAD Division under NNR.⁹ Placing the 34th ND under Eastern NORAD Region would result in a poor operational posture, NORAD said. ENR would be responsible for air defense of an area from Hudson Bay to Key West while NNR would be left with one full division and the very austere 37th Division. The best operational structure had to be chosen in spite of support problems, NORAD concluded.

(U) ~~(S)~~ ADC requested reconsideration in a letter on 18 February 1969.¹⁰ ADC again pointed out the saturation in NNR in data handling capability and again stressed the importance of unity of command. In this

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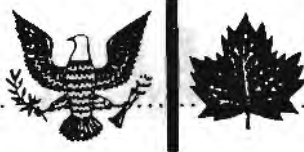
letter, signed by the ADC Commander, Lieutenant General Arthur C. Agan, the splitting of command was strongly recommended against. NORAD again reaffirmed its decision, however, in a letter on 24 February 1969.¹¹ The ultimate resolution of this matter is covered in various sections below.

(U) Operation Plan 332N-70 and 332C-70. The NORAD/CONAD plan, FY 70 Reconfiguration, was dated 20 March 1969. All reconfiguration actions were made effective by this plan on 15 August 1969 (for a change to this date, see below). To be phased out on this date were the SAGE combat center at Hamilton AFB, California (SCC-5), Western NORAD/CONAD Region, and the SAGE direction centers at Topsham AFS, Maine (SDC-5), 36th NORAD/CONAD Division, and at Adair AFS, Oregon (SDC-13), 26th NORAD/CONAD Division. The plan provided that the Central Region was to be redesignated the Western NORAD/CONAD Region and was to incorporate the area and forces of the latter.

(U) The Northern NORAD Region was to expand to take over the area and forces of the 34th NORAD Division (however, see 10 May 1969 change below). The Eastern CONAD Region was to retain CONAD operational control over the 34th CONAD Division.* The 25th and 27th NORAD/CONAD Divisions, in the Western

(u) * ~~(S)~~ In a message on 16 April 1969, NORAD explained to its region and component commanders its concept of operations for the 34th Division. NORAD said that under normal NORAD operations, the 34th would be under the operational control of the NNR commander. The 34th DC would be data tied to the NNR CC and all reporting would follow current procedures. CONAD operation of the 34th would be handled as a contingency. If such arose and the 34th's U.S. forces were withdrawn from NORAD, the U.S. forces and U.S. area of the 34th would come under the Eastern CONAD Region (ECR) commander's operational control.

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U.S., were to split up the area and forces of the outgoing 26th NORAD/CONAD Division. The 41st NORAD Division and the 35th NORAD/CONAD Division in the Northeast, were to divide the area and forces of the phasing-out 36th NORAD/CONAD Division (see maps following). The 34th Division was to expand northward into Canada by assuming the eastern portion of the area of the 29th Division.

(U) The above operation plan was amended by a NORAD message on 10 May 1969.¹² The effective date for the reconfiguration was made a month later, 15 September 1969, and a number of changes in boundaries, areas of responsibility, and assignment was made. A major change was in the area and assignment of the 29th and 34th Divisions. As has been shown, as originally planned, the two divisions were to be configured in a north-south orientation with the 29th assigned to Western Region and the 34th to NNR. This was all changed now. The two divisions were to be oriented in an east-west direction. The 29th's area was to be located mostly in Canada and the division was to be placed under NNR. The 34th's area was to be in the U.S. and the division was to be placed under Eastern Region (refer to maps following).

(U) ~~(S)~~ This did not entirely make all areas and assignments clean and neat, however. The 29th NORAD Division direction center was to be at Duluth, Minnesota, which was located inside the area of the 34th Division. Also, the Bomarcs at Duluth (74th ADMS) and Kinchloe AFB (37th ADMS), located within the 34th Division area, were to be under the operational control of the 29th NORAD Division. Another matter was that this new alignment left the 29th without any fighter interceptors for full-time operational control.

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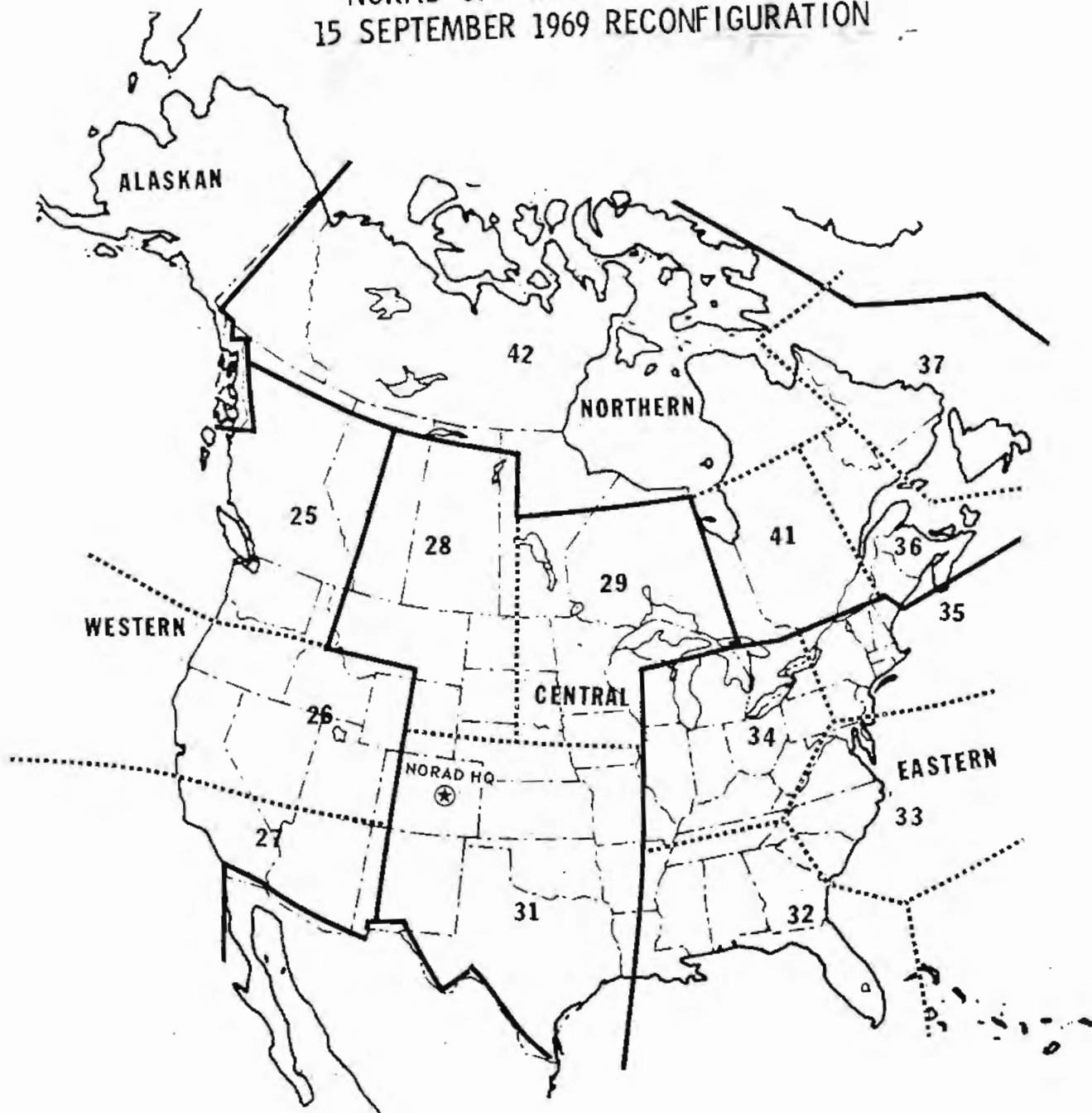


(u) ~~(S)~~ There was not to be a 29th CONAD Division. CONAD explained to ADC and Eastern CONAD Region (ECR) in a message in July that the 34th CONAD Division would expand to cover the U.S. territory in the 29th NORAD Division.¹³ The Bomarcs at Duluth and Kinchloe would be under the 34th CONAD Division. The DC at Duluth and the BUIC Centers at Calumet AFS, Michigan, and Baudette AFS, Minnesota (under the operational control of the 29th ND), were to be placed directly under ECR for CONAD matters.

(u) ~~(S)~~ Another issue which arose but was never settled fully before it was overtaken by events was that of designation of a commander for the relocated Western NORAD/CONAD Region. NORAD had decided in April that the commander of the Western Region, after it was relocated, would be an Army position (which the Western Region was at that time - Major General J. R. Winn, USA).¹⁴ ADC's General Agan objected to this, however, pointing out that the much greater forces and manpower in WNR furnished by the Air Force were justification for the commander being an Air Force position.¹⁵ No change was made at this time by NORAD, however.

(U) 15 September Reconfiguration of NORAD/CONAD. NORAD submitted its proposed JTDs for the Western, Eastern and Northern Regions and the divisions to the JCS on 2 June 1969.¹⁶ Among the matters for which NORAD asked approval was the placing of all division commanders positions on the NORAD/CONAD JTDs (a total of nine spaces), the placing of two deputy commander positions in WNR (the first deputy would be a USAF major general, the second a CF brigadier general), and the placing of a deputy commander (Army) position on the ENR JTD. A net reduction of 55 spaces would be made by the reconfiguration. A total of 64 spaces would be cut out with the closing of CNR and the 26th and 36th Divisions, but nine spaces would be added if the division commanders were placed on the JTDs.

NORAD ORGANIZATION PRIOR TO
15 SEPTEMBER 1969 RECONFIGURATION



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15 SEPTEMBER 1969 RECONFIGURATION

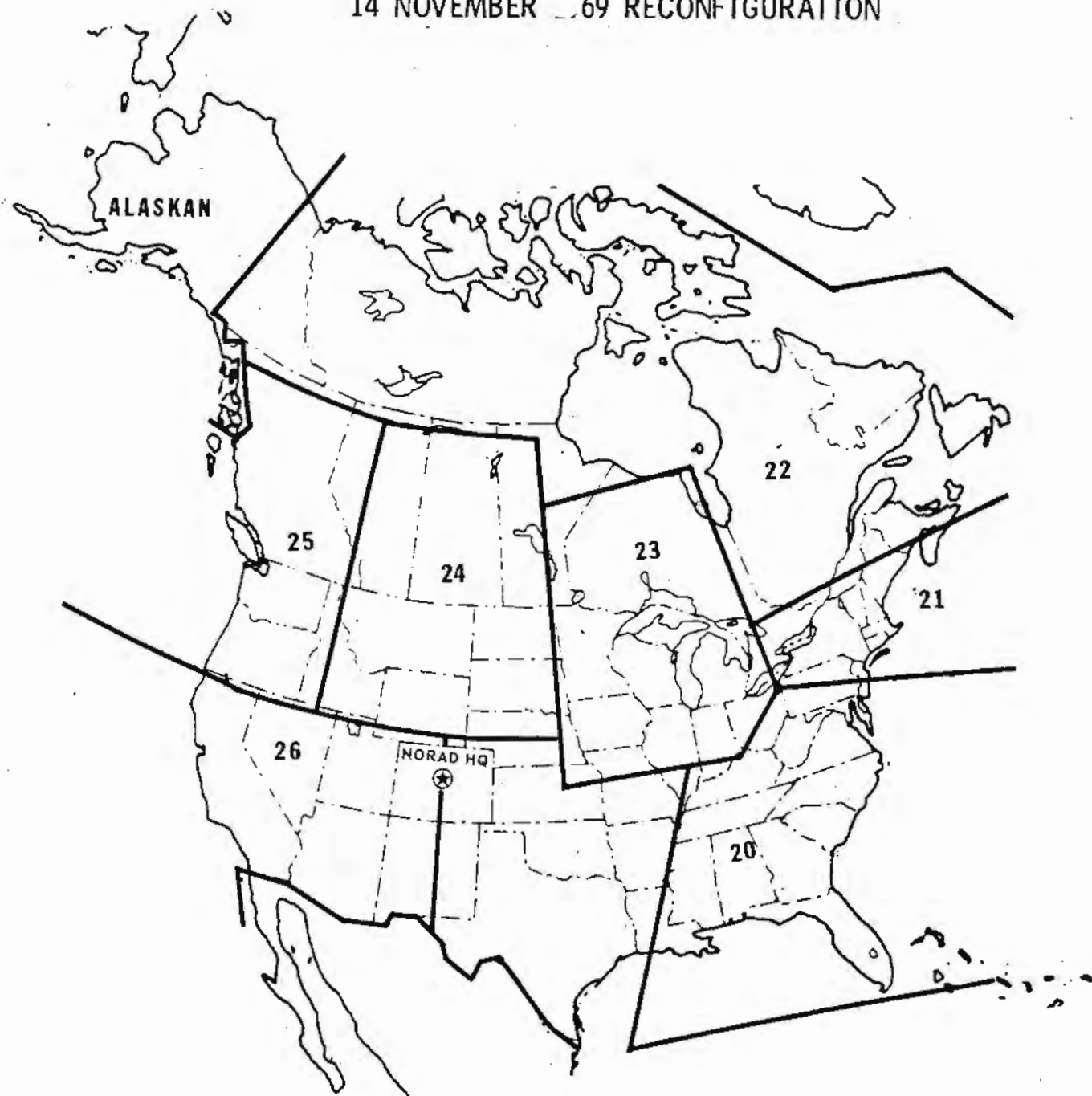


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14 NOVEMBER 1969 RECONFIGURATION



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(U) At any rate, by NORAD Special Order G-10 and CONAD Special Order G-1, both dated 30 July 1969, effective 15 September 1969, the Western NORAD/CONAD Region Headquarters was relocated from Hamilton AFB to Richards-Gebaur AFB (the Hamilton combat center was closed); the Central NORAD/CONAD Region Headquarters was discontinued; and the 26th and 36th NORAD/CONAD Divisions were discontinued. NORAD had as of 15 September, four regions (three SAGE and one manual combat centers) and 11 divisions (nine SAGE and two manual DCs).

(U) ~~(S)~~ In the meantime, a whole new round of cuts and restructuring was coming up, as will be covered below. Because of this, the question of the command position for Western Region was not settled. As late as 13 August, the ADC commander pointed out to CINCNORAD that the command position for Western Region, recommended by CINCNORAD to be an Army officer, remained an unresolved issue.¹⁷ The ADC commander recommended that CINCNORAD "take action with the JCS to cause understanding of the points I have previously made on this subject and hence retention of an Air Force officer in the position of Commander, Western NORAD Region."¹⁸

(U) ~~(S)~~ CINCNORAD was having to reconsider all of his command position recommendations, however, because of the obvious (by this time) new restructuring that would take place as a result of new budget cuts. CINCNORAD asked the JCS on 14 August to hold off on any decisions on U.S. commander and deputy Commander positions recommended in the 2 June 1969 submission (see above).¹⁹ New recommendations would be made when the new structure was worked out. Meanwhile, the command positions associated with the current Central Region should apply to the relocated Western Region, he said. This meant that the CNR



commander, Air Force Major General William B. Greenfield, would be the commander. In another message on 15 September, CINCNORAD advised the JCS and the individuals concerned that he was designating General Greenfield as acting commander of the Western NORAD/CONAD Region effective that date.²⁰ At the same time, he designated Army Major General James R. Winn, the WNR commander, as his special assistant with duty station at Hamilton AFB.

(U) ~~(S)~~ The JCS replied on 21 August to NORAD's request for deferment of action, agreeing to postpone any decisions until NORAD had a chance to assess the implications of Project 703.²¹ However, in mid-September NORAD asked the JCS to withdraw the 2 June JTD proposals from a deferred status for approval as interim documents.²² NORAD asked for two exceptions to this, however. NORAD asked that the service designation of the WNR commander not be addressed at this time and that the placing of U.S. division commanders on the JTDs be deferred. The reason NORAD asked for approval of the JTDs was that all action on approval of JTDs had been stopped which was not the original intent of NORAD and there was no JTD for the current organizations. This meant that there was no documentary authorization upon which the services or NORAD could assign or reassign personnel.²³ The JCS approved the JTDs submitted on 2 June in a message on 23 September with the exceptions asked by NORAD as interim FY 1970 documents.²⁴

(U) ADC and ARADCOM Changes. ADC inactivated its Fourth Air Force Headquarters at Hamilton AFB on 30 September 1969 and its 26th and 36th Air Division Headquarters on the same date.²⁵ ARADCOM continued its three-region structure, but moved its 2nd Region from Richards-Gebaur AFB to Selfridge AFB, Michigan,



effective 1 September 1969 and shifted boundaries.²⁶ Selfridge provided a much more advantageous location for the region headquarters. Being at Selfridge would more centrally locate the region within its area of responsibility, providing more effective control and supervision and saving travel funds.

PROJECT 703

(u) ~~(S)~~ Project 703. Even before the above-discussed reconfiguration was implemented, a new one was in the offing because of further immediate funding cuts. The 15 September structure was to last just two months as a result. As discussed elsewhere in this history, the new changes resulted from what became known as Project 703 -- the Services were directed to reduce FY 1970 expenditures by a total of three billion dollars. Because NORAD knew further changes were coming, on 14 August, the command asked for deferment of action on part of the proposed JTDs for its regions and divisions. The JCS agreed on 21 August to this deferment until NORAD had the opportunity to assess the implications of Project 703. The JCS asked that NORAD's recommendations on organizational structure and command positions be submitted by 8 September 1969.

(u) ~~(S)~~ ADC Organization Recommendations. In the meantime, on 12 August (with revisions on 14 August), ADC submitted to USAF its assessment and recommendations on Project 703. CONAD had not been able to participate in ADC's original study because of an "Air Force Eyes Only" restriction. This was lifted, however. In its proposal, ADC recommended keeping the two region/air force structure in the CONUS with six divisions under them. But ADC would phase out all existing direction centers and redesignate six of the BUIC III centers as divisions. The CONUS

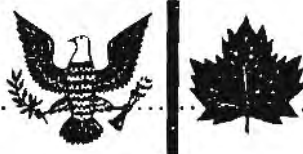


would be divided into six geographical areas with at least two BUIC IIIs in each area. With the phase-out of the SAGE DCs, BUIC III would become the primary command and control element.

(U) CONAD Proposals. When CONAD finally got into the picture, a joint working group was formed to study the problem from the combined NORAD/ADC viewpoint. It was found that the original ADC proposal was inadequate to meet NORAD's command and control requirements and so the two commands developed a new proposal. CONAD submitted this new proposal to the JCS on 4 September 1969 and ADC submitted it to USAF on 30 August.

(u) ~~(S)~~ The new proposal made greater changes than did ADC's first proposal.²⁷ The existing regions/numbered air forces were to be eliminated. Six of the direction centers in the CONUS were to be retained and redesignated as NORAD/CONAD regions and combine the authorities and responsibilities of the current regions and divisions. Thus, one level below command headquarters would be cut completely out. ADC would continue to call its units "air divisions." Twelve BUIC III centers would be kept in the CONUS, which meant that one could be eliminated (Port Austin, Michigan). Three of the nine existing direction centers (two SAGE and one manual) would also be eliminated, along with the two combat centers and one BUIC in the CONUS.

(u) ~~(S)~~ CONAD told the JCS that the alternate plan had several advantages over the ADC proposal. It would provide for operating level command and control on a full time basis with a system designed as a primary system. Physical facilities, including support bases and air fields, were immeasurably better than at BUIC sites, thus obviating the requirement for construction. The new proposal would continue in operation an already operating system with its



communications, procedures and personnel. It also would provide a realistic basis for future system evolution. CONAD also pointed out that the future joint control centers (JCCs) in the 1972 time period could be eliminated and further savings made. CONAD explained that the term "region" was kept because it was a recognized subordinate unified command structure and the designation was used in current agreements and directives.

(u) ~~(S)~~ For command of the new regions, CONAD proposed a major general at each, the same as for current regions. There were several reasons for requesting a major general for each region -- increased responsibility of region commanders, justification for regions as subordinate unified commands, autonomous operation, and succession of command. Five of the six CONUS region command positions were proposed to be Air Force and one Army (23rd Region - Duluth). The five CONUS regions to be commanded by an Air Force officer were proposed to have Army deputy commanders. CONAD proposed that four of the regions have also Canadian Forces deputy commanders (21st, 23rd, 24th, and 25th). The 22nd Region at North Bay, Ontario, was proposed to have a CF commander and a USAF deputy commander.

(U) In the meantime, as noted earlier, ADC had supported and explained the new proposal to USAF in a letter on 30 August. ADC asked USAF support for the new approach as one that provided greater capability than ADC's previous plan at equal cost. ADC said it would establish air divisions in the CONUS at the same locations as NORAD/CONAD regions. The USAF Chief of Staff, General Ryan, advised ADC's General Agan on 11 September that he and the Air Force Secretary approved this proposal for the air defense organization.²⁸



(u) ~~(S)~~ Discussions with Canadian Officials on 703 Changes. Up to this point, the 703 reductions and realignment proposals had been kept within U.S.-only channels. On 18 September, DOD, State Department, and JCS officials met with Canadian officials in Washington to discuss reductions and changes in air defense.²⁹ The air defense reductions were outlined and the proposals for changes in air defense regional boundaries were presented by the U.S. side. Canadian officials pointed out that boundaries were a sensitive matter to Canada and that both boundaries and command and control arrangements could affect Canadian politics. The Government of Canada, the Canadian officials stated, had been projecting an image of greater involvement in North American defense. On the subject of details of organizational structure, such as whether the term "Northern" could be retained, the U.S. officials advised that these matters could be worked out through the NORAD command. CINCNORAD, it was stated, had to justify all changes with the Canadians and these were negotiable.

(u) ~~(S)~~ A second Canadian-U.S. meeting was held in Washington on 1 October 1969 at which time the Canadians were given a list of the cuts approved by OSD for implementation. Discussion was again held on the matter of command and control arrangements. Mr. Arthur Kroeger, Canadian Embassy Counselor, referred to Prime Minister Trudeau's statement on 3 April 1969 that it was his policy to have Canadian forces carry out those activities within Canada which were essential to North American defense.³⁰ Mr. Kroeger made the point that his Government would be in an awkward position if Canada ended up commanding a smaller portion of the defense of Canadian airspace than at present.

(u) ~~(S)~~ In a message on 15 October to the Canadian Chief of the Defence Staff, CINCNORAD outlined and explained his reconfiguration proposals including



the command and deputy command positions.³² The 22nd Region (old NNR) would, of course, have a Canadian commander. CINCNORAD pointed out that four other regions would have Canadian deputy commanders.* He said that he could not agree to having a Canadian Forces commander for the 25th Region, however. He said that allocation of command positions had to recognize the relative contribution of the Services. However, CINCNORAD did suggest that the principal BNCCs in the 23rd, 24th, and 25th Regions be commanded by a Canadian and have an appropriate number of Canadian Forces personnel on the staff. He pointed out that this BNCC would also be designated as the region ALCOP so this commander would have a direct responsibility for control of U.S. and Canadian air-space within his area under control of his region commander.

(U) ~~(S)~~ Another matter covered by CINCNORAD was that of disposition of the 37th Division at Goose AB, Labrador. USAF ADC proposed to inactivate its 37th Air Division and the 924th AC&W Squadron at Saglek (C-29). CINCNORAD said his consideration as to what should happen to the 37th NORAD Division area was in regard to continuation of Operation "Cold Shaft" (see Chapter Four). CINCNORAD proposed several options depending upon Cold Shaft and the desires of the Canadian Defence Staff. If the current Cold Shaft was deemed essential, a control capability would be required and C-24 could be designated the Melville Manual NORAD Control Center (MNCC). If Cold Shaft was not deemed essential, C-24 could be designated as the Melville Master NORAD Surveillance Station (MNSS). CINCNORAD proposed that the current NORAD division

*(U) In a message to Canadian Forces Headquarters on 7 November 1969, NORAD stated that these deputy commanders would be the primary NORAD deputy commanders.



area, operating under either an MNCC or an MNSS, be commanded by a Canadian. Further, CINCNORAD said he would not object if the CDS wanted to continue the 37th ND area as a subordinate division with the headquarters and all radars manned by Canadians.

(u) ~~(S)~~ On 20 October 1969, Canadian Forces Headquarters replied that with the exception of the proposals on the 37th Division, CINCNORAD's proposals were concurred with.³³ CF Headquarters said that further study was required on disposition of the 37th's area (see later section on discontinuance of the 37th).

(u) ~~(S)~~ 14 November Reconfiguration of NORAD/CONAD. On 30 October 1969, the JCS approved the CONAD proposals for organization as described in the 4 September submission.³⁴ The JCS approved a major general for command position at each CONAD region and granted authority to designate the CONAD regions as subordinate unified commands. In regard to Canadian command positions, the JCS stated that this portion of the proposal would be considered by them after discussion with Canadians on command and control had been completed.

(u) ~~(S)~~ Earlier, on 2 October 1969, the JCS had provided CONAD a list of Air Force Project 703 proposals that had been approved for implementation. Included was the deactivation of the 1st and 10th Air Force Headquarters, three air divisions and direction centers, and one BUIC. Later, CONAD received PCD F-9-312 (dated 23 October 1969), which included inactivation of the 1st and 10th Air Forces in FY 2/70, reduction of divisions and direction centers from nine to six in FY 2/70, and elimination of one BUIC in FY 2/70.³⁵

(u) ~~(S)~~ In a message on 31 October, the JCS advised that NORAD Regions were authorized the following command positions by country and service affiliation.³⁶



<u>Region</u>	<u>Commander</u>	<u>Deputy Commander</u>	<u>Deputy Commander</u>
20	MG, USAF	BG, USA	
21	MG, USAF	BG, CF	BG, USA
22	MG, CF	BG, USAF	
23	MG, USA	BG, CF	BG, USAF
24	MG, USAF	BG, CF	BG, USA
25	MG, USAF	BG, CF	BG, USA
26	MG, USAF	BG, USA	

The JCS told NORAD to show in its JTDs the second deputy commander as a CONAD (dual-hatted) position authorized on a component manning document.

(U) ~~(S)~~ In a message on 6 November, NORAD outlined in detail to all concerned the new configuration of the NORAD/CONAD command and control structure.³⁷ This message established that as of 1700Z on 14 November 1969 the new structure would go into effect. This meant inactivation of regions and divisions, activation of new regions, establishment of boundaries, changes in radar ties, etc. In all, after the new structure went into effect, there would be eight regions: one in Alaska and seven in the CONUS/Canada area. There would be no reorganization in the Alaskan area. Reconfiguration was confined to the CONUS/Canada area.

(U) ~~(S)~~ As established by the above message, on 14 November, regions and divisions in the latter area (except the 37th NORAD/CONAD Division) were to be discontinued. Seven numerically-designated regions were to take their place as follows:



<u>Former Division Area</u>	<u>New Region</u>	<u>Control Center Location</u>
32nd and 33rd	20th NORAD/CONAD	Ft. Lee AFS, Va.
35th	21st NORAD/CONAD	Hancock Fld, N.Y.
37th and 41st	22nd NORAD	North Bay, Ont.
29th and 34th	23rd NORAD/CONAD	Duluth IAP, Minn.
28th	24th NORAD/CONAD	Malmstrom AFB, Mont.
25th	25th NORAD/CONAD	McChord AFB, Wash.
27th	26th NORAD/CONAD	Luke AFB, Ariz.

(U) Separate NORAD and CONAD special orders, both dated 14 November 1969, specified the actions required for this reconfiguration.³⁸ NORAD discontinued on 14 November the Western, Eastern, and Northern NORAD Regions and ten of the existing eleven NORAD divisions (nine SAGE and two manual). The 37th NORAD Division was inactivated later (see below). Seven NORAD regions were established with control centers at the location of seven of the nine SAGE direction centers. Two SAGE direction centers, the 32nd at Gunter AFB and the 34th at Custer AFS, were closed. One manual direction center, that of the 31st Division at Oklahoma City AFS, was also closed. CONAD discontinued the Western and Eastern CONAD Regions and eight of nine existing CONAD divisions (there were no 29th or 41st CONAD Divisions). CONAD established six regions in the CONUS.

(U) The CONAD Special Order also established the six CONAD regions in the CONUS as CONAD subordinate unified commands, effective the same time. A JCS SM

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of 17 June 1967 authorized CONAD to designate its regions as subordinate unified commands.

u (c) As noted above, the primary command and control element of the region was no longer termed combat center. It was termed "region control center." In a message on 13 November, NORAD told the JCS what its terminology was.³⁹ NORAD pointed out that its 6 November message established seven U.S./Canadian regions with the primary command and control element designated as Region Control Centers (RCCs). In each region, NORAD explained, there were also two BUIC IIIs which were designated BUIC NORAD Control Centers (BNCCs). In the 20th Region, the facility at Key West was designated a Manual NORAD Control Center (MNCC). In Alaska, the command and control elements were the Alaskan NORAD Region Control Center at Elmendorf and three Primary NORAD Control Centers at Murphy Dome, Campion, and King Salmon.

(U) JTDs for the new regions were submitted to the JCS on 24 October 1969. However, they were revised and resubmitted on 1 December. In the interim, the CF positions proposed for the two southern regions, the 20th and 26th, were withdrawn. NORAD had proposed four CF positions for the 20th NORAD Region and three for the 26th NORAD Region. In a letter to CINC NORAD on 19 November, Lieutenant General M. R. Dare, Vice Chief of Defence Staff, advised that this proposal was not concurred with.⁴⁰ NORAD explained to the JCS in its letter submitting the revised JTDs on 1 December that as a result of the need to replace CF positions in these two regions and because of 22nd Region reorganization, six USAF officers had to be added to the regions.⁴¹ These six spaces were to be obtained by moving them from NORAD Headquarters to the regions. The reconfigured regions would, in other words, require six more U.S. spaces than had been required prior to the reconfiguration of 14 November.

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(U) In all, the revised JTDs proposed a total of 301 U.S. spaces for the regions. In a message on 5 January 1970, the JCS advised of approval of the JTDs and the manpower authorization for 301 spaces for the seven numerically-designated regions.⁴² CF authorizations for the regions totalled 369 (of which 221 were in the 22nd Region) for an overall region total of 670.⁴³

(u) ~~(S)~~ Discontinuance of the 37th NORAD/CONAD Division. One final matter was disposition of the 37th NORAD/CONAD Division area. As covered earlier, USAF ADC had proposed back in September 1969 that it close its 37th Air Division and radar station C-29 at Saglek as a means of saving funds. ADC said at that time that the area could be consolidated under the Melville MNSS (C-24, 641 AC&W Sq. Melville AS, Labrador) without degrading the defense posture. CINCNORAD suggested to the Chief of the Defence Staff in his 15 October submission several options on the future of the 37th area. The determining factors were the continuation of "Cold Shaft" and the desires of the CDS. If Cold Shaft was deemed essential by the JCS and the CDS, the 37th could be discontinued and the area organized under a Manual NORAD Control Center (MNCC). If it was not deemed essential, the Melville Manual NORAD Surveillance Station would suffice. CINCNORAD also said that the area could be continued as a subordinate division if the CDS so desired.

(u) ~~(S)~~ The JCS proposed to the Chief of the Defence Staff on 11 December a number of recommendations on the area in advance of a meeting on the matter.⁴⁴ These recommendations included elimination of the 37th Division as an intermediate headquarters, maintenance of Cold Shaft operations, and retention of a control capability in the area by designation of C-24 as the Manual NORAD Control Center under the 22nd NORAD



Region. The JCS said it concurred with NORAD's proposals on Canadian command and manning of radar sites and headquarters in the 37th area. The JCS also recommended inactivation of radar station C-29 at Saglek.

(U) ~~(S)~~ Canadian Forces Headquarters replied on 18 December recommending that the JCS direct NORAD to implement the latter's recommendations other than that on the Saglek radar (C-29) which it said it wanted to consider further.⁴⁵ CF Headquarters wanted an assessment from NORAD on the value of Saglek to help in this consideration (see Chapter Four). The Canadian reply also stated that manning of the entire 37th area by Canadian Forces personnel would not be feasible. It was agreed, however, that the MNCC should be commanded by a Canadian Forces officer. Advice from NORAD was asked on Canadian positions in the NMCC. Finally, CF Headquarters said there was no point in having a meeting with the JCS until the Canadian position on Saglek had been reached.

(U) ~~(S)~~ On 24 December 1969, the JCS directed implementation of the first three recommendations in its 11 December message.⁴⁶ The JCS said it was in agreement that the MNCC should be commanded by a Canadian with appropriate representation from both countries on the staff.

(U) The 37th NORAD/CONAD Division was discontinued at 1700Z hours, 15 January 1970.⁴⁷ The AC&W station at Melville, C-24, was designated the Melville MNCC, reporting to the 22nd Region.⁴⁸

(U) ADC and ARADCOM Reconfiguration. In the meantime, ADC and ARADCOM had also made some changes. ADC sent out a message on 29 October 1969 to all concerned directing inactivation of its units under



the 703 reductions.⁴⁹ ADC directed inactivation of the 1st and 10th Air Forces, and the 31st, 32nd, and 34th Air Divisions as of 31 December 1969. ADC also directed that Custer AFS (34th), Oklahoma City AFS (31st), and Stewart AFB (1st AF) be closed, and Richards-Gebaur AFB (10th AF) be reduced.

(U) As noted previously, ADC was to establish air divisions in the CONUS at the same locations and with the same number as the NORAD/CONAD regions. As of 19 November 1969, ADC inactivated its air divisions and activated new air divisions as follows:⁵⁰

<u>Former</u> <u>Air Division</u>	<u>New</u> <u>Air Division</u>	<u>Location</u>
33 Air Division	20 Air Division	Ft. Lee AFS, Va.
35 Air Division	21 Air Division	Hancock Fld, N.Y.
29 Air Division	23 Air Division	Duluth IAP, Minn.
28 Air Division	24 Air Division	Malmstrom AFB. Mont.
25 Air Division*	25 Air Division	McChord AFB, Wash.
27 Air Division	26 Air Division	Luke AFB, Ariz.

ADC inactivated the 1st AF, 10th AF, 31st AD, 32nd AD and 34th AD as of 31 December 1969.⁵¹

(U) ARADCOM retained its structure basically as it was. The three ARADCOM regions (1st at Stewart AFB, 2nd at Selfridge AFB, and 6th at Ft. Baker, Calif.) remained in existence at the same locations. However, ARADCOM redesignated the areas of responsibility for each region effective 14 November 1969 (see map).⁵²

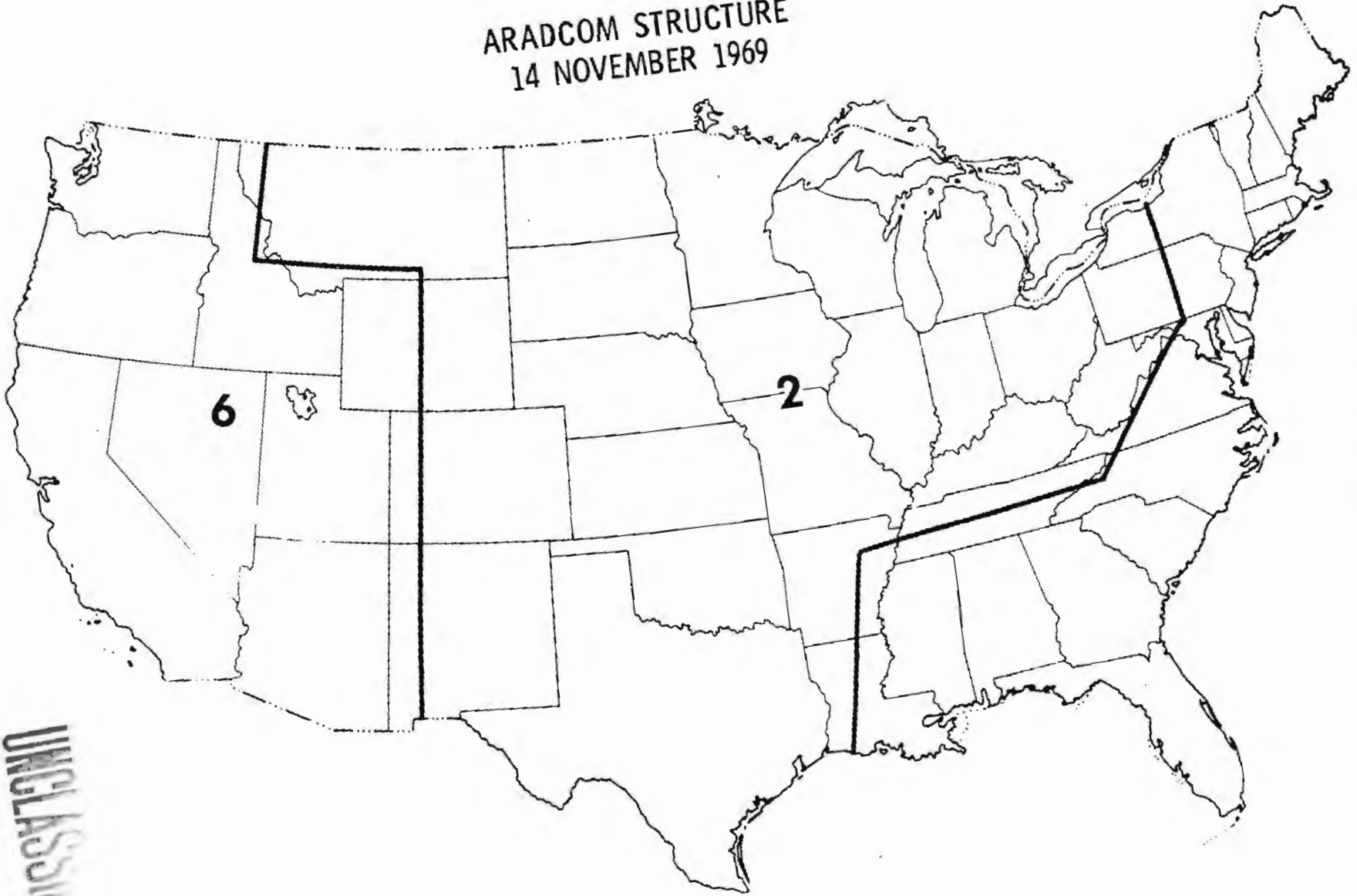
* (U) The 25th Air Division was continued.



JCS MANPOWER SURVEY OF HEADQUARTERS CONAD

	<u>Survey Team Recommen- dation</u>	<u>CONAD Request for Recon- sideration</u>	<u>JCS Approved Difference</u>
Command Section	+ 1	+ 1	+ 2
Secretary, Joint Staff	- 4	+ 1	- 3
NCOC	- 1		- 1
DCS/Personnel (J-1)	0		0
DCS/Intelligence (J-2)	- 8		- 8
DCS/Operations (J-3)	- 10	+ 3	- 7
DCS/Logistics (J-4)	0		0
DCS/Plans and Programs (J-5)	- 18	+ 14	- 4
DCS/Comm & Elect (J-6)	- 2		- 2
Dir/Public Affairs	0		0
Dir/Protocol	<u>0</u>	<u> </u>	<u>0</u>
Net Difference	- 42	+ 19	- 23

ARADCOM STRUCTURE
14 NOVEMBER 1969



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SECTION II - NORAD/CONAD HEADQUARTERS
ORGANIZATIONAL AND MANPOWER CHANGES

ANNUAL MANPOWER SUBMISSION

(U) NORAD sent its annual manpower submission to the JCS on 13 January 1969.⁵³ Included was the revised JTD dated 6 January 1969. A number of staff organizational changes were submitted for approval of the JCS. These involved J-5, DCS/Plans and Programs, and J-3, DCS/Operations. No additional personnel were required. Personnel spaces were shifted but the result was a zero balance. The JCS advised of approval of the JTD submission on 24 February 1969, effective 1 April 1969.⁵⁴ The above approval the JCS said, resulted in a total U.S. manpower authorization for the headquarters of 960. The headquarters had in addition 34 Canadian spaces.

NORAD HEADQUARTERS MANNING

(U) The NORAD/CONAD Joint Headquarters Table of Distribution (JTD), 6 January 1969, showed a total of 994 personnel authorized, of which 34 were Canadian spaces. Of the total of 994, 430 were officer spaces, 339 enlisted spaces, and 225 civilian spaces.

(U) The 1 July 1969 JTD showed a total of 1,022 (34 Canadian), an increase of 28. Twenty-nine additional spaces were approved by the JCS effective 1 April for the Directorate of Computer Programs. One Navy 05 space was transferred to the regions, however, for a net gain of 28. Making up the 1,022 total were 434 officer spaces, 343 enlisted spaces, and 245 civilian spaces.



(U) As of 31 December 1969, NORAD/CONAD Headquarters had an authorized strength of 1,002 (428 officers, 341 enlisted men, and 233 civilians). A number of changes had been made to produce this total including the loss of 23 spaces as a result of the JCS Manpower Survey, shifts of personnel from the headquarters to the regions and from the regions to the headquarters, and the shift of four spaces from the headquarters to the base communications squadron.⁵⁵

JCS SURVEY OF HEADQUARTERS CONAD

(U) During the period 21 July through 21 August 1969, the JCS Manpower Survey Team surveyed Headquarters CONAD. The team, headed by Brigadier General Russell A. Berg, JCS J-5, was composed of representatives of the Organization of the JCS and the services.

(U) The Survey Team recommended deletion of 42 positions out of a total of 989 in CONAD Headquarters -- 19 officer spaces, 19 civilian spaces, and four enlisted spaces (see table on page 26).⁵⁶

(U) A request for reconsideration of 19 of the 42 spaces was sent to the JCS on 10 October 1969 with a cover letter signed by CINCONAD, General Seth J. McKee.⁵⁷ General McKee said that only four of the 19 spaces were reclama actions; the other 15 were related to positions necessary for new requirements. General McKee said that of critical importance to NORAD/CONAD was the establishing of an automated war gaming capability. General McKee said he was also concerned with space evaluation and missile planning which would be adversely affected if the manpower team's recommendations stood.



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(U) In its rationale for reconsideration, CONAD provided a detailed explanation and justification of its requirement for its war gaming function. Among other things, CONAD pointed out the enormously changing world situation. CONAD had to intensify and improve its war gaming capability to ensure development of informed judgments for coping with these changes. The Directorate of Gaming, CONAD said, planned to hold twelve manual games by 1 July 1970. These games, it was explained, would help provide a basis for formulating the 1973-1980 Objectives Plan (NADOP). CONAD pointed out that concurrent with this manual effort, this directorate would be charged with the responsibility for acquiring an automated war gaming capability. CONAD said that it was planning to reorganize this directorate, calling it the Directorate of Gaming and Data Support.* The reorganization and automation of the war games function, CONAD stated, resulted in a new requirement for eight positions over those recommended by the Survey Team.

(U) The new requirement for automated war games carried over into requirements for the Directorate of Computer Programs. The Survey Team recommended reduction of nine spaces here. CONAD asked for restoral of six spaces (5 programmers and one stenographer) because the increased emphasis on automation would impose a new workload on this directorate.

(U) Among other requests for reconsideration, CONAD did not concur with the recommendation to

* (U) The directorate was reorganized on 6 January 1969 and called the Directorate of Studies and Gaming (NPPS Bi-monthly Historical Report, January-February 1969). See Appendix II for a full coverage of the history of war gaming and NORAD/CONAD war gaming development.

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disestablish the position of Assistant Chief, Space Division, Directorate of Operations, J-3. Rather, CONAD asked that the position be kept and redesignated to that of an ABM staff officer. CONAD also did not concur with the recommendation to disestablish two of three Space System Staff Officer positions. CONAD asked that only one position be deleted.

(U) CONAD modified its 10 October request for reconsideration in a message on 6 November. The Survey Team had recommended disestablishment of one Marine Corps 05 position in the Directorate of Training and Evaluation, J-3. CONAD recommended that an Air Force E-7 position be cut instead.

(U) A JCS SM dated 4 December 1969 responded to CONAD's letter of 10 October and message of 6 November. The JCS approved all 19 of CONAD's requests for restoration of positions deleted by the JCS Manpower Survey. As a result, CONAD lost 23 positions in all (see preceding table).

ADDITIONAL MANPOWER SPACES FOR DIRECTORATE OF COMPUTER PROGRAMS

(U) Forty-three spaces for the Directorate of Computer Programs were included in the USAF Command, Control and Communications Program, January 1967, and approved by DOD for FY 1969. In April 1968, NORAD submitted a priority request for 29 of these spaces and asked that the remaining 14 be allocated in FY 4/69. The latter were to be provided to the Advanced Systems Division of this directorate. The following month, the JCS approved the 29 spaces for planning purposes but deferred authorization pending analysis of the NCOC Master Plan (see Chapter Seven). NORAD

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re-submitted its request stating that these 29 spaces were not tied to the Master Plan. The JCS again approved the spaces and again deferred authorization.

(U) In January and February 1969, NORAD asked again for approval of the 29 spaces for the Maintenance and Modification Division of this directorate and for 14 spaces for the Advanced Systems Division, citing a vastly increased workload.⁵⁸ On 1 April 1969, the JCS advised of approval of the 29 spaces (all Air Force - five officers, four enlisted and 20 civilian).⁵⁹ The 14 spaces were deferred, however. The JCS said it considered that these were tied to the NCOC Master Plan. Submission of definitive justification on employment of these spaces to meet operational requirements outlined in the Master Plan was requested.

CIVILIAN HIRING RESTRICTIONS

(U) On 28 June 1968, Public Law 90-364 (Revenue and Expenditure Control Act of 1968) was signed into law. This act imposed limitations on civilian hiring on all departments and agencies of the Executive Branch of the Government. It established a long term goal of reducing civilian personnel to the on-board strength of 30 June 1966. This was to be achieved by filling only three vacancies for every four that occurred.

(U) CONAD got no immediate instructions but established a limited freeze on hiring in August 1968. Then on 27 November 1968, the USAF Headquarters Command advised that the civilian hiring limitations were applicable to USAF Special Activity Units. CONAD civilian personnel were categorized under such. On 11 December 1968, CONAD informed the JCS that it had received this guidance and had established a program

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to implement the requirements. CONAD explained certain problems it had that could affect its ability to totally comply with the directions received, but said that it intended to operate within the spirit of the law as long as mission accomplishment was not impaired.

(U) The JCS answered on 26 February 1969 noting that CINCONAD's letter had been referred to the Air Force. The JCS told CINCONAD that his concern was recognized but that no quick remedy was available. The JCS said that according to information available at that time, the DOD would reach the 30 June 1966 level about June 1971. The JCS added that if it appeared at any time that mission accomplishment would be impaired, the JCS be notified immediately so that action could be taken to correct the situation.

(U) In March 1969, OSD authorized a rehire rate of 85 per cent for the balance of the fiscal year.⁶⁰ As of 1 April 1969, however, this rate was changed back to 75 per cent.⁶¹

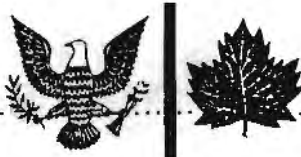
(U) In July, Congress repealed the civilian hiring limitation part of the 1968 act by amending Section 201.* However, civilian hiring restrictions were not lifted by higher authority. On 26 August, NORAD advised each region that Congress had repealed that portion of the law but that "administrative constraints are being continued and are still effective upon the Services and Unified commands."⁶²

(U) On 13 November 1969, a letter from Headquarters Command, USAF, advised that all previous

* (U) Public Law 91-47, approved 22 July 1969.

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manpower guidance on civilian ceilings and hiring was rescinded. The civilian manpower program was to be managed through approved man-years.⁶³ The approved FY 1970 man-years ceiling for CONAD was 271.⁶⁴

CONAD LIAISON OFFICE IN WASHINGTON

(U) CONAD informed the JCS on 11 September 1969 that it was establishing a CONAD Liaison Office in the Washington, D.C. area.⁶⁵ CONAD explained that because of the changes underway, the reductions, and the introduction of new systems it was mandatory that the Commander-in-Chief and the CONAD staff be kept intimately acquainted with the actions of the Joint Chiefs, the services, and other Washington agencies. For these reasons, effective 25 September 1969, a liaison position was established with a CONAD officer (Colonel Clifford A. Upton, USA) in place in TDY status. The officer was to carry out the functions until a permanent position was established. CONAD said that in accordance with agreements between NORAD and JSIPS (Joint Continental Defense Systems Integration Planning Staff), the CONAD liaison officer would be provided office space at the JSIPS location.

(U) The JCS Manpower Survey Team (see above) recommended in its report on 21 August that the liaison position be established (under CONAD's J-5) in the grade of lieutenant colonel. In its request for reconsideration of a portion of this survey, submitted on 10 October 1969, CONAD asked that this position be raised to colonel. The JCS approved this upgrading in an SM dated 4 December 1969 covering the manpower survey.

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REORGANIZATION OF NORAD'S J-6 STAFF SECTION

(U) At the end of January 1969, NORAD's DCS/Communications and Electronics (J-6) informed the DCS/Personnel that it wanted to realign some of its functions to better handle electronics planning and programming because of the continuing increase in magnitude and complexity in these areas.⁶⁶ J-6 wanted to move responsibility for long-range planning and programming, and evaluation of future requirements to the already existing Directorate of Plans and Programs from the Directorate of Communications and the Directorate of Electronics. A few manpower spaces were also to be moved and two divisions created under the directorate -- Plans and Policy and Programs and Requirements. DCS/Personnel concurred with the changes and submitted them to the JCS on 11 February 1969 for concurrence and incorporation into the annual manpower submission.⁶⁷ On 20 February, however, NORAD asked that JCS defer action until final approval of the NORAD/CONAD JMP.⁶⁸ NORAD said it would then take up this change directly with the services concerned.

(U) NORAD made the changes in Amendment Number 1 to the 6 January 1969 JTD, dated 1 April 1969. Two divisions, as noted above, were established under the Directorate of C&E Plans and Programs. The latter got four more people from within J-6. No additional personnel were assigned to J-6.

REORGANIZATION OF NORAD'S J-3 STAFF SECTION

(U) Effective 6 January 1969, the date of the new NORAD/CONAD JTD, DCS/Operations, J-3, was reorganized. The Directorate of Operations Analysis was transferred to J-5. J-3 consolidated and shifted

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functions between remaining divisions, redesignating divisions in the process with more meaningful titles. For example, in the Directorate of Operations, the Weapons Division became the Air Defense Division and absorbed surveillance and warning from the old Surveillance and Control Division and electronic warfare from the old Electronic Warfare Division. The latter was deleted and the former became the Command and Control Division.

(U) Effective 18 November 1969, the NORAD Combat Operations Center, a separate directorate since 1965, was placed under J-3. A new position was established at that time -- Assistant Deputy for Combat Operations -- over the NCOC with the Director COC under it (see also Chapter Seven).

REDUCTION OF FAA/NORAD LIAISON OFFICER POSITIONS

(U) The FAA asked in October 1968 for NORAD's views on continuing to have two FAA liaison officers at NORAD Headquarters.⁷⁰ The NORAD staff reviewed the requirement and found that one FAA officer could accomplish the functions. A reply to this effect was sent to FAA in November 1968.

(U) The FAA answered in March 1969 that in accordance with NORAD's decision, one position would be deleted on 1 July 1969 and asked for confirmation of NORAD's position.⁷¹ NORAD replied on 23 April confirming its previous position that only one FAA liaison officer was needed.⁷² On the same date, NORAD asked the FAA to establish a four year tour of duty for the FAA liaison officer.⁷³ It was NORAD's view that this was long enough and that rotation was needed to bring in people from the field with new points of view.



CANADIAN FORCES WARNING LIAISON OFFICER
RESPONSIBILITIES

(u) ~~(S)~~ In October 1968, the Canadian Forces liaison officer position at NORAD Headquarters was deleted on the recommendation of the Canadian Chief of Defence Staff. The liaison duties (mainly matters concerning the Canadian National Survival Attack Warning System and the Nuclear Detonation and Fall-out Reporting System) were assumed by the Canadian officer assigned to NORAD Headquarters in the NBC/Damage Branch of the Directorate of Operations.

(u) ~~(S)~~ On 30 June 1969, the Chief of the Defence Staff provided CINCNORAD with a detailed list of responsibilities for the incumbent to this position which the CDS termed the Canadian Forces Warning Liaison Officer (CFWLO).⁷⁴ NORAD disagreed, however, pointing out that some of the proposed tasks showed a misconception as to CINCNORAD's responsibilities.⁷⁵ NORAD said that operational responsibility for dissemination of readiness state changes, attack warning, intelligence and surveillance data to Canadian agencies were functions of the NORAD COC and it was neither practicable nor desirable to assign such tasks to a single individual.

(u) ~~(S)~~ NORAD also said it was necessary to be careful to avoid establishing a separate channel of communication between CF Headquarters and NORAD for matters that should properly be processed through normal staff channels. NORAD said also that some of the responsibilities proposed could not be performed by a single individual on a 24-hour basis during periods of crisis.



(u) ~~(S)~~ NORAD recommended that the terms of reference for the CFWLO be left as broad as possible. CF Headquarters proposed in a letter on 21 November that it send a team to NORAD to discuss the whole matter.⁷⁶ One of the points to be considered was adjustments to the National Survival Attack Warning System that resulted from Canadian Forces defense review and force reduction, CF Headquarters said. The latter stated that one of these adjustments would be the closing of the Federal Warning Center and the transfer of its responsibilities to North Bay.

(U) A meeting with a group from CF Headquarters was held at NORAD Headquarters on 3-4 December at which time terms of reference for the CFWLO were developed. On 12 December, NORAD sent a letter to CF Headquarters with the recommended terms of reference:⁷⁷

a. To alert the appropriate CFHQ and Hq NORAD staff agencies as far in advance as possible of any planned or proposed changes in configuration, facilities or procedures within either NORAD or the NSAWS which are likely to have an impact upon the other organization, and

b. To assist whenever possible by insuring adequate coordination and timely staff action to effect any necessary changes.

DINS INSPECTION OF CONAD

(U) During the period 27 January through 11 February 1969, the DOD Directorate for Inspection Services inspected CONAD. As stated in the report of the inspection, dated 4 March 1969, the purpose

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was to provide the JCS and CINCONAD with an additional measurement of the effectiveness of CONAD and its ability to discharge assigned responsibilities and to accomplish directed functions, missions and tasks. Broad considerations of management were emphasized rather than details of management, the report stated. The adequacy of resources in relation to assigned missions was examined. OSD informed CONAD by message on 21 March 1969 that the Assistant Secretary of Defense (Administration) had approved the report. The overall classification of the report was Top Secret and the OSD message stated that it should remain Top Secret as it reflected a thorough evaluation of management effectiveness and use of resources by CINCONAD. CONAD's comments on the inspection were provided to the JCS on 18 April.

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SECTION III - 1969 NORAD/CONAD
PERSONNEL CHANGES OF NOTE

HEADQUARTERS NORAD/CONAD

Command Section

General Seth J. McKee, USAF, became Commander-in-Chief, NORAD/CONAD, 1 August 1969, replacing General Raymond J. Reeves, USAF. General McKee had been Assistant Vice Chief of Staff, USAF.

Lieutenant General Edwin M. Reyno, CF, became Deputy Commander-in-Chief, NORAD, 15 September 1969, replacing Lieutenant General Frederick R. Sharp, CF. General Sharp replaced Lieutenant General W. R. MacBrien, CF, on 23 January 1969. General Reyno had been Vice Chief of the Canadian Defence Staff.

Major General Kenneth H. Bayer, USA, became NORAD/CONAD Chief of Staff 1 December 1969, replacing Major General Ethan A. Chapman, USA. General Bayer had been Commanding General, 32nd Army Air Defense Command.

Brigadier General William L. Mitchell, Jr., USAF, became NORAD/CONAD Assistant Chief of Staff 1 February 1969, replacing Brigadier General Sterling P. Bettinger, USAF. General Mitchell had been Director of Operations, J-3, NORAD.

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Command Surgeon

Colonel John H. Wilkins, USAF, became Command Surgeon to Headquarters NORAD/CONAD on 7 August 1969, replacing Colonel L. C. Kossuth, USAF.

DCS/Personnel J-1

Colonel James B. Cobb, USAF, became Deputy Chief of Staff, Personnel, 7 November 1969, replacing Colonel James S. Smith, USAF.

DCS/Intelligence J-2

Major General Stebbins W. Griffith, USAF, became Deputy Chief of Staff, Intelligence, 2 June 1969, replacing Brigadier General Wright J. Sherrard, USAF.

Colonel Joseph H. Lindley, USA, became Director of Plans and Operations, 1 September 1969, replacing Colonel Raymond W. Allen, Jr., USA.

Colonel Luther D. Carson, USAF, became Director of Current Intelligence and Indications Center, 1 July 1969, replacing Colonel Charles R. Hippenstiel, USAF.

DCS/Operations J-3

Major General George S. Austin, CF, became Deputy Chief of Staff, Operations, 23 December 1968, replacing Major General Maurice Lipton, CF.

Brigadier General Joseph H. Belser, USAF, became Director of Operations, 20 April 1969, replacing Colonel Charles W. King, USAF.

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Brigadier General Norman L. Magnusson, CF, became Acting Director, NORAD Combat Operations Center, on 14 November 1969, replacing Major General Richard S. Abbey, USAF. On 1 December 1969, General Magnusson was assigned primary duty as Director, NORAD Combat Operations Center, and additional duty as Acting Assistant Deputy for Combat Operations.

Colonel Edward C. Fletcher, USAF, became Acting Director, CONAD Combat Operations Center on 14 November 1969.

DCS/Plans and Programs J-5

Brigadier General Jerry S. Addington, USA, became Assistant Deputy Chief of Staff, Plans and Programs, 25 August 1969, replacing Brigadier General James S. Billups, Jr., USA.

Brigadier General John R. Kullman, USAF, became Assistant Deputy Chief of Staff, Plans, on 6 January 1969.*

Brigadier General Spencer S. Hunn, USAF, became Assistant Deputy Chief of Staff, Programs, on 6 January 1969.*

Colonel Elmer D. Coon, USAF, became Director of Financial Management, 9 July 1969, replacing Colonel Waldo B. Jones, USAF.

* (U) This position was created and other changes were made by a reorganization of J-5 effective 6 January 1969. For details of this reorganization, see CONAD Command History, 1968, 1 May 1969, pages 209-211.

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Colonel Phillip D. Loring, USAF, became Director of Plans, 21 November 1969, replacing Colonel Robert L. Harriger, USAF.

Colonel Robert H. Damico, USAF, became Director of Computer Programs, 15 January 1969, replacing Colonel Harrold L. Moffat, USAF.

DCS/Communications and Electronics J-6

Colonel C. E. Holtby, CF, became Director of Electronics on 11 August 1969, replacing Colonel F. Colosimone, CF.

NORAD/CONAD REGION COMMANDERS

Lieutenant General Robert G. Ruegg, USAF, became Commander, Alaskan NORAD/CONAD Region, 7 September 1969, replacing Lieutenant General Thomas E. Moore, USAF.

Major General Maurice Lipton, CF, became Commander, Northern NORAD Region, and Commander, Canadian Forces Air Defence Command, on 15 January 1969, replacing Major General Michael E. Pollard, CF.

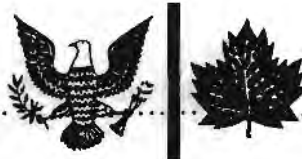
ON 14 NOVEMBER 1969

Brigadier General Jack K. Gamble, USAF, became Commander of the 20th NORAD/CONAD Region, Ft. Lee AFS, Virginia.

Major General George V. Williams, USAF, became Commander of the 21st NORAD/CONAD Region, Hancock Field, New York.

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Major General Maurice Lipton, CF, became Commander of the 22nd NORAD Region, CFB North Bay, Ontario.

Major General Thomas H. Barfield, USA, became Commander of the 23rd NORAD/CONAD Region, Duluth IAP, Minnesota.

Major General Richard S. Abbey, USAF, became Commander of the 24th NORAD/CONAD Region, Malmstrom AFB, Montana.

Major General Archie M. Burke, USAF, became Commander of the 25th NORAD/CONAD Region, McChord AFB, Washington.

Brigadier General Sanford K. Moats, USAF, became Commander of the 26th NORAD/CONAD Region, Luke AFB, Arizona.

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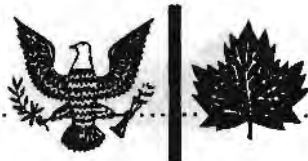


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CHAPTER II
AIR DEFENSE WEAPONS

SECTION I - MANNED INTERCEPTORS

INTERCEPTOR SQUADRON REDUCTIONS (Regular Force)

(u) ~~(S)~~ Background and Summary. In the three years from the end of CY 1966 through CY 1969, the regular NORAD manned interceptor force was cut in half. The regular force went from 33 squadrons with 562 aircraft to 17 squadrons with 290 aircraft. Twenty-nine of the 33 squadron force in 1966 were USAF ADC squadrons. During FY 1968 and the first quarter of FY 1969 (1 July 1967 to 30 September 1968), eleven ADC squadrons were discontinued (nine F-101 squadrons and two F-106 squadrons) to bring ADC to 18 squadrons. ADC lost four more squadrons in CY 1969 (three F-101s and one F-104) to reduce it to 14 squadrons. In addition, Alaskan Air Command lost its only interceptor squadron (F-102s). This brought the NORAD total to 17 (14 USAF ADC and three CF ADC). See Appendix I for a complete listing of NORAD forces eliminated during CY 1969.

(u) ~~(S)~~ Project 703. The loss of the latter five squadrons in FY 1970 resulted from the requirement for immediate reduction of spending, Project 703. USAF-proposed reductions in the air defense area to meet its share of the fund cut included phasing out three ADC F-101 squadrons and transferring the aircraft to three Air National Guard squadrons (see ANG section below), phasing out ADC's F-104 squadron, phasing out ADC's F-102 detachment at Key West, and phasing out Alaskan Air Command's F-102 squadron.

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(u) On 12 August 1969 (with revisions on 14 August), ADC submitted to USAF its assessment of the reductions proposed for its forces.¹ ADC said that loss of three F-101 squadrons would degrade its nuclear capability but if it had to lose these squadrons from its regular forces, the ANG squadrons given the F-101s should be given nuclear weapons or they should keep their F-102s which had better conventional weapons capability. Loss of the F-104 squadron, based at Homestead AFB, Florida, ADC stated, would remove a key defense unit from the southernmost extension of the CONUS defense. An aircraft, such as the F-104 which could counter the MIG-21, should be kept, ADC said. A dedicated air defense capability was necessary to prevent possible political embarrassment by penetration of U.S. airspace by Cuban military aircraft or USSR aircraft staged from Cuba. Much of the same rationale was given by ADC for keeping the F-102 detachment, i.e., that elimination increased the possibility of Cuban intrusions and embarrassment to the U.S.

(u) Alaskan Air Command advised NORAD of the impact of the loss of its F-102 squadron in a message on 3 September.² AAC pointed out that its mission was to provide combat ready air defense forces within Alaska for employment under the operational control of the commander Alaskan NORAD/CONAD Region. To accomplish this mission, AAC was assigned one 26 UE F-102 squadron augmented by a detachment of eight F-106s from ADC. Loss of the F-102s would mean not only loss of the aircraft for identification and surveillance, AAC explained, but also for training for the ground environment. In about 90 days the aircraft control and warning squadrons would no longer be adequately skilled. At the end of 90 days, therefore, AAC said that it would no longer possess an acceptable air defense capability.



(u) ~~(S)~~ On 4 September, CONAD provided its comments on component command submissions to the services on FY 70 reductions. In a letter accompanying detailed statements, General McKee said that in the weapons area he strongly recommended against additional reductions in an already austere air defense system.³ He recommended that the proposed weapons deletion, particularly BOMARC, be carried out only as a last resort. In regard to Alaska, he stated that he considered it absolutely essential that adequate air defense forces be kept in Alaska to assure sovereignty of Alaskan air space and provide a capability for wartime air defense.

(u) ~~(S)~~ In an attachment to the above letter, CONAD urged keeping all six F-101 squadrons in the regular force because they provided considerable nuclear air defense capability. CONAD said, as had ADC, that if this was not possible then the three ANG F-101 squadrons should be given nuclear weapons. CONAD said in regard to Alaska that it could not concur with the phase-out of the AAC F-102 squadron. This would eliminate ANR's air defense capability, CONAD said, other than limited point defense ADA. The eight F-106s were provided only as a peacetime augmentation for intercept of USSR penetration of the Alaskan ADIZ. These aircraft, CONAD went on, did not have primary armament in Alaska and would normally be withdrawn for CONUS defense after DEFCON 3. CONAD stated, however, that if the F-102 unit could not be kept then a TAC rotational F-4E squadron should be provided or an F-4E wing be assigned to AAC upon deactivation of the F-102 squadron. CONAD concluded by saying that with the continued cut back of ADC units, it could not deploy F-106s to ANR in the future.

(u) ~~(S)~~ Inactivation of the Alaskan F-102 squadron was directed, however, as were the other interceptor cuts proposed. In a message on 2 October the JCS



listed for all unified commanders the Air Force Project 703 proposals that had been approved for implementation.⁴ According to this message and PCDs F-9-307, 24 October 1969, and F-9-312, 23 October 1969 (Force Adjustments, Project 703), five interceptor squadrons and one interceptor detachment were to be phased out in the second quarter of FY 1970. Of these, three were F-101 squadrons, the aircraft of which were to be transferred to three ANG squadrons. The F-102 squadron in Alaska (317th), the F-104 squadron in Florida (319th), and the F-102 detachment at Key West, Florida (Det. 3, 32nd Air Division), were also to be deactivated in the second quarter of FY 1970. Five dispersed operating bases (Truax, Hulman, Byrd, Patrick, and Edwards) were to be deactivated -- see dispersal section for realignment. Niagara Falls IAP was to be reduced to DOB status. Oxnard AFB, California, and Suffolk County AFB, New York, were to be closed and Selfridge AFB, Michigan, was to be transferred to the Air Force Reserve. ADC squadrons at Oxnard and Selfridge were to be moved. ADC's training functions were to be reduced also. PCD F-9-309, 8 November 1969, directed elimination of 45 T-33 target aircraft in FY 1970; the phasing out of 25 F-102s, 20 T-33s and a training radar at Perrin AFB, Texas, in FY 2/70; and the phasing out of five F-101s at Tyndall AFB, Florida, in FY 2/70.⁵

(u) In accordance with the above, three F-101 squadrons -- the 2nd FIS, Suffolk County AFB, New York; the 59th FIS, Kingsley Fld., Oregon; and the 75th FIS, Wurtsmith AFB, Michigan, were released from alert on 30 October 1969.⁶ The 2nd FIS was inactivated on 31 December, the 59th FIS on 17 December, and the 75th FIS on 30 November.⁷

(u) In a message on 10 October, CONAD stated a tentative date of 15 October for release of the 319th FIS, Homestead AFB, Florida (F-104s) and the F-102



detachment at Key West, Det. 3, 32nd Air Division, and that the units would be inactivated on 31 December.⁸ But in the meantime, a Cuban MIG-17 had been flown into Homestead AFB and the JCS had directed that any phase out actions for these units be temporarily suspended (see Chapter Four for the full story of this incident). However, on 10 November, the JCS authorized release from alert of the 319th and Detachment 3 on 15 November.⁹ The 319th FIS and Detachment 3 were released from alert on the latter date and both were inactivated on 31 December 1969.¹⁰

(u) ~~(S)~~ It was noted above that the squadrons at two bases had to be moved. In December, the 460th FIS (F-106s) moved from Oxnard to Kingsley Fld., Oregon, and the 94th FIS (F-106s) (recently returned from Korea) moved from Selfridge to Wurtsmith AFB, Michigan. The 460th was never released from alert and the 94th assumed alert on 1 January 1970.¹¹

(u) ~~(S)~~ The Alaskan Situation. The directed phase-out of the 317th FIS, Elmendorf AFB, Alaska, was a matter of great concern to ALCOM and CONAD officials. This would leave only the eight F-106s on rotation from ADC under the College Shoes program and six of nine Hercules batteries for air defense of that area (the Army was eliminating three batteries -- see missile section, this chapter).

(u) ~~(S)~~ CINCONAD's first comments on the 703 reductions to the JCS, on 4 September 1969, included a nonconcurrence with the phase-out of the 317th. In this letter, CINCONAD said that if the 317th had to go then a TAC rotational F-4E squadron should be provided or an F-4E wing assigned to AAC. He also said that because of reductions in his own forces, he could not deploy F-106s to ANR in the future.



(u) (S) In response to the Alaskan CONAD Region Commander's expression of concern, CINCONAD replied on 27 October that he shared his concern and that he considered it essential that, at a minimum, ACR be provided an 18 UE F-4 squadron.¹² CINCONAD also said that expansion of the F-106 deployment (College Shoes) was not sound because of the reduction of CONUS-based units. He went on to say that no current Project 703 planning proposed any increase in F-106 rotation. And he said ADC had confirmed that neither it nor USAF was considering any change to the current concept.

(u) (S) In two messages on 1 November to the JCS, CINCAL detailed the problems resulting from and the impact of the impending loss of the 317th FIS. In both messages, CINCAL stated that his command had revalidated a requirement for 24 aircraft as a minimum and requested assignment of a 24 UE F-4E squadron.¹³ CINCAL said that rotation of additional F-106s from CINCONAD's resources was not a sound solution to the problem. CINCONAD's F-106s could be withdrawn at DEFCON 3 or higher so that there would be no assurance that Alaska would have any defense. Permanent assignment of a 24 UE squadron was required and it was obvious that with the cuts being made and the commitments CINCONAD already had for F-106s, such as for Korea, that a squadron could not be transferred permanently. CINCAL also cited the fact that Galena Airport was a vital forward base but the short runway was marginal for F-106s and adverse weather would deny F-106 operations. Finally, CINCAL pointed out that the F-106 was limited to an air defense role. With so little forces available in Alaska, it would be much better to have a multi-mission aircraft such as the F-4E.



(u) In the meantime, in an OSD message on 28 October officially announcing the FY 1970 budget reductions, it was stated that F-106 rotations to Alaska would be increased.¹⁴ The Alaskan CONAD Region Commander (CINCAL) pointed out to CINCONAD also that the public release on 703 had indicated that F-106 rotation would be increased, that he had favored F-4Es, and that he had informed the Air Force Chief of Staff of his messages to the JCS on the F-4E. He said that General Ryan had answered that he would support F-4Es after Vietnam, but in the meantime there would be a modest increase in F-106 rotation based on CINCONAD's appreciation of the needs of Alaska and the CONUS. The ACR Commander said he agreed with CINCONAD on no increase in F-106s as stated in his 27 October message (above) and asked his support for immediate assignment of a 24 UE F-4E squadron.

(u) In a message to the JCS and Alaskan Region on 4 November, CINCNOAD went over the whole exchange of messages between CONAD, ACR/ALCOM, and JCS and pointed out that he had continually supported retention of the F-102 squadron in Alaska until replaced by an F-4 squadron.¹⁵ CINCNOAD also pointed out that Galena, "the most strategically located interceptor base in Alaska," was useable only in emergencies by the F-106 due to the short runway and hazardous operating conditions. CINCONAD said that deployment of more aircraft under College Shoes (F-106s to Alaska) would further weaken the already thin perimeter defense of the CONUS. For this reason, CINCONAD said, and in view of the latest force reductions, expansion of College Shoes was not sound. CINCNOAD concluded that he considered it essential that CINCAL be provided an F-4E squadron concurrent with the inactivation of the F-102 squadron as an interim measure until the programmed assignment of an F-4E wing in FY 1/72.



(U) On 26 November, the JCS detailed the situation to CINCSRIKE, pointing out that CINCAL had requested assignment of an F-4 squadron.¹⁶ The JCS asked CINCSRIKE to comment on two alternatives -- either assignment of an F-4 squadron on a permanent basis from USSTRICOM resources or provision of an F-4 squadron on a rotational basis from USSTRICOM resources. CINCSRIKE replied that either alternative would degrade the remaining operational tactical fighter assets.¹⁷ In place of either JCS alternative, CINCSRIKE said, if F-4Es were the only solution, eight F-4 aircraft would be provided on a TDY basis for the air defense alert mission. Joint training of Army ground units and close air support units in Alaska could be accomplished by holding periodic exercises.

(U) Prior to any decision by the JCS, the 317th FIS went out of business. Phase-down began on 1 December with the last of the F-102s going off alert on 8 December.¹⁸ The 317th was deactivated on 11 December 1969 and the last F-102s left Elmendorf AFB on 13 December, leaving no assigned fighter interceptor aircraft in the Alaskan Command.¹⁹

(U) It was not until early the following year, 18 February 1970, that the JCS advised of its decision, which was to provide an 18 UE F-4 squadron to ALCOM.²⁰ The JCS said that the resources of a three-squadron wing of F-4 aircraft were scheduled to return to the CONUS from Southeast Asia by 1 April 1970. CINCSRIKE was directed to provide one 18 UE F-4 squadron to ALCOM on a PCS basis. It was to be a USSTRICOM squadron, permanently based in Alaska, under the operational command and control of CINCAL. When the 18 UE squadron was operational in ALCOM, the F-106 rotation was to be terminated, the JCS concluded.

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(u) ~~(S)~~ F-106 Squadron UE. In addition to whole squadrons being wiped out, another immediate concern of CONAD and ADC was the programmed reduction of F-106 UE. Early in 1969, ADC had eleven F-106 squadrons of which nine had 18 UE and two had 24 UE. The latter two were programmed to go down to 18 UE in FY 4/70 to reach a total of 198 aircraft. In a message to the JCS on 14 March, CONAD objected to this cut at this time because of its commitment to provide an F-106 squadron to South Korea and to maintain eight F-106s in Alaska.²¹ CONAD recommended that this reduction of the two 24 UE squadrons be held up until these commitments were assumed by F-4 units. ADC wrote to USAF on 18 March recommending that it be allowed to keep 210 UE F-106s, instead of reducing to 198 UE, until FY 4/72 at which time the program would be reviewed in light of aircraft attrition experience.²²

(u) ~~(S)~~ Neither request got anywhere. The JCS told CONAD that they did not consider it advisable to submit additional reclamation requests at this time. CONAD then asked that its recommendation be withdrawn.²³ USAF told ADC that it was risky to make any such proposals and asked that ADC reconsider its request.²⁴ The 198 UE, USAF pointed out, was directed by OSD which considered that a 198 UE force provided an acceptable capability. OSD might approve an internal realignment, but would probably not approve an increase in the ultimate programmed total of 198 UE. And here is where the risk in making a proposal for two 24 UE squadrons might possibly come in. OSD might approve 24 UE squadrons but hold the total to 198. This could result, USAF explained, in three 24 UE squadrons and seven 18 UE squadrons for a total of ten squadrons or a net loss of one squadron, one home base and possibly one dispersal base.

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NORAD OBJECTIVES

(S) It was NORAD's recommendation in the North American Aerospace Defense Objectives Plan 1972-1979 (NADOP 72-79), 15 August 1969, that for the manned interceptor force there should be selected a damage limiting force structure that was in consonance with the national strategy. If the national strategy dictated an absolute minimum air defense posture, the NORAD 76 Alternative Force (see Chapter Seven) should be selected. NORAD said the force mix for the latter consisted of two squadrons of IMI aircraft (12 UE each) and six squadrons of F-106A/B aircraft (18 UE each). The requirement for the F-106X was deleted. The 108 F-106A/B aircraft would provide a relatively economical capability for performing the peacetime identification function and provide a backup wartime capability. Interceptor forces for Alaska and Canada were the same under this force as in the approved program at that time (15 August 1969). NORAD explained that a 30-40 per cent damage limiting force did not differ significantly from the NORAD 76 Alternative Force. However, NORAD pointed out that when higher levels of ABM defenses were implemented, the proportion of the damage that could be inflicted by the air-breathing threat would be increased. Therefore, improved air defense capabilities would be required at that time.

(S) It was NORAD's contention in the NADOP that an IMI was an essential part of the air defense force structure in the mid-70s time period. The F-106X force in the approved program, NORAD stated, did not satisfy the objectives in the NADOP. "An IMI with superior performance characteristics is an absolute necessity and when deployed, satisfies basic operational objectives."



INTERCEPTOR SQUADRON REDUCTION (Air National Guard)

(S) Background. The previously discussed PCD Z-7-096, 16 December 1967, reaffirmed the phase-out of the two Air National Guard F-89 squadrons in FY 1969 and approved the beginning of the phase down in FY 1970 of the ANG F-102 force. Six ANG F-102 squadrons were tentatively scheduled for phase out in FY 1970.*

(S) PBD 364/PCD Z-9-002. A new Program Budget Decision on 9 December 1968, 364, approved inactivation of four ANG F-102 squadrons and the two ANG F-89J squadrons in the first quarter of FY 1970. Although four F-102 squadrons were to be inactivated, the assets of one of the squadrons were to be relocated to Dow AFB (Bangor), Maine, to replace the F-89J squadron, thus making a net reduction of three F-102 squadrons or five squadrons in all.

(S) PCD Z-9-002, approved 18 January 1969, affirmed the above decisions and approved also the extension of four ANG F-102 squadrons for one year, FY 1973 to FY 1974, as requested by the Air Force. The OSD decision on this extension was made because of a one-year slip in the F-106X schedule to FY 1974.²⁵

(S) Unit Release from NORAD Alert. In a message to all units on 5 March, ADC stated that effective 1 July 1969, four F-102 squadrons and one F-89J squadron would be deactivated.²⁶ The other F-89J squadron, the 132nd at Bangor IAP, Maine, was to change from F-89s to F-102s. Three squadrons were lost in May and June. The 152nd FIS, Tucson MAP,

* (U) See Appendix I for a complete listing of NORAD forces eliminated during CY 1969.



Arizona, with F-102s, dropped alert and the NORAD mission on 1 May 1969; the 124th FIS, Des Moines MAP, Iowa, with F-89Js, on 15 May 1969; and the 182nd FIS, Kelly AFB, Texas, with F-102s, on 16 June 1969.²⁷ This reduced the ADC ANG force to 17 F-102 squadrons and one F-89 squadron. The latter squadron, the 132nd FIS (101st Fighter Group), Bangor IAP, Maine, dropped alert 12 July in preparation for reequipping with F-102s. It was to resume NORAD alert about 1 November 1969.

(U) ~~(S)~~ The dropping of alert by this squadron brought the end of the operation of the F-89 in air defense and ADC recognized this occasion with a message to the officers and men of the 101st Air Defense Wing and the 101st Fighter Group. Said ADC, in part:28

The date is significant for you, for the Aerospace Defense Command, and for the U.S. Air Force, since it marks the termination of over 15 years of ANG operation of the F-89 and the passing of the F-89 from the list of interceptor aircraft serving in the air defense of the North American continent.

(U) ~~(S)~~ Project 703. USAF included in its proposals for meeting 703 fund cuts, a proposal to reequip three ANG squadrons with F-101 aircraft from three ADC regular squadrons which would be deactivated. ADC objected to the loss of nuclear capability and stated that if the Guard squadrons got the F-101s they had to be given nuclear weapons or keep their F-102s which had a better conventional weapons capability. In its letter to the JCS on 4 September on the reductions, CONAD said it agreed with ADC on the need for nuclear armament but urged retention of the three F-101 squadrons in the regular force.



(u) In a message on 2 October, the JCS advised CONAD of 703 proposals that had been approved for implementation. Included was the deactivation of three F-101 squadrons and the conversion of three ANG squadrons from F-102s to F-101s.²⁹ PCDs F-9-305 and F-9-307 provided for three regular F-101 squadrons to be phased out and the aircraft transferred to three ANG squadrons in the second quarter of FY 1970.³⁰ The USAF Force and Financial Program update of 24 October 1969 showed 16 ANG squadrons for end FY 1970 -- three F-101 squadrons with 54 aircraft and 13 F-102 squadrons with 234 aircraft.³¹ This showed two more ANG F-102 squadrons going out in FY 72, reducing the end year figure to 11 F-102 squadrons with 198 aircraft. This force was to continue through FY 1975.

(u) For the three F-101 squadrons to be deactivated, ADC chose the 2nd FIS, Suffolk County AFB, New York, the 59th FIS, Kingsley Field, Oregon, and the 75th FIS, Wurtsmith AFB, Michigan. These units were relieved from NORAD alert on 30 October 1969. Transfers of F-101 aircraft began on 4 November and were to be completed by 1 December 1969. To receive the F-101s were the 116th FIS, Spokane IAP, Washington, 132nd FIS, Bangor IAP, Maine, and the 178th FIS, Hector Field, Fargo, North Dakota. On 31 October, the National Guard Bureau directed these squadrons to transfer their F-102s to other ANG units. The F-102s owned by these squadrons were of a newer configuration than those of some ANG units so this transfer would modernize the ANG force as well as fill up many units that did not have full unit authorization.³² The 132nd FIS, Bangor IAP, as was discussed earlier, was converting from F-89Js to F-102As. The squadron had not completed this conversion, but was going to continue into the F-101 conversion. While these three ANG squadrons were converting to F-101s they were off NORAD alert. The 116th and 178th were released



from alert in November 1969. The 132nd dropped alert in July to begin conversion to F-102s. The goal at the end of the year was to assume alert with conventional weapons 120 days after receipt of F-101s and to assume nuclear armed alert within 180 days.³³

u (s) In the meantime, another ANG squadron was lost to NORAD. On 5 November, the 111th FIS, Ellington AFB, Texas, dropped alert, reducing ADC ANG squadrons to 17 with 14 on alert at the end of the year. A fifth squadron, the 175th FIS, Joe Foss Field, South Dakota, was to be reassigned to TAC in FY 3/70.

u (s) Another part of Project 703 pertaining to the ANG was the transfer of the ARADCOM F-100 tow target mission from the active force to the ANG. PCD F-9-309, 8 November 1969, transferred the F-100 ARADCOM support mission with eleven F-100 target aircraft to the ANG in FY 2/70.³⁴

INTERCEPTOR DISPERSAL

u (s) Realignment of Dispersal Bases. Again, as during 1968, in 1969, dispersal bases were being eliminated and realigned because of the discontinuance of a number of squadrons and movement of others. A brief comparison of dispersed operating bases 1967-1969 shows the reduction. As of 1 December 1967 there were 19 bases in the CONUS established as DOBs. A year later, 1 December 1968, there were 15 DOBs in the CONUS. On 1 December 1969, the number of DOBs in the CONUS had dropped to ten. Five DOBs were deactivated -- Edwards, Truax, Hulman, Byrd, and Patrick. The December 1968 and December 1969 DOB alignment was as shown in the table on the following page.

REALIGNMENT OF DISPERSAL BASES

<u>1 DECEMBER 1968</u>			<u>1 DECEMBER 1969</u>		
<u>Unit</u>	<u>MOB</u>	<u>DOB</u>	<u>Unit</u>	<u>MOB</u>	<u>DOB</u>
48th	Langley	New Hanover	48th (20th Rgn)	Langley	New Hanover
95th	Dover	Byrd (inact.)	95th	Dover	Atlantic City
49th	Griffiss	Niagara Falls	49th (21st Rgn)	Griffiss	Niagara Falls
60th	Otis	Bangor	60th	Otis	Bangor
27th	Loring	Bangor	27th (22nd Rgn)	Loring	Bangor
62nd	K. I. Sawyer	Truax (inact.)	62nd (23rd Rgn)	K. I. Sawyer	Phelps-Collins
87th	Duluth	Volk	87th	Duluth	Volk
94th	Selfridge (trans.)	Hulman (inact.)	94th	Wurtsmith	Phelps-Collins
5th	Minot	Logan	5th (24th Rgn)	Minot	Logan
18th	Grand Forks	Volk	18th	Grand Forks	Volk
71st	Malmstrom	Logan	71st	Malmstrom	Logan
318th	McChord	Walla Walla	318th (25th Rgn)	McChord	Walla Walla
460th	Oxnard (close)	Edwards (inact.)	460th	Kingsley	Siskiyou
84th	Hamilton	Fresno	84th (26th Rgn)	Hamilton	Fresno
2nd (inact.)	Suffolk Co. (close)	Atlantic City			
59th (inact.)	Kingsley	Siskiyou			
75th (inact.)	Wurtsmith	Phelps-Collins			
319th (inact.)	Homestead	Patrick (inact.)			

(Information in parenthesis under December 1968 table indicates disposition of unit or base in 1969.)

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(u) (s) Provision of Interceptors from ENR to the 29th Division. The NORAD/CONAD structure was reconfigured the first time in 1969 on 15 September. This change included changes in the area, boundaries and assignment of the 29th NORAD Division. The 29th NORAD Division (there was no 29th CONAD Division) was changed from assignment to Central Region to Northern NORAD Region. The organizational arrangement, which prevailed from 15 September to 14 November (see Chapter One for details), had many unusual features. The 29th's direction center was at Duluth, Minnesota, which was located inside the area of the 34th NORAD/CONAD Division. Two Bomarc squadrons, at Duluth and Kinchloe AFB, Michigan, also located within the territory of the 34th Division, were under the operational control of the 29th ND. Also, the new alignment left the 29th ND without any fighter interceptors for full-time operational control.

(u) (s) On 26 May 1969, NORAD advised ENR and NNR of its concept of operations for the 29th ND. NORAD directed ENR and NNR to jointly develop a plan that would provide for ID interceptors from ENR under the operational control of the 29th ND, identify two regular and one ANG FIS from ENR to be attached to the 29th ND for operational control at DEFCON 3 or higher or ADE, provide for ENR interceptor sorties in the 29th ND area to maintain proficiency for the weapons teams, and provide for joint division exercises.³⁵ ENR advised on 14 July that it and NNR had developed a plan to provide interceptors to the 29th ND from the 34th Division. The concept of operations, ENR stated, was to designate two regular squadrons (the 62nd and 87th) and one ANG squadron (179th) that were in the 29th ND prior to reconfiguration and in the 34th after reconfiguration. These same three squadrons would perform for the 29th ND the functions of ID, operations at DEFCON 3 or higher, and sorties for weapon team training.³⁶

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INTERCEPTOR OPERATIONS AND PROCEDURES

(u) ~~(S)~~ Interceptor Alert Requirements. NORAD/CONAD Regulation 55-3, 20 May 1968, prescribed alert requirements. Table 1, attachment 2, to this regulation stated under OP, paragraph a., that the regular squadron requirement was to "Maintain following number of interceptors on 15 minute fully armed state-of-alert at USAF main operating bases, and/or on 1 hour state-of-alert on all other bases." This paragraph made a 15 minute alert required at USAF MOBs only; at all other bases the alert was one hour. NORAD decided to make the 15 minute requirement applicable to all MOBs, Canadian Forces as well as USAF. By messages on 17 December, NORAD issued an interim Change 2, changing this paragraph to delete the word USAF and making the one hour alert applicable at Dispersed Operating Bases (DOBs).³⁷

(u) ~~(S)~~ The 22nd NORAD Region had been advised of this impending change on 19 November 1969 in a message in which it was stated that NORAD Regulation 55-3 was to be changed to require Canadian squadrons to keep aircraft on alert as American squadrons -- two on five, four on fifteen for a squadron having 18 UE.³⁸ Also, two dual duty staff officers of CF ADC/NNR visited NORAD on 9 December 1969 at which time the change was discussed. When the CF ADC officers visited on 9 December, they stated that there might be some difficulty with the change.

(u) ~~(S)~~ At any rate, the CF ADC commander countermanded NORAD's order. In a message to his units on 19 December, the CF ADC commander stated that the change was not to be implemented pending consideration of the implications to CF ADC fighter squadron alert posture.³⁹ At the same time, the CF ADC commander advised NORAD that it was obvious that this alteration could not be accomplished at this time



because of severe manpower and aircraft accommodation ramifications.⁴⁰ NORAD would be advised as soon as practicable whether CF ADC would be able to comply with this change, the latter stated.

(u) ~~(S)~~ NORAD replied on 20 December that the alert requirement specified by the change was not mandatory for CF ADC squadrons assigned to NORAD pending resolution of the difficulties mentioned.⁴¹ NORAD stated, however, that the alert requirement remained an objective to be achieved at the earliest possible date and should be fulfilled to the maximum practicable in the meantime.

(u) ~~(S)~~ NORAD decided, however, that it was not feasible at this time to make this change in the alert requirement. CF ADC advised NORAD on 16 January 1970 that a study of the resources required to meet the change showed that it would take more materiel, money and considerably more manpower than was available within CF ADC resources.⁴² The needed requirements, CF ADC said, had been submitted to Canadian Forces Headquarters for consideration. CINCNORAD informed the Chief of the Canadian Defence Staff in a conversation on 20 January that the interim change 2 was to be rescinded.⁴³ And in a message on 27 January, NORAD rescinded interim change 2 with interim change 3 which restated the alert requirement as it was in the regulation, i.e., 15 minutes at USAF MOBs and/or one hour alert at all other bases.⁴⁴

(u) ~~(S)~~ Alleged Airspace Violation by U.S. Military Aircraft. In the Alaskan area on 11 December 1969 an unusual event occurred. Two interceptors under the operational control of Alaskan NORAD Region penetrated Soviet airspace. This brought an immediate protest to the American Embassy in Moscow from the Russians.



(u) (S) In response to a request from the JCS for a statement of the facts and circumstances for use in preparing a response to the Soviet protest, NORAD provided a history of the basic events in a message on 7 January 1970.⁴⁵ An unknown aircraft track was detected at 0006Z, 11 December, heading east. The track was one aircraft traveling at a speed of about 220 knots and at an altitude of 10,000 feet. The track crossed the DEWIZ and at 0010Z was declared unknown. At 0015Z, two F-106s were scrambled from Eielson AFB to make an identification intercept of the unknown.

(u) (S) The unknown turned north and proceeded to a point about 25 nautical miles from the Alaskan mainland. It continued on a northwest heading, exited the Alaskan DEWIZ, and then turned north and traveled parallel to the DEWIZ. It finally turned west and faded from radar coverage at 0139Z.

(u) (S) Meanwhile, the two interceptors were proceeding to the unknown. At 0128Z the Alaskan NORAD Region Director of Operations directed the Campion NCC (the facility directing the intercept) to ensure that the interceptors remained east of the Alaskan DEWIZ. At this time, the interceptors were about to leave the Alaskan land mass. At 0131Z, the interceptors crossed the International Date Line at 65 degrees, 47 minutes North, 169 degrees, 01 minutes West, penetrating Soviet airspace. NORAD noted that this correlated with the time and place of penetration in the Soviet protest. At 0132Z, Tin City NSS (the facility controlling the interceptors) directed the interceptors to break off. Tin City NSS again directed the aircraft to break off at 0133Z and they immediately turned 180 degrees to the right. At 0138Z, the interceptors entered the Alaskan DEWIZ and went directly to Eielson.



(u) ~~(S)~~ NORAD stated that the allegation in the Soviet protest was essentially correct. The two F-106s penetrated Soviet airspace, apparently because the Tin City NSS controller failed to prevent the penetration. This failure to act was in direct violation, NORAD said, of AAC Regulations 55-33 and 60-1. The officer had been relieved for this failure, NORAD stated, and ANR personnel who control and direct identifications had been reindoctrinated on restrictions on flying into Soviet peripheral areas adjacent to Alaska. NORAD noted that a complete investigation was underway and that when this was completed, other corrective measures would be taken.

(u) ~~(S)~~ Hijacking of Civil Aircraft. CONAD had for many years outlined in its ADNAC plans, the procedures for intercepting and keeping under surveillance U.S. or foreign-flag civil aircraft that had been hijacked or were suspected of being hijacked.⁴⁶ Interception by CINCONAD would be made only at the direction of the JCS. The CONAD ADNAC noted that the JCS might determine that the aircraft of CINCSAC, CINCLANT, CINCPAC, or CINCSTRIKE might be in a better position to make the intercept and the air defense radar net might be used for interceptor control.

(u) ~~(S)~~ CINCLANT and CINCONAD agreed in January 1969 that the former had authority to terminate an escort mission south of 24 degrees north when in his judgment this would best serve U.S. national interest.⁴⁷ The CONAD NCC commander would terminate the mission when requested by CINCLANT through the Key West JARCC (Joint Air Reconnaissance Control Center). CINCLANT recommended that a joint agreement between the commander of the JARCC and the appropriate CONAD agency be made to implement the procedures. On 31 January, CONAD directed Eastern CONAD Region to renegotiate the Southern CONAD



Region (discontinued in 1968)/Key West Forces Agreement to incorporate the new procedures in a new agreement between ECR and Key West Forces. A draft memorandum of agreement between the two commanders was concurred in by CONAD.⁴⁸ CONAD recommended that its position that escort missions remain under control of the CONAD control center at all times be included in the agreement.

(u) (S) On 20 February, the JCS issued a new SM outlining procedures for intercept and escort of hijacked civil aircraft incorporating the procedures agreed to by CINCLANT and CINCONAD in January. The JCS indicated that the provisions of this paper were releasable to Canadian personnel and new guidance, based on this paper, was sent by NORAD to all regions, including Northern NORAD Region, on 21 April 1969.⁴⁹ NORAD sent a copy of the JCS SM to all regions and explained that it and the provisions of the letter superseded the current ADNAC (300C-68, Annex G) instructions. NORAD said that a regulation would be prepared and published on the subject as soon as possible. NORAD also explained that while the provisions of the JCS SM pertained primarily to hijackings to Cuba, they were applicable to hijackings to other countries. NORAD pointed out that the prime purpose of intercept and escort missions was humanitarian in the event that a hijacked aircraft was forced down and search and rescue activities had to be initiated.

(u) (S) Among the procedures listed for intercept and escort missions were the following:

1. The NMCC will direct NORAD COC to conduct intercept and escort missions.

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2. NORAD COC will contact the appropriate NORAD control facility and task it to conduct the intercept and escort mission.

3. If destination is Cuba, flight-following aircraft will maintain surveillance as long as necessary to insure visual contact if an emergency occurs over international waters.

4. Terminate escort activities when directed to do so by CINCLANT south of 24 degrees North latitude.

5. Do not approach closer than three miles to the Cuban land mass or contiguous islands.

6. If destination is other than Cuba, flight-following aircraft will break away at the outer limit of the claimed territorial sea of the foreign country or 12 miles (whichever is less), or at the foreign border contiguous to the United States and await over-flight clearance as necessary.

NORAD asked all regions to develop local procedures to implement the provisions of its letter and the JCS SM. ANR was also asked to develop procedures applicable to hijacking in the Alaskan area.

(u) (S) CINCAL, in a message to the JCS in May, outlined a number of problems peculiar to its area and proposed solutions.⁵⁰ Among the problems listed was one that pertained to guidance provided by the JCS SM of 10 February on the breakaway point for

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escort aircraft. CINCAL said that this guidance was realistic for areas where radar control and air navigation facilities provided an accurate means for geographic positioning. In Alaska, however, these facilities were inadequate, he said, except in the Bering Straits. CINCAL contended that navigation errors and subsequent penetration of Soviet airspace by the escorts could cause a serious incident. CINCAL proposed that, unless otherwise directed, military aircraft would terminate escort missions 25 nautical miles from the Soviet mainland or the U.S.-Russia convention line of 1867 where that line is less than 25 nm from the Soviet mainland. Single-place aircraft would not perform escort beyond the radar range of control facilities. Search and Rescue (SAR) aircraft might operate up to 12 nm from Soviet territory when engaged in SAR operations. Escort and Rescue aircraft would terminate their mission when radio contact with the military control facility was lost or when intercept by Soviet aircraft was imminent.

(u) (S) The JCS agreed with CINCAL, stating that the limits set for escort activities in its February SM were intended as limits beyond which escort was not authorized.⁵¹ Unified commanders were authorized to impose additional constraints as they deemed necessary. The procedures stated above proposed by CINCAL for the ALCOM area were restated by the JCS.

AUGMENTATION

(u) (S) Background - CONAD Operation Plan 302C-68. In October 1966, the Secretary of Defense asked the JCS to examine methods to increase augmentation of CONAD with CONUS-based Air Force, Navy, and Marine Corps fighter aircraft. The JCS in turn, in November

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1966, asked CONAD to study methods of augmenting CONAD interceptor forces. The final product, "A Study of Methods for Augmenting Continental Air Defense Interceptor Forces," was completed on 24 January 1967. The following March, the JCS directed CONAD to prepare an operation plan providing for the use of augmentation fighters from other unified commands and the services. A CONAD plan was finally approved the following year, on 5 June 1968, by the JCS for implementation. The plan, 302C-68, "Augmentation of Strategic Defensive Forces (U)," was published 15 September 1968. The plan listed pre-committed aircraft of the Tactical Air Command, Navy, and Marine Corps and also stated that additional non-committed CONUS-based aircraft might be diverted from their primary mission to support NORAD/CONAD.

(u) ~~(S)~~ Training and Availability Problems. On 10 December 1968, CONAD wrote to the Tactical Air Command (TAC) about taking part in NORAD/CONAD exercises. CONAD contended that successful implementation of its augmentation plan depended upon the availability of personnel and forces and their achieving combat readiness by taking part in training and exercises.⁵² CONAD went on to say that training and exercise criteria for augmentation forces was specified in Operation Plan 302C-68 and included keeping aircrews in combat ready air defense status and participation in two region and two division exercises per year. CONAD wanted this training and exercise participation to get started as soon as possible and asked TAC when its aircrews would attain air defense combat readiness and when its forces would be available to take part in NORAD exercises.

(u) ~~(S)~~ TAC's reply was disappointing to CONAD. TAC said that Air Force Manual 51-34 required that all TAC F-4C, D, and E aircrews be fully trained and remain combat ready in the air defense role.⁵³



Because its crews were kept combat ready, TAC went on, it did not feel it necessary to participate in NORAD exercises. CONAD answered on 29 January that it did not agree that the requirements in AFM 51-34 were wholly consistent with the requirements in Operation Plan 302C-68.⁵⁴ CONAD stated that it appeared TAC did not understand the need to take part in exercises. Experience in and evaluation of the NORAD system had proven, CONAD explained, that successful air defense required exercising the system and its forces together. CONAD asked that TAC's position be reconsidered. CONAD concluded that it had been charged with developing an effective augmentation force and this required training and exercises as laid out in Operation Plan 302C-68.

(U) ~~(S)~~ TAC did not change its position, however. In a reply on 24 March, TAC said that its forces were heavily taxed to meet Southeast Asia requirements and full support of the CONAD operation plan requirements would have a harmful effect on SEA training. TAC went on to say that its forces took part in a number of intercept sorties with air defense divisions. For this reason, TAC said it considered its crews qualified to perform air defense without more training or participation in NORAD exercises.⁵⁵

(U) ~~(S)~~ In the meantime, another problem arose, that of aircraft availability. On 2 April, TAC pointed out that its F-111A/E aircraft did not have an all-weather intercept capability due to air-to-air missile limitations.⁵⁶ The F-111D would have, but Air Force procurement had been cut and delivery schedules stretched into FY 1974 so that there would not be enough of these aircraft for air defense augmentation. For these reasons, TAC said it was asking that precommitted F-111s be deleted from the CONAD augmentation plan. CONAD told the JCS it concurred and asked the JCS for permission to delete



these planes from the plan on the provision that if the F-111 program improved these aircraft could be put back in. CONAD recommended that the F-111s be replaced with another suitable aircraft such as the F-4.

(u) ~~(S)~~ The JCS said in a message on 28 May that deletion of the F-111s should be held up pending the outcome of a CONAD conference in June to explore additive augmentation resources. The JCS asked CONAD to go directly to TAC to find out about suitable substitute aircraft.⁵⁷

(u) ~~(S)~~ CONAD wrote to the JCS on 6 June outlining all the training and availability problems it was having in trying to establish an effective augmentation force.⁵⁸ CONAD said that in the past, prior to 302C-68, TAC, Navy and Marine Corps augmentation had been no more than a paper force because of lack of first line equipment and not taking part in training and exercises required by CONAD. Then, CONAD stated, the JCS authorized issuance of 302C-68 which had the potential of developing an effective force. But it never developed. All the old problems cropped up again and augmentation was back in its pre-302C-68 status. Furthermore, CONAD could not foresee the situation changing. CONAD wanted the whole matter reviewed by the JCS because of the limited capability of the augmentation forces and asked that 302C augmentation forces not be carried as CONAD forces until the requirements of the plan were fully met.

(u) ~~(S)~~ The JCS answered that it did not understand the latter request and wanted clarification.⁵⁹ The JCS pointed out that under FORSTAT procedures, such forces would not be carried as CONAD forces until operational control was transferred to CONAD. Another point concerned one mentioned by CONAD in



its letter that the capability of augmentation was being given far too great weight in determining what forces CONAD should have. The JCS said it had informed the Secretary of Defense of all the variables in the augmentation program and implementation depended upon required resources and that currently the ability of the services to support augmentation was curtailed because of SEA demands.

(u) ~~(S)~~ In the meantime, CONAD answered the JCS message of 28 May on finding out about Navy and TAC aircraft availability. CONAD informed the JCS that a conference with Navy and Marine Corps representatives on 10 June did not indicate that any more augmentation forces would be available.⁶⁰ Secondly, in regard to TAC, CONAD said it had found that suitable additional resources were not currently available and that TAC could not support an increase in F-4 tasking to replace the F-111.

(u) ~~(S)~~ CONAD was now thoroughly discouraged with the augmentation program. On 10 July, CONAD wrote a second letter to the JCS recommending either that implementation of 302C be held in abeyance until the services could support it fully in all aspects or that 302C be cancelled if it was found that augmentation forces could not fully participate even during peacetime operations.⁶¹

(u) ~~(S)~~ CONAD explained that while augmentation forces were not carried formally as CONAD forces in official program documents, the potential of a 300-aircraft augmentation force had been used as rationale to determine CONAD force levels. CONAD cited a number of OSD documents that attested to this fact. So the situation was, CONAD said, that on the one hand augmentation forces were weighted in balance with regular forces in determining force levels, but on the other hand, it was recognized that the primary

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mission of the forces prevented them from becoming an effective CONAD force. Despite the latter, ADC and TAC were required to spend manhours, money and equipment that they could ill afford in support of a plan which as currently constituted, would not produce an effective augmentation force.

(u) ~~(S)~~ The JCS replied to both the 6 June and 10 July letters of CONAD. They advised that the services had been asked to find out the costs and requirements to support the CONAD augmentation plan on a wartime basis and on a peacetime training exercise basis. The costs would be consolidated and analyzed, the JCS said, and program change requests submitted to the Secretary of Defense for approval and funding. The JCS told the services, in addition, to making the above cost study, that the augmentation of strategic defense forces be fully supported and that the F-111 should be deleted for FY 1970 and 1971 considerations in regard to training and exercises.

(u) ~~(S)~~ Late in September, USAF asked TAC to check with CONAD to see if the F-105 could be used as a replacement for F-111s. TAC forwarded the request with the advice that the F-105 had very limited all-weather capability.⁶² CONAD turned the F-105s down as augmentation aircraft. CONAD said that committing aircraft that had no data link and very limited all-weather capability in an air defense system that had and continued to be reduced in radar coverage and control capability would not result in an improvement.⁶³ In fact, CONAD added, the use of a very limited all-weather aircraft that required close control and used clear air mass weapons, would probably lower overall effectiveness.

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SECTION II - AIR DEFENSE MISSILES

NIKE HERCULES PROGRAM

(U) ~~(S)~~ Reductions in 1968. In the last six months of CY 1968, 21 Regular Army and four Army National Guard Nike Hercules batteries were removed from operations. Thirteen of these batteries were inactivated at the end of 1968, the other twelve early in 1969. Eight batteries were located in five Northeastern states, two were in California, and one each were in Michigan, Illinois, and Indiana. The remaining twelve batteries comprised the three interior defenses of Dallas-Fort Worth, Kansas City, and St. Louis. This 25-battery cut decreased the NORAD RA force from 73 to 52 batteries and the ARNG force from 48 to 44 batteries.

(U) ~~(S)~~ PBD 436. Following this, Program Budget Decision 436, 11 December 1968, called for elimination of five more batteries -- two RA and three ARNG.* The batteries listed by the PBD were Philadelphia (Site PH-99 - ARNG), Cincinnati (Site CD-46 - ARNG), Detroit (Site D-58 - ARNG), Detroit (Site D-26 - Active Army), and Chicago (Site C-03 - Active Army). Detroit Site D-58 was changed to Detroit D-61 by DA and Chicago Site C-03 was changed to Milwaukee Site M-20 by OSD.

(U) ~~(S)~~ The Commanding General of ARADCOM issued a strong protest to DA as did CINCONAD to the JCS. In his protest to DA, Lieutenant General G. V. Underwood,

* (U) See Appendix I for a complete listing of NORAD forces eliminated in CY 1969.

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Jr., pointed out that since 1963 ARADCOM had been reduced 35 per cent in its firepower. This new cut of five batteries would lower the CONUS force to 82 batteries (41 RA and 41 ARNG), down from 134 in 1963 or a 39 per cent cut, he said.

(U) ~~(S)~~ CINCONAD told the JCS in a message on 13 December that he considered the proposed cut a major issue that had to be protested. He said that the continued unilateral cuts, while saving a little money now, had the effect of making the Soviet offensive force more and more effective. This, he declared, gave the Soviets options probably not available to them now. CINCONAD objected to the cuts point by point and concluded that he was:

deeply concerned by the progressive loss of forces which are already less than adequate. The fact that the defenses have specific and identifiable weaknesses should be used as an argument to add forces with which to plug gaps. Instead it appears that this PBD uses this weakness of the CONAD defensive forces to further a philosophy of futility.

(U) ~~(S)~~ OSD replied to the Army reclama in PBD 436R, 18 December 1968. OSD stated that the original PBD's statements on phase-out of the Chicago battery (C-03) pertained to Milwaukee battery M-20 and the latter would be deactivated in the first quarter of FY 1970. As for the other four batteries tentatively scheduled for phase-out, the OSD reply disputed the Army's arguments for keeping them. Accordingly, it stated, there was no reason to alter the decision.

(U) ~~(S)~~ The first four of the five batteries required to be eliminated were one each from the defenses at New York-Philadelphia (ARNG), Detroit-Cleveland (RA),

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Chicago-Milwaukee (RA), and Cincinnati-Dayton (ARNG).⁶⁴ These batteries were removed from operations on 18 June 1969. The last of the five, Detroit (ARNG), was removed from operation on 1 August 1969.⁶⁵ This reduced the NORAD force to 50 RA and 41 ARNG batteries.

(u) ~~(S)~~ Project 703. On top of this cut of 30 batteries, reductions under Project 703 would result in the inactivation of six more Regular Army and three more ARNG Nike Hercules batteries from the NORAD force by the end of FY 1970. This would decrease the NORAD force to 82 batteries, 44 RA and 38 ARNG, down from 121 at the start of FY 1969. Of the nine to be cut, six were from ARADCOM's force (3 RA and 3 ARNG) and three from USARAL's force. In addition, ARADCOM's ADA units in Florida -- one Hercules battalion (four batteries) and two Hawk battalions (four batteries each) -- were transferred from Program I to Program II, General Purpose Forces, and given a dual mission. The units were given a Strategic Army Force (STRAF) mission in addition to their air defense mission. They remained in place and assigned to ARADCOM. Operational control would remain with CINCONAD until directed by the JCS to be transferred to CINCSTRIKE.⁶⁶ The above cuts and changes were in accordance with PCD Z-9-105-2, 14 October 1969, and DA message of 21 October 1969.⁶⁷

(u) ~~(S)~~ The six ARADCOM batteries selected to be cut comprised the Cincinnati-Dayton and Niagara-Buffalo defenses. DA directed ARADCOM to inactivate the six units not later than 31 March 1970.⁶⁸ The six were relieved of their air defense alert on 10 December 1969.⁶⁹

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(U) Yet to be released from alert were three Nike Hercules batteries in Alaska. As planned at the end of CY 1969, one battery (one of two in the Anchorage defense) was to be released from alert 1 March 1970.⁷⁰ The other two batteries (Fairbanks defense) were to be released from alert on 2 April 1970.

(U) NORAD Objectives. NORAD's recommendations in NADOP 72-79 were to continue the development and accelerate the deployment of the Surface-to-Air Missile Development (SAM-D) system, and to update the Nike Hercules and Hawk systems and continue their deployment until SAM-D proved its operational readiness. Under a 30-40 per cent damage limiting force, NORAD stated that the analysis indicated only a few cities would require SAM defenses due to the level of damage that was analyzed; however, terminal bomber defense protection of 2-5 of our major cities would be required. Even considering this, it was concluded that in the absence of complementary air defense weapons systems, the Hercules and Hawk defenses would contribute significantly as terminal bomber defenses. In regard to SAM-D, NORAD stated that its availability should be accelerated since it would provide the ideal opportunity to develop an optimum deployment for terminal air defense. Since SAM-D deployment would be dependent on production rates, NORAD added, the first priority should be the defense of ABM sites. Available units would then be deployed to replace the Hercules and Hawk units to form a modern and efficient terminal air defense.

BOMARC PROGRAM

(U) Background. In June 1964, the Secretary of Defense approved an Air Force proposal to establish a Combat Evaluation Launch (CEL) Program to launch

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six missiles per year, one for each of the six squadrons in the CONUS. At the time, five squadrons had 28 missiles/launchers and one had 46 missiles/48 launchers (the 35th ADMS Niagara Falls, AFMS). Through FY 1967, all missiles used in the CEL program came from the larger squadron until it reached the same level as the other squadrons (it reached 28 UE in November 1967). In November 1965, OSD approved participation of the two Canadian Bomarc squadrons in the CEL program, raising the annual reduction to eight. The Canadian squadrons were not to be reduced, however; the missiles used in the CEL program were all to come from the U.S. squadrons. PCD Z-7-096, 16 December 1967, approved the previously programmed phase-down of eight missiles per year through FY 1973. The Bomarc force in the CONUS was to reduce to 124 missiles by end FY 1973.

(u) PCD Z-9-002. Program Change Decision Z-9-002, 18 January 1969, reaffirmed the phase-down of the Bomarc force by eight missiles per year, showing 124 missiles in the CONUS forces in FY 1973 as did PCD Z-7-096; 116 missiles were shown in FY 1974 and no missiles beyond this year. CINCNORAD, General Raymond J. Reeves, objected to this phase-out in FY 1974 in a message to the JCS on the whole matter of PCD Z-9-002 on 13 March 1969.⁷¹ General Reeves said that this elimination of Bomarcs was a deficiency that would leave only the F-106X fleet to defend against the air-breathing threat. General Reeves pointed out that modification of the F-106X fleet was scheduled to begin in FY 1974 and run through FY 1975. During this time, the operational F-106 fleet would be seriously depleted because of aircraft undergoing modification. AWACS was to come into the system in FY 1975. AWACS, General Reeves said, would effectively exploit the low altitude capabilities of Bomarc, providing an effective

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supplemental weapons system against bombers and SLBMs at minimum cost. CINCNORAD concluded that keeping Bomarc would provide a degree of defense in depth and improve the overall air defense posture during this time period.

(u) ~~(S)~~ Project 703. USAF's proposed reductions under Project 703 included phasing out of the Bomarc system. ADC submitted its assessment of the impact of these reductions on 12 August and updated the submission on 14 August. In its 12 August letter, ADC listed the Bomarc phase-out as having the second greatest impact (EC-121 phase-out was listed as having the greatest impact). ADC reiterated this in its 14 August letter which pointed out that savings could be achieved by consolidating the Bomarc missiles into five squadrons in place of the current six, eliminating the squadron at Niagara. In its attachment to this letter, ADC stated that phase-out of Bomarc would seriously degrade the countermeasures against the high altitude supersonic threat, low altitude threat, ECM threat, and ASM/SLCM threat.

(u) ~~(S)~~ CONAD's comments sent to the JCS on 4 September on component command submissions backed ADC's contention that loss of Bomarc would have serious impact. CINCONAD's letter urged retention of Bomarc. "I strongly recommend . . . that the proposed weapons deletions, particularly BOMARC, be carried out only as a last resort. It is essential that we be allowed to retain a balanced weapons posture to ensure optimum air defense capability."⁷² In an attachment to this letter, CONAD stated that phase-out of Bomarc would seriously degrade NORAD's air defense capability of the industrialized and populated northeastern United States and southern Canada.

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(u) (S) Only one squadron was directed to be deactivated, however, as ADC had recommended. The JCS message on 2 October, listing all Air Force Project 703 proposals approved for implementation, included deactivation of the 35th ADMS, Niagara Falls IAP. PCD F-9-307, Force Adjustments, Project 703, 24 October 1969, directed phase-out in FY 2/70.⁷³ The 35th ADMS was released from NORAD alert on 31 October 1969 and deactivated on 31 December 1969.⁷⁴

(u) (S) At the time of its release from alert, the 35th Squadron had 21 missiles, CIM-10Bs. Eight of these were sent to the 46th ADMS, McGuire AFB, New Jersey, to bring it up to 28 missiles, the same as the other squadrons.⁷⁵ The remaining 13 missiles were sent to storage for use in the CEL program.⁷⁶

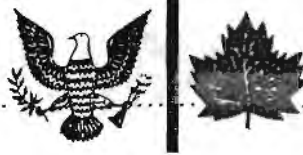
(u) (S) The USAF Force and Financial Program update of 24 October 1969 showed a Bomarc force level of five squadrons and 125 missiles.⁷⁷ This would mean a reduction from 28 to 25 missiles per U.S. squadron if this force level was continued. ADC pointed out to USAF that the incremental costs of the three additional missiles was a very small portion of the \$1.5 million annual O&M costs and therefore the force level should be returned to 140 missiles.⁷⁸

(u) (S) NORAD Objectives. NORAD recommended in NADOP 72-79, 15 August 1969, that the Bomarc system be retained until the IMI had demonstrated its operational readiness. NORAD stated that in the analysis of the force required to limit damage to 30-40 per cent, the U.S. and Canadian Bomarcs were retained because they were a cost effective system and complicated enemy offensive planning. However, NORAD said that as the IMI was introduced and became operational in FY 1975, the Bomarc system could be phased out.

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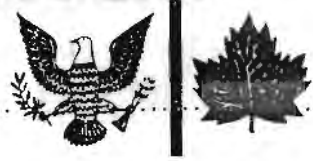


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CHAPTER III AIR DEFENSE RADAR SYSTEMS

SECTION I - GROUND BASED RADAR

RADAR CLOSURES DUE TO MODERNIZATION PROGRAM

(u) ~~(S)~~ PCD Z-7-096. PCD Z-7-096, 16 December 1967, provided for phase-down of the current air defense system and transition to a modernized system by the mid-1970s. Regarding the radar system, there was to be continued development on over-the-horizon back-scatter radar and approval for a programmed force of two sites beginning in FY 1973. The existing radar force was to be phased-down beginning with the closure of seven long range radars in FY 1969. This was to be followed by the closure of 19 long range radars and 50 gap filler radars in FY 1970. However, program budget decision action before the end of 1967 advanced the start of the phase-down to the fourth quarter of FY 1968. A new schedule called for closing 15 long range radars and 51 gap fillers in FY 1968 and 13 more long range radars in the first quarter of FY 1969.

(u) ~~(S)~~ Radar Reductions in 1968. After assessing the impact that these closures would have, in January 1968 ADC and NORAD sent their objections to USAF and the JCS, respectively. One main objection concerned the loss of radar and control facilities in the central interior and southern areas which would result in a perimeter defense. The JCS sent a reclama, based on a proposal by the USAF Chief of Staff and NORAD recommendations, to the Secretary of Defense.

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This reclama was directed mainly at keeping the SAGE direction center at Sioux City, Iowa, and 20 radar sites in the central area of the United States until a National Airspace System was developed. Closing these facilities before such a system was available, would permit relatively uncontested enemy aircraft operations in that large part of the country, the JCS said.

(U) ~~(S)~~ On 6 February 1968, the Secretary of Defense responded, saying that he was going to hold to his original decision to phase out these facilities. He said that because these facilities were located in the interior of the country, "they do not appear to contribute in any significant way to the reduction of damage to this nation in the event of a Soviet bomber and missile attack."

(U) ~~(S)~~ With this decision final, the first step in this radar reduction program was taken. On 1 April 1968, eight sites ended operations: Z-15, Z-43, Z-98, Z-127, Z-149, C-26, C-27, and C-28. On that same date, 51 gap fillers ceased operations. On 14 May 1968, seven additional sites stopped operations: Z-70, Z-82, Z-85, Z-99, Z-201, Z-239 (ANG), and Z-240 (ANG). Also lost at this time were surveillance inputs from 16 FAA radars. And, on 1 July 1968, 13 more sites ended operations: Z-47, Z-52, Z-64, Z-71, Z-72, Z-88, Z-91, Z-94, Z-111, Z-133, Z-134, Z-195, and Z-199.

(U) ~~(S)~~ Thus, after the first round of reductions, NORAD lost 28 military radars, 16 FAA radars, and 51 gap fillers. The force shrank from 170 prime radars contributing to NORAD surveillance at the start of 1968 to 126 sites by mid-1968. The remaining sites included 81 in the CONUS, 30 in Canada (27 Canadian/3 USAF), and 15 in Alaska. Seventeen gap fillers remained in operation in five southeastern states.¹

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(U) Radar Reductions in 1969. The original program, as approved in PCD Z-7-096 and discussed above, was updated by a new PCD, Z-9-002, approved on 18 January 1969. For the radar force in the CONUS, the new program called for closing eight long range radar sites, three of which were to be transferred to the FAA, and removing 27 height finder radars from the system. In Alaska, three long range radars and five DEW Line radars were to be closed. However, one DEW Line radar site was to be converted to a long range radar site for a net decrease in Alaska of two long range radars and six DEW radars.²

(U) On 5 March 1969, ADC sent to those concerned a list of the radars that were to be closed. Scheduled for closing were the following eight sites:³

<u>1 July 1969</u>	<u>October 1969</u>
Z-18 Chandler AFS, Minn.	Z-62 Oakdale AFS, Penn.
Z-31 Arlington Heights AFS, Ill.	Z-147 Malmstrom AFB, Mont.
Z-73 Bellefontaine AFS, Ohio	
Z-78 Perrin AFB, Texas	
Z-81 Waverly AFS, Iowa	
Z-89 Sweetwater AFS, Texas	

(S) Except for Z-31, which ended operations on 19 June, the sites that were to end operations on 1 July closed on schedule. Site Z-18 was turned over to the FAA. In addition, 27 height finder



radars of various types throughout the system in the CONUS were turned off on 1 July. In October, the ADC/FAA joint use sites, Z-62 and Z-147, were turned over to the FAA. These two sites continued to provide radar inputs to the NORAD system. Thus, in these closures, NORAD lost only six radar sites in the CONUS.⁴

(U) In the Alaskan NORAD Region, three long range radars and five DEW Line sites were closed on 1 June 1969. These sites were:⁵

Long Range Radars

F-1 Fire Island
F-9 Northeast Cape
F-20 Unalakleet

DEW Line Radars

Cob-1 Nikolski
Cob-2 Driftwood Bay
Cob-3 Cape Sarichef
Cob-4 Port Moller
Cob-5 Port Heiden

(u) The remaining DEW Line site in Alaska, Cob Main, at Cold Bay, ended operations on 27 August 1969. The FPS-19, medium range search radar, was to be replaced by an FPS-93, long range search radar, and the site converted to a long range radar site with the designation F-26.⁶ Thus, with F-26 expected to be in operation in 1970, ANR would have a net loss of two long range radars and six DEW Line radars.

RADAR CLOSURES DUE TO PROJECT 703

(u) In the effort to reduce defense expenditures, Project 703 brought about another immediate cut in the NORAD radar force. On 7 August 1969, USAF proposed



that six radar sites be closed as one of the ways to save money. ADC replied on 12 August that any further radar reductions would only thin out an already austere perimeter deployment. But if the closure of six sites was directed, ADC said that most of them should be selected from the least critical geographical area: the Gulf Coast and southwest border. Based on budgetary restrictions, ADC recommended that five radars from this least critical area and one, Z-61, in Michigan be closed.⁷ However, Z-61 was not closed.

(u) (S) On 14 October 1969, ADC notified all concerned of those long range radar sites that would be closed as a result of Project 703.⁸ NORAD released these sites from all NORAD commitments on 4 November:⁹

Z-75 Lackland AFB, Texas
Z-79 Ellington AFB, Texas
Z-92 Mt. Lemmon AFS, Ariz.
Z-163 Las Vegas AFS, Nev.
Z-181 Luke Range, Ariz.
Z-197 Thomasville AFS, Ala.

RADAR STATUS SUMMARY

(u) (S) At the start of CY 1969, there were 126 long range radar sites contributing to NORAD surveillance. The loss of 15 sites -- 12 in the CONUS and three in Alaska -- reduced the number to 111 sites by the end of CY 1969. The remaining sites included 69 in the CONUS (67 USAF/2 FAA), 12 in Alaska, and 30 in Canada (27 Canadian/3 USAF). Of



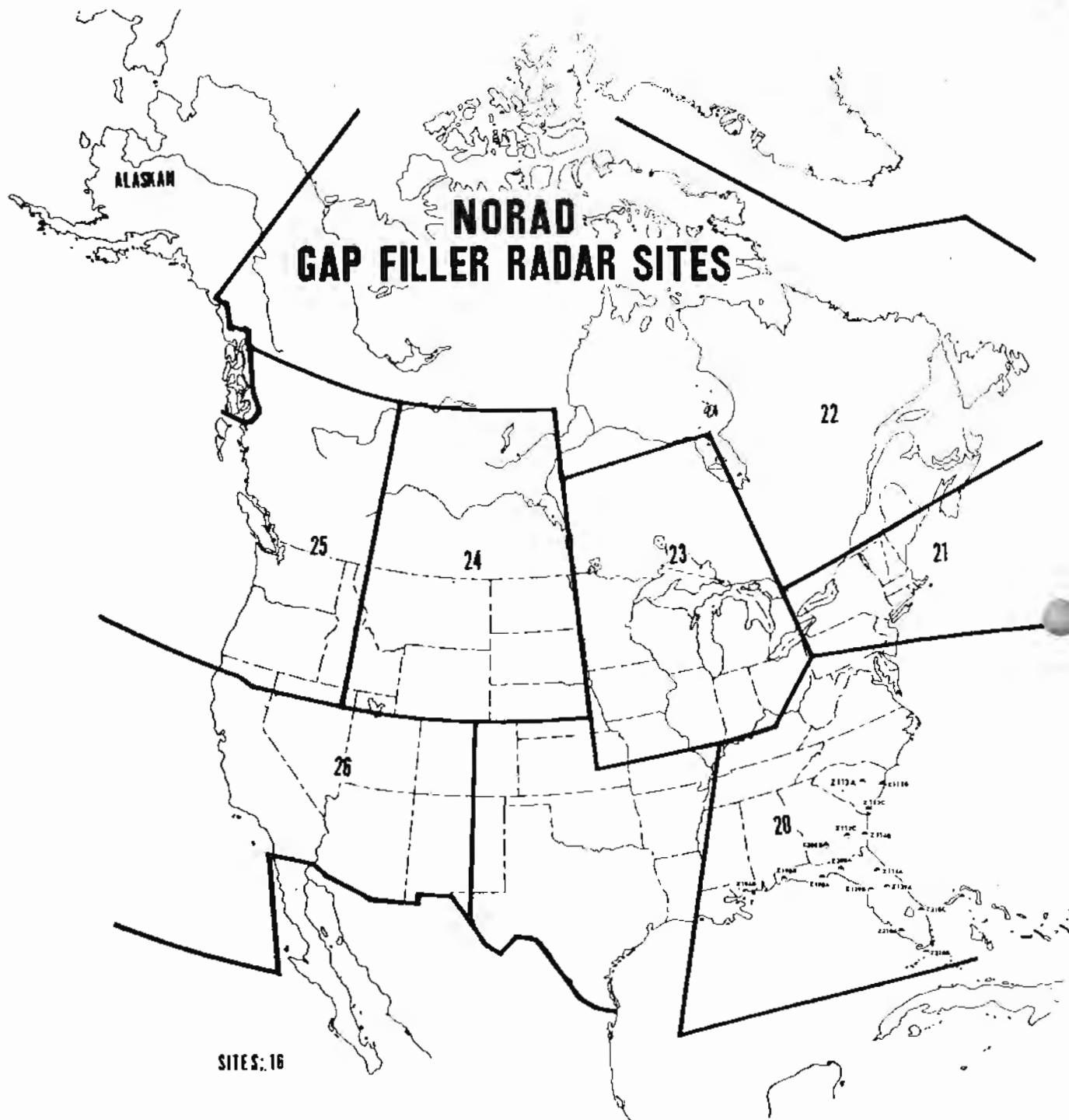
the 17 gap filler radar sites in operation at the start of CY 1969, with the closing of Z-126A at New Orleans on 31 December 1969, 16 sites were left in operation. The minimum radar force recommended in the NORAD Objectives Plan 1972-1979, 15 August 1969, was 116 long range radars and 17 gap fillers through FY 1974.¹⁰

RADAR CLOSURES PLANNED FOR FY 1971

(u) Further reductions in the radar force were proposed to save money in FY 1971. On 26 September 1969, USAF sent ADC a list of 11 sites which might be closed. After making a study to determine the absolute minimum coverage needed for the CONUS, on 14 October, ADC sent NORAD a list of 57 sites that would be needed to meet this coverage. Also, ADC identified 10 sites that could be closed:¹¹

Z-17	Wadena AFS, Minn.	A-130	Winston-Salem AFS, N.C.
Z-32	Condon AFS, Oregon	Z-157	Red Bluff AFS, California
Z-54	Palermo AFS, N.J.	Z-164	Tonopah AFS, Nev.
Z-118	Burns AFS, Ore.	Z-196	Dauphin Island AFS, Ala.
Z-126	Houma AFS, La.	Z-200	Cross City AFS, Fla.

(u) General Seth J. McKee, CINCONAD, approved these radar reductions for FY 1971 on 22 October 1969.¹² In the meantime, ADC had forwarded these



1 January 1970



proposed reductions to USAF on 17 October, saying that it would make savings in other areas to pay for operating the eleventh site. Because five of these sites had been previously selected for joint use with FAA, ADC told USAF that the sites selected for deactivation should be considered for planning purposes only until the closures were coordinated with FAA.13

MANUAL PASSIVE TRACKING SYSTEM IN ANR

(u) (S) Background. In May 1965, the JCS approved NORAD Qualitative Requirement 3-65 for a manually operated passive detection system in non-SAGE/BUIC areas, which included the Alaskan NORAD Region and the 37th NORAD Division. In 1966, the Electronic Systems Division and the MITRE Corporation worked out techniques and equipment for such a system. Interim equipment was installed at radar sites in the 37th Division for testing. Following this testing, MITRE published technical report MTR-333, 30 December 1966, which recommended equipment, configuration and operational employment for a manual passive triangulation system in the 37th Division and ANR. The problem in the 37th Division was solved by keeping the equipment that had been installed for testing on a permanent basis.

(u) (S) However, the Alaskan Air Command and the Alaskan NORAD Region resisted attempts by NORAD Headquarters to get the system installed in Alaska. They also resisted NORAD's efforts to get a radar antenna modification (MK-747) installed on each of the 15 FPS-87 search radars in Alaska. AAC maintained that the MK-747 antenna was only important for the passive tracking system proposed in the MITRE report.



(U) (S) With no money available to develop and install the system, ANR developed its own system of passive tracking. In January 1968, ANR told NORAD that its system was as good as the one recommended by MITRE. Furthermore, ANR estimated that its system would equal or exceed the accuracy and track processing capability of the MITRE proposal if Azimuth versus Amplitude (AVA) Indicators (an Air Force stock item also recommended in the MITRE report) were installed and used with ANR plotting tables. ANR said the system proposed by MITRE called for plotting boards that were too large for ANR operations rooms, required 18 additional people to operate the boards, and would not be operational for some time. In addition, ANR said the advantage gained by installing the antenna modification for passive tracking did not offset the many disadvantages of the antenna during active/normal tracking. ANR recommended that NORAD accept the ANR-developed system for use in Alaska and lend its support for getting AVA Indicators. Also, ANR asked that NORAD consider withdrawing its recommendation for installing the antenna modification.

(U) (S) NORAD answered that it would support efforts to get the AVA equipment and, after this equipment was installed, then it would evaluate ANR's passive tracking system. NORAD said if the results supported ANR's estimate that its system would equal or exceed the MITRE-proposed system, then "appropriate action" might be taken. However, NORAD upheld the need for the antenna modification.

(U) (S) Finally, in April 1968, ANR agreed to the installation of the MK-747. Three were to be installed in 1968 and the rest in 1969 and 1970. USAF agreed to this schedule but only to the extent that after the first three were installed, they would be evaluated before the rest were added.

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Between 17 August and 8 October 1968, MK-747s were installed at sites F-2, F-14, and F-16 in the Murphy Dome complex.

(U) (S) On 22 October 1968, USAF asked NORAD to consider withdrawing NQR 3-65 if the passive tracking system proposed by ANR was acceptable. NORAD replied on 29 October that its acceptance of the system depended on the installation of AVA Indicators (on 18 October USAF had authorized this equipment) and tests of ANR procedures. This testing was to be done in 1969 and USAF would then be advised of NORAD's final decision on NQR 3-65.¹⁴

(U) (S) Final Approval of MK-747. On 12 January 1969, AAC sent USAF an evaluation of the MK-747 antennas that were operating in the Murphy Dome complex. No significant degradation was noted. Therefore, USAF approved on 24 January the installation of the MK-747 on the other Alaskan radars.¹⁵

(U) (S) AAC notified NORAD on 6 August 1969 that MK-747s had been installed at sites F-5, F-6, and F-8. Other installations were delayed because of damage to modification kits during shipment.¹⁶

(U) (S) Cancellation of NQR 3-65. NORAD's decision on NQR 3-65 was sent to the JCS on 13 November 1969. NORAD said it had observed the ANR passive detection system during an evaluation of the Alaskan Region in September 1969. But, because there was only light to medium jamming, the evaluators were not able to observe the full capabilities of the system. However, NORAD said, indications were that the ANR P.D. system has the capability to passively track ECM emitting aircraft. NORAD asked to withdraw NQR 3-65 because the 37th Division and ANR had the capability to passively track ECM emitters.¹⁷ On 21 November, the JCS approved NORAD's request.¹⁸

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SECTION II - AIRBORNE SURVEILLANCE
AND CONTROL FORCES

REALIGNMENT OF AEW&C FORCES

(u) (s) CINCPAC Requirements. In November 1968, CINCPAC asked the JCS for additional EC-121 aircraft to set up a full time station for augmenting the Republic of Korea's aircraft control and warning system. In a message to the JCS on 15 November 1968, CONAD strongly opposed this request because the aircraft and personnel would come from the 552nd AEW&C Wing, McClellan AFB, California. CONAD pointed out that this unit was already committed beyond the limit of its resources, making it unable to fully perform its primary CONAD mission of manning airborne stations off the West Coast. In addition, the 552nd had 11 aircraft in Florida on two missions connected with the threat from Cuba and 11 aircraft assigned to College Eye duty in Southeast Asia. CONAD said that approving CINCPAC's request would make the 552nd even less able to do its most critical and essential CONAD mission. If the request was approved, then CONAD said it recommended ending the JCS requirement to man Station 50 off the coast of southern Florida.

(u) (s) On 20 December 1968, the JCS told CONAD that they were thinking about assigning a total of 20 EC-121s to CINCPAC for performing both the College Eye and Korean augmentation missions. On 3 January 1969, CONAD again told the JCS that it could not support such a proposal unless the requirement to man Station 50 was eliminated.¹⁹

(u) (s) On 20 February 1969, the JCS informed CONAD that the Services and the Joint Staff generally agreed that the requirement for Korea was valid but

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they could not agree on measures for releasing the aircraft to send there.²⁰ The JCS said that one proposal was to reduce Station 50 manning from full time to random coverage. This would release enough aircraft from Florida to allow sending four aircraft from the West Coast to CINCPAC. Another proposal, the JCS said, was to use ALRI-equipped EC-121Hs to man Station 50 on a full time basis. This would release all of the seven EC-121Ds in Florida. The JCS asked for CONAD comments on these proposals. Also, they asked for answers to questions on the priority of CONUS geographical areas for AEW/ALRI manning, on the feasibility of using EC-121Hs for manning Station 50, and for the impact on southern Florida air defense readiness posture if Station 50 was eliminated or random manned.

(u) (S) In a message to the JCS on 5 March, CONAD pointed out the conditions that had an impact on the EC-121 fleet.²¹ Summing these up, CONAD said, "It becomes quite obvious that AEW resources are insufficient to support CONAD's requirements, without even considering additional SEA requirements or contingency requirements." Geographical priority for assigning its EC-121 force, CONAD told the JCS, was the East Coast, West Coast, and lastly southern Florida. CONAD said it would have to make some adjustments in the force if additional aircraft were sent to CINCPAC. The EC-121Ds in Florida would have to be returned to the 552nd for duty on the West Coast and they would be replaced by EC-121Hs from the 551st Wing on the East Coast. CONAD recommended that full time manning of Station 50 continue until a study was finished on the southeastern air defense posture.

(u) (S) College Storm. Acting on information sent by the JCS on 6 April, CONAD began to prepare plans for switching the EC-121 force around.²² On 29 April

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NORAD directed ADC to replace the EC-121Ds in Florida with enough EC-121Hs for assuming Florida airborne early warning commitments.²³ In reply to a NORAD request for a time schedule, ADC said that all actions were to take place between 1 July and 31 October 1969. The EC-121Hs assigned to this operation were to be modified for improved manual capability by installing two control/surveillance scopes in each aircraft. Planning called for the first aircraft to leave Otis AFB, Massachusetts, for McCoy AFB, Florida, in early July 1969. One EC-121H was to arrive at McCoy AFB every seven days thereafter until a total of eight were in place. The EC-121Ds were to be moved from Florida to California on a similar basis beginning about 9 July.²⁴ NORAD concurred with this schedule on 27 May 1969.²⁵

(u) ~~(S)~~ On 30 June, the JCS approved CINCPAC's request for additional EC-121s.²⁶ On 3 July, USAF ordered the movement of four EC-121Ds from the West Coast to Japan as soon as possible.²⁷ And because this movement would reduce random manning of West Coast airborne stations from about 20 per cent to 10 per cent, USAF authorized ADC to realign the CONUS EC-121 force. In connection with the realignment, called College Storm, the 960th AEW&C Squadron at Otis AFB was to be phased out and the 966th AEW&C Squadron at McCoy AFB was to be reassigned from the 552nd to the 551st Wing.

(u) ~~(S)~~ The first aircraft left McClellan AFB for Japan on 7 July and was followed by one additional aircraft on 10 July, 28 July, and 19 August 1969. This augmentation raised College Eye Task Force resources to 15 aircrews and 15 EC-121s.²⁸

(u) ~~(S)~~ In the meantime, the EC-121 force in the CONUS was being realigned. The 966th AEW&C Squadron was assigned to the 551st Wing on 1 July 1969.²⁹ By

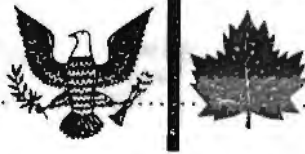


21 August, eight EC-121Hs had been assigned to this Florida-based squadron to replace the seven EC-121Ds that were being moved to California.³⁰ This squadron also operated four EC-121Qs in support of a non-CONAD mission called Allay Digger.³¹

PROJECT 703 REDUCTIONS

(U) ~~(S)~~ Planning for EC-121 Reduction. While the realignment of EC-121 forces was going on, as covered above, Budget Exercise 703 caused a further examination of the EC-121 forces. In a meeting at the Pentagon on 7 August 1969, ADC representatives were told about the upcoming cut in Air Force funds and that major force reductions would have to be made. One of the reductions proposed by the Air Staff was to eliminate the entire EC-121 fleet except for 20 of these aircraft that would be permanently assigned to the Pacific Air Force.³²

(U) ~~(S)~~ ADC quickly assessed the impact of this proposal and sent its reply in a letter to USAF on 12 August.³³ Of the seven major force items that had been proposed for reduction or complete elimination, which included phasing out all six Bomarc squadrons, ADC said the one having the "greatest impact on the Air Force and operations in SEA is the EC-121 proposal." While ADC said that transferring the 20 aircraft to PACAF was impractical, it also said that USAF would lose the ability to provide airborne radar command and control for 22 high priority contingency plans, eight of which were directed by the JCS. In addition, ADC pointed out that it would not be able to support NORAD/CONAD requirements or the Expert Vehicle mission (covered in Chapter Four). Furthermore, ADC stated that the loss of its AEW&C personnel would be a serious blow to an orderly evolution into the AWACS era.



(u) ~~(S)~~ ADC offered an alternate proposal. This was to inactivate the 551st AEW&C Wing on the East Coast and its newly-assigned squadron, the 966th, in Florida. The 552nd AEW&C Wing on the West Coast would continue operations for supporting College Eye/Korea surveillance and control missions, responding to world-wide contingencies, various training and testing missions, and partial air defense capability for NORAD/CONAD emergency use. ADC felt this proposal would give it a nucleus for an orderly transition to AWACS. ADC told USAF that the 552nd was high on its list of things to save because the unit was uniquely qualified to do these tasks.³⁴

(u) ~~(S)~~ At about this same time, on 15 August, NORAD published its objectives plan (NADOP 72-79) recommending an AEW&C force of 67 aircraft through FY 1970 and then dropping to 47 aircraft from FY 1971 through FY 1974. In FY 1975, the AEW&C force would transition to AWACS.³⁵

(u) ~~(S)~~ In early September, CONAD pointed out to the JCS that the inactivation of the 551st AEW&C Wing meant there would be no support for manning ALRI stations on the East Coast and Station 50 off southern Florida. In addition, there would be no support for two JCS-directed missions in which CONAD was not directly involved: Expert Vehicle and Allay Digger.³⁶

(u) ~~(S)~~ On 2 October, the JCS informed CONAD that among the Project 703 items which had been approved was the deactivation of the 551st.³⁷ ADC asked CONAD on 2 October to release the Wing from its missions effective 15 October. This was necessary, ADC said, to stay within budget limitations that had been put on flying hour allocations. CONAD approved this request for release from ALRI and



Station 50 manning, but asked the JCS to release ADC from Expert Vehicle and Allay Digger missions.³⁸

(U) Initial 703 Reduction. Also on 2 October, ADC sent a message to First Air Force, with information copies going to USAF and NORAD, saying that because of proposed budget cuts associated with Project 703, the number of flying hours which had been allocated (less than half of the hours needed for the Wing's missions) were not to be exceeded for all of October, November, and December 1969. This restriction was emphasized by ADC's instructions that enough flying hours were to be kept in reserve to allow transferring the aircraft either to the 552nd Wing or to storage.³⁹ In turn, First Air Force notified its subordinate units and ADC and NORAD, in a message of 3 October, that for the immediate future ALRI stations would be random manned at a 10 per cent rate and Station 50, off southern Florida, would be random manned at a 35 per cent rate.⁴⁰ With this reduction in manning Station 50, the stage was partly set for the arrival at Homestead AFB on 5 October of a MIG-17 from Cuba.

(U) On 7 October, CONAD informed the JCS that full time manning of Station 50 had been resumed until 15 October. After that date, CONAD said, the station would not be manned unless other instructions were received shortly.⁴¹ In a message to CONAD on 15 October, the JCS said that because of the attention being centered on air defense in southern Florida due to the MIG incident, the JCS and USAF were re-evaluating the overall defense needs in that area. The JCS asked that full time manning of Station 50 continue until the re-evaluation was done.⁴² (For details of the MIG-17 incident and resulting re-evaluation, see Section II - Southern Florida, in Chapter Four).



(U) (S) Deactivation of 551st AEW&C Wing and Reassignment of Missions. On 3 October 1969, CONAD approved releasing the 551st AEW&C Wing from its CONAD missions effective 15 October and asked the JCS to do the same for Expert Vehicle and Allay Digger missions.⁴³ The JCS replied to this request on 13 October, saying that the Air Force had decided to keep enough EC-121s to continue support for CINCPAC and to support other world-wide contingency deployments including Expert Vehicle and Allay Digger. No change to these latter missions was planned, the JCS said. Concerning Station 50, the JCS said they were reviewing that mission.⁴⁴ Until this review was finished, CONAD was directed to continue full time manning of Station 50.⁴⁵

(U) (S) However, the 551st ended all operations on the ALRI stations on 29 October 1969.⁴⁶ Thus, ALRI operations, which had started in March 1963, ended a little over six and a half years later.⁴⁷

(U) Also on 29 October, the Secretary of Defense announced that the 551st AEW&C Wing and its squadrons (960th, 961st, 962nd, and the Florida-based 966th) would be inactivated on 31 December 1969. In addition, he said the 552nd AEW&C Wing on the West Coast would end its NORAD/CONAD mission and convert to a mission of combat crew and replacement training in support of Southeast Asia.⁴⁸

(U) (S) The JCS notified CONAD on 10 November that the review of air defense needs in southern Florida had been completed. A detachment of three EC-121 aircraft (plus one NOA) was to be based at McCoy AFB for manning Station 50. The JCS said that about 150 hours per month would be flown on this station.⁴⁹ In a message of 11 November to all concerned, CONAD told the 33rd CONAD Division

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(later redesignated the 20th CONAD Region) to assume operational control of the EC-121s at McCoy AFB on 14 November.⁵⁰

(U) Operational control of the 552nd Wing transferred from the Western NORAD Region to the 26th NORAD Region on 14 November 1969. NORAD told the 26th Region that it was to plan for using the available AEW&C forces during emergencies for station manning off the West Coast. West Coast station locations and priorities were to stay the same except for deletion of Station 35A. The 26th Region was to establish with the 552nd station manning agreements for air defense training during normal readiness conditions. During periods of increased readiness (DELTA status), stations were to be manned in accordance with available aircraft and station priorities. NORAD said that the number of EC-121s would be extremely limited until mid-1970, but these guidelines would give a flexible framework of air defense training and general war use of the aircraft.⁵¹

(U) With the inactivation of certain units drawing near, ADC reassigned its AEW&C units. The 551st Wing was transferred from the First Air Force to the 21st Air Division on 4 December, and then inactivated on 31 December 1969.⁵² The Florida-based 966th Squadron, which had been assigned to the 551st on 1 July 1969, was transferred back again to the 552nd Wing on 15 November and inactivated on 31 December.⁵³ This squadron was replaced in Florida by the activation of Detachment 2, 552nd AEW&C Wing, at McCoy AFB on 31 December.⁵⁴ On 15 November, the 552nd Wing was reassigned from Tenth Air Force to Headquarters, ADC.⁵⁵ With the inactivation of the 551st Wing, all AEW&C missions were placed on the 552nd AEW&C Wing.⁵⁶

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SECTION III - CINCNORAD/CINCPAC
MEMORANDUM OF AGREEMENT

(U) (S) In May 1968, NORAD sent CINCPAC a draft Memorandum of Agreement for the Exchange of Early Warning Information. CINCPAC replied in October 1968 and agreed in principle to the proposal but sent a revised draft. To work out the wording and associated problems of the agreement, CINCPAC hosted a conference in February 1969. This resulted in an agreed upon version. However, before the final agreement was to be signed and put into effect, CINCPAC was to make an agreement with the U.S. Coast Guard for getting reports from Ocean Station Vessels. Then, CINCPAC was to advise CINCNORAD that the agreement between their headquarters could be implemented.⁵⁷

(U) (S) By mid-1969, CINCPAC had concluded a verbal agreement with the Coast Guard for OSV reporting.⁵⁸ But, in a message to CINCNORAD on 16 September, CINCPAC recommended that no further action be taken on their proposed agreement. CINCPAC said that JCS Emergency Action Procedures and the Joint Strategic Objective Plan, Volume I, currently provided for the exchange of information. The proposed agreement was felt to be redundant, CINCPAC said.⁵⁹

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21. Msg, CINCONAD to JCS, COOP-A, 052315Z March 1969 (302.12).
22. Msg, CINCONAD to JCS, COOP-A, 152028Z April 1969 (302.12).
23. Msg, CINCNORAD to ADC, et al., NOOP-A, 291655Z April 1969 (302.12).
24. Msg, ADC to CINCNORAD, ADODC, 212223Z May 1969 (302.12).

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25. Msg, CINCNORAD to ADC, NOOP-A, 271555Z May 1969 (302.12).
26. Msg, JCS to CSAF, et al., JCS 3563, 301332Z June 1969 (302.12).
27. Msg, CSAF to ADC, CINCPACAF, AFXOP, 032211Z July 1969 (302.12).
28. Msg, ADC to CINCONAD, CSAF, ADODC, 182024Z July 1969 (302.12); Msg, ADC to CINCONAD, CSAF, ADODC 312043Z July 1969 (302.12); Msg, ADC to CINCONAD, CSAF, ADODC, 212227Z August 1969 (302.12).
29. ADC SO G-87, 9 July 1969 (728).
30. As in Note 28.
31. Msg, CINCONAD to JCS, ADC, COOP-A, 032122Z October 1969 (302.12); DF, DCS/O to Chief of Staff, CINC, "Project 703 (U)," 15 October 1969 (302.12).
32. Ltr, ADC to USAF, "Programmed/Budget Exercise 703 (U)," 12 August 1969 (657).
33. Ibid.
34. Ibid.
35. NADOP 72-79, 15 August 1969 (657).
36. Msg, CINCONAD to JCS, ADC, COOP-A, 032122Z October 1969 (302.12).
37. Msg, JCS to COMDRS, U&S COMDS, JCS 1382, 022116Z October 1969 (657).

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38. Msg, as in Note 36.
39. Msg, ADC to CSAF, ADODC, 070005Z October 1969 (302.12).
40. Msg, IAF to 35AD, et al., 1AFOOP, 032130Z October 1969 (302.12).
41. Msg, CINCONAD to JCS, COOP-A, 072007Z October 1969 (302.12).
42. Msg, JCS to CINCONAD, JCS 2368, 150011Z October 1969 (656).
43. Msg, CINCONAD to JCS, ADC, COOP-A, 032122Z October 1969 (302.12).
44. Msg, JCS to CINCONAD, JCS 2242, 132252Z October 1969 (302.12).
45. Msg, JCS to CINCONAD, JCS 2368, 150011Z October 1969 (656).
46. Msg, IAF to CONAD, 311935Z October 1969 (302.12).
47. NORAD/CONAD Historical Summary (U), July-December 1963, page 45.
48. Msg, OSAF to ALMAJCOM, 290012Z October 1969 (657).
49. Msg, JCS to CINCONAD, JCS 4334, 102216Z November 1969 (656).
50. Msg, CINCONAD to CINCSTRIKE, et al., COOP-A, 112115Z November 1969 (656).
51. Msg, CINC NORAD to WNR, 27ND, NOOP-A, 092110Z November 1969 (302.12).

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52. ADC SO G-192, 4 December 1969; ADC SO G-182, 24 November 1969.
53. ADC SO G-87, 9 July 1969; ADC SO G-175, 18 November 1969; ADC SO G-182, 24 November 1969.
54. ADC SO G-168, 14 November 1969.
55. ADC SO G-149, 30 October 1969, amended by ADC SO G-172, 18 November 1969.
56. NOPS (NOOP-A) Historical Report, November-December 1969.
57. NOPS (NOOP-A) Historical Report, March-April 1969.
58. Ibid., July-August 1969.
59. Msg, CINCPAC to CINCNORAD, 160111Z September 1969 (654).



CHAPTER IV
INTERCEPTOR AND AEW&C
AIRCRAFT TACTICAL DEPLOYMENTS

SECTION I - NORTHEAST

AUGMENTATION OF ICELAND DEFENSE FORCE

(U) ~~(S)~~ G-I-UK Gap. Two significant gaps in radar coverage were opened in the Greenland-Iceland-United Kingdom (G-I-UK) Line in September 1965 when the Navy withdrew its AEW forces. This withdrawal, directed by DOD over NORAD's objections, created a low level gap between Greenland and Iceland and one between Iceland and the Faeroe Islands. Beginning in February 1968, there was a marked increase in penetrations of the G-I-UK Line by Soviet bomber aircraft. These incidents caused NORAD on 23 February 1968 to ask CINCLANT if these gaps in radar coverage could be filled on a full time basis. NORAD told CINCLANT it was obvious that the Soviets knew they could penetrate the G-I-UK Line undetected.

(U) ~~(S)~~ Efforts by CINCLANT to get forces to close the gaps were unsuccessful, however. He was told by the Chief of Naval Operations in May 1968 that the JCS felt the gaps must be accepted at this time. The CNO said the JCS would reconsider the matter if there was a likelihood of a confrontation with the Soviets or if airborne early warning aircraft became available and the high rate of penetrations continued.



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(U) (S) On 22 September 1968, NORAD's attention was again drawn to the gap problem when high winds destroyed the radome and antenna of the FPS-30 radar at Station DYE 4, Kulusuk, Greenland. This station, located at the eastern end of the DEW Line, together with the radar at G-I-UK Station H-1, in Iceland, provided radar coverage between Greenland and Iceland. The already-existing low level radar gap amounted to 100 miles at 10,000 feet. Now, with DYE 4 out of operation, the gap widened to 150 miles at 40,000 feet and 300 miles at 10,000 feet.

(U) (S) Operation Apache Yell. NORAD told the JCS on 24 September 1968 that DYE 4 would be out of operation for four to six months and asked approval to deploy two EC-121H aircraft to Keflavik, Iceland. NORAD said these aircraft would be on one hour alert for random manning between Iceland and Greenland and should be able to detect most of the Soviet aircraft penetrating that area. The JCS approved the deployment on 27 September. As a result, two aircraft from the 551st AEW&C Wing at Otis AFB, Massachusetts, deployed to Keflavik and began alert duty on 3 October 1968. This was called Operation Apache Yell.

(U) (S) Under this operation, CINCNORAD kept operational command of the aircraft but delegated authority to the Commander of Air Forces Iceland to launch alert aircraft when there was a possible penetration by Soviet aircraft. NORAD published Operation Plan 305N-68, 1 November 1968, covering this deployment.

(U) (S) On 7 March 1969, NORAD informed the JCS and all concerned that Apache Yell would end seven days after DYE 4 returned to operation.¹ With the return of Station DYE 4 on 14 March, planning called for withdrawing the two aircraft about 21 March. But on 14 March, the Iceland Defense Force (IDF) Commander recommended to CINCLANT that the two aircraft be kept in Iceland and another one added.² It was pointed out

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that a change in Soviet tactics had increased the number of intercepts nearly 500 per cent between 1966 (33 intercepts) and 1968 (152 intercepts). The IDF Commander said these figures were on aircraft that flew within radar cover. Many instances had been reported, he continued, of Soviet aircraft flying below radar coverage. The EC-121s were to be used to improve the identification and intercept capability of the IDF.

(U) (S) The next day, CINCLANT told the JCS that he fully supported the request from IDF and asked the JCS to approve keeping the EC-121s in Iceland.³ The JCS then asked for CINCNORAD's comments.⁴ The JCS also asked that the two aircraft be kept in Iceland until about 3 April 1969.

(U) (S) NORAD answered in messages on 21 and 26 March.⁵ NORAD said it could provide the aircraft and recommended that CINCLANT be given operational control of them. NORAD attached two conditions to this transfer of operational control. First, NORAD wanted immediate return of the aircraft at increased readiness or because of higher priority contingencies. The second was that CINCLANT closely coordinate EC-121 flying with the parent unit (551st AEW&C Wing) to insure safe operations.

(U) (S) The JCS concurred on 3 April.⁶ The JCS added that a final decision on the continued deployment of the aircraft would be made soon. NORAD advised all concerned that operational control of the two EC-121s would transfer to CINCLANT at 2200Z, 3 April 1969.⁷

(U) (S) Operation Apache Yell ended with the transfer of operational control.⁸ During the six months of this operation, the aircraft flew a total of 550 hours, spending 345 hours of that time on station. Two-hundred tracks were detected, 18 of which were Soviet aircraft.⁹



(U) (S) Warsaw Pact Exercises. In July 1968, the Warsaw Pact Naval Exercises were held in the Norwegian Sea. This was the occasion of stepped up Soviet air activity in the area of the Iceland Defense Force. For example, CINCLANT reported that during 11-17 July 1968, the Soviets sent between ten and 59 aircraft through the G-I-UK gap daily.¹⁰ In anticipation of the 1969 maneuvers, in March 1969 CINCLANT asked the JCS for advance planning to execute deployment of augmentation forces to IDF when the exercises began.¹¹ This was in addition to the Apache Yell mission which CINCLANT wanted continued. For the Warsaw Pact exercises he wanted eight fighters and additional EC-121s.

(U) (S) On 3 April 1969, the IDF Commander said that current Soviet air traffic near Iceland accentuated the deficiencies in the Iceland air defense system which included inadequate radar coverage and interceptor performance.¹² He requested the earliest possible augmentation by two more EC-121s and six F-106s. CINCLANT concurred in a message to the JCS on the same day.¹³ The JCS answered on 4 April that information available to it indicated that Soviet air traffic near Iceland had not yet reached a level beyond the capability of the Iceland forces.¹⁴ The F-106s were turned down for this reason but the temporary deployment of two EC-121s was approved. The JCS added that should Soviet air activity increase significantly the F-106 matter would be reconsidered on the basis that F-106s could be operating in Iceland within 24 hours. ADC set up a specific F-106 reaction time for the 27th FIS on the basis of this statement, but this was not desired by the JCS so it was cancelled.¹⁵

(U) (S) In the meantime, on 5 April 1969, two EC-121s from the 551st AEW&C Wing, Otis AFB, went to Keflavik.¹⁶ This brought the total in Iceland to four. On 7



April, the IDF Commander told CINCLANT the Soviet fleet had gone and operations reduced to the point where he needed only three EC-121s.¹⁷ CINCLANT concurred and advised NORAD.¹⁸ NORAD told ADC on 8 April to return one EC-121.¹⁹ The name given to the operation of all the EC-121s in Iceland was Expert Vehicle.²⁰

(U) ~~(S)~~ With the approval of the Icelandic Government, at the end of August 1969, CINCLANT took over operational control of the Expert Vehicle aircraft on a "continuing" or permanent basis. The JCS had instructed CINCLANT to take over operational control on a continuing basis when Iceland's approval was obtained. The JCS stipulated that the aircraft would still be subject to immediate recall by CINCNORAD with the approval of the JCS if the requirement arose.²¹

COLD SHAFT

(U) ~~(S)~~ Background. As has been noted, starting in early 1968, there was a considerable increase in penetrations of the G-I-UK Line by Soviet bomber aircraft. Periodically, these aircraft continued on a southwesterly course and flew into the Canadian Air Defence Identification Zone (CADIZ) in the 37th NORAD Division (headquartered at Melville AS, Labrador). Many of the G-I-UK penetrations were intercepted and identified by CINCLANT's Iceland-based F-102s of the 57th FIS. Such action by NORAD forces was severely limited, however, for the 37th Division had just before this time been stripped of interceptors and its controllers removed by USAF ADC.*

(U) * ~~(S)~~ ADC had a squadron of F-102s, the 59th FIS, at Goose AB, Labrador, but it was relieved of alert in November 1966 and inactivated in January 1967. Later

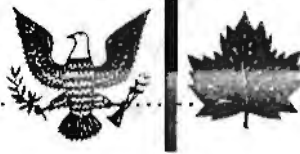


(U) ~~(S)~~ To handle these Soviet incursions, NORAD began examining every means to get aircraft into the 37th Division. As a temporary measure, on 1 March 1968, CINCNORAD directed NNR to deploy an interceptor capability to Goose AB. NNR sent two CF-101s and the Soviet bomber incursions stopped almost immediately. With no activity, it was decided to end this deployment and make a more permanent arrangement.

(U) ~~(S)~~ CF ADC/NNR proposed a contingency plan that called for deployment of an interceptor identification capability (two CF-101s) to Goose AB within 24 hours notice by NORAD. CF ADC assigned the name Cold Shaft to the proposed plan. CINCNORAD approved the plan on 15 April. About the same time, Soviet aircraft again began making incursions into the CADIZ. Cold Shaft was not implemented, however. The problem was that Soviet aircraft could come and go before the CF-101s could be deployed as set up by this plan. NORAD's DCS/Operations restudied the whole problem and came up with a new plan.

(U) ~~(S)~~ The new arrangement was contained in NORAD Operation Plan 304N-68, 15 July 1968. Under this plan, the NNR commander was to maintain an identification alert at two bases, Loring AFB with F-106s and CFB Chatham with CF-101s, responsive to requirements generated by Soviet aircraft penetrations of the G-I-UK Line. On receipt of warning of penetration of this line by Soviet aircraft suspected of proceeding toward the 37th CADIZ, the interceptors at Chatham

(U) ~~(S)~~ (Continued) in January, ADC began deployment of an F-106 detachment to Goose under the College Goose Program. F-101s were substituted for the F-106s on 1 April, but the deployment was discontinued at the end of November 1967 because of a further ADC fund cut.



and Loring were to be scrambled to forward turn-around bases at Gander AB and Goose AB, respectively (which would provide capability off both Newfoundland and Labrador), rapidly recycled, and scrambled to appropriate STOPS in the 37th. G-I-UK warning provided enough time for interceptors based at Chatham and Loring to be on STOPS prior to CADIZ penetration.

(u) ~~(S)~~ 1969 Activities. Operation under this plan continued during 1969 and was a matter of major consideration in deciding what to do with the 37th NORAD Division in the command reorganization late in 1969. After much discussion, the 37th NORAD/CONAD Division was discontinued on 15 January 1970 (see Chapter One for detailed coverage of this subject). The ACW station at Melville, C-24, was designated the Melville MNCC, reporting to the 22nd NORAD Region.

(u) ~~(S)~~ Among other changes in 1969, on 22 August, NORAD approved an NNR recommendation to change the deployment base for the CF-101s at Chatham from Gander AB to Goose AB from 1 November to 31 March because of bad weather at Gander during these months.²² Another subject was the commitment of the 27th FIS. On 21 October, NNR forwarded a request from the 41st NORAD Division and the 27th FIS for relief of the latter from its Cold Shaft commitment during its participation in College Shoes scheduled to begin in December.²³ NNR recommended replacement with the 49th FIS, Griffiss AFB, New York. NORAD turned this down, however.²⁴ NORAD said that because of the distance from Griffiss to Goose, CF-101s from either Chatham or Bagotville could be in position at STOP Two or STOP Seven some 45 minutes before the F-106s from Griffiss. NORAD added that the 22nd NORAD Region (formerly NNR) could use aircraft from Bagotville or Loring which would ease the 27th FIS problem.



COLLEGE GREEN/FAMILIAR GROUND

(U) ~~(S)~~ College Green. CINCONAD was charged by the Unified Command Plan with responsibility for air defense of bases in Greenland. To provide CINCONAD with the ability to make a short notice "show of force" deployment to that area to counter any Soviet harassment activity, ADC issued its College Green operation plans. A new College Green Plan (15-69) was issued by ADC on 1 February 1969 superseding the previous plan, 15-67, 15 March 1967. As did the previous plan, 15-69 provided for the deployment at the direction of CINCONAD of eight F-106 aircraft and four EC-121 aircraft to Thule AB, Greenland, as a main operating base. Sondrestrom was to be used as an additional operating base for interceptor alert and staging EC-121 aircraft. The forces were to deploy at Thule and Sondrestrom so as to be in place and ready to assume alert and man AEW&C stations within 72 hours after notification. The 87th FIS, Duluth IAP, Minn. was to provide the eight F-106s. The 5th FIS, Minot AFB, N.D., was to act as backup to provide F-106s if the 87th was unable to do so. The 552nd AEW&C Wing, McClellan AFB, Calif., was to provide the four EC-121s. Upon declaration of DEFCON 3, all aircraft were to deploy to their CONUS base.

(U) ~~(S)~~ ADC Plan 15-69 provided that operational control of deploying ADC forces would be retained by ADC through the Commander 1st Air Force until arrival at Sondrestrom at which time control would transfer to CINCONAD. CINCONAD would exercise operational control of deployed forces through the Commander Eastern CONAD Region. ADC issued Change 1 to the above plan on 15 September 1969 primarily to delete the 4th Air Force in accordance with the reorganization at that time and issued a completely new plan, 15-70, on 1 December 1969, to provide for the second round of organizational changes (see Chapter One).

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Neither Change 1 to 15-69 nor 15-70 changed the numbers of aircraft, the bases, or the time to be in place. However, there were a few other changes. Where 15-69 had stated that deployed forces would be returned to home bases at DEFCON 3, it was now stipulated that deployed forces would be withdrawn at the direction of CINCONAD. 15-69 provided that CINCONAD would exercise operational control through Eastern CONAD Region. This was changed to state simply that CINCONAD would exercise operational control of deployed forces.

(U) ~~(S)~~ Familiar Ground. For the first time, CONAD issued a companion plan of its own to provide the implementing instructions for execution by CINCONAD. This was CONAD Operation Plan 315C-70, Familiar Ground (U), 28 November 1969. In paragraph 1, Situation, it was stated that CONAD was responsible for air defense of military bases in Greenland and had, by virtue of this responsibility, to be prepared to deploy forces to Greenland to counter harassment in that area by an adversary during a cold or limited war. The Concept of Operations made the same provisions as did ADC's College Green plans.

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SECTION II - SOUTHERN FLORIDA

PROJECT 703

(u) (s) Included in the USAF proposals on force reductions under Project 703 was that ADC discontinue the 319th FIS at Homestead AFB, the F-102 detachment (Det. 3, 32nd Air Division) at Key West NAS, and all AEW&C aircraft in the CONUS.²⁵ The latter proposal would mean that Station 50, located between Florida and Cuba and manned full time, would be closed.

(u) (s) Neither ADC nor CONAD objected very strongly to the proposed loss of the forces in southern Florida. CONAD believed that the threat to the United States from the Cuban Revolutionary Air Force was insignificant.²⁶ Therefore, the loss of fighter-interceptor units deployed to counter the threat from Cuba was not taken as severe as the loss of units deployed farther northward to defend against the greater threat, the Soviet Union. CONAD felt it should emphasize keeping the more important air defense elements such as command and control facilities, Bomarc, and F-101 squadrons, in order to save them.²⁷ The ADC approach to the problem was similar to CONAD's. However, ADC proposed to USAF that the Air National Guard be considered for taking over the interceptor missions in southern Florida. But nothing came of it.²⁸

(u) (s) The JCS informed CINCONAD in a message of 2 October 1969 that the F-104 squadron at Homestead AFB, the F-102 detachment at Key West NAS, and the East Coast EC-121 force, which included the 966th AEW&C Squadron at McCoy AFB, Florida, were all to be deactivated. The Air Force was responsible for deactivation timing and these units were scheduled



to be released from alert and manning requirements on 15 October and inactivated on 31 December 1969.²⁹

(u) ~~(S)~~ On 2 October, ADC asked CONAD to release the 551st AEW&C Wing, based on the East Coast, from all missions on 15 October. In a message to the JCS and ADC on 3 October CONAD approved release of the unit on 15 October from all East Coast requirements, including Station 50. Also, CONAD asked the JCS to release the unit from two JCS-directed missions. One of these, "Expert Vehicle," was a deployment to Iceland; the other mission, "Allay Digger," was the monitoring of SAC reconnaissance flights in the Cuban area.³⁰ The 966th AEW&C Squadron, in addition to its EC-121HS for manning Station 50, operated four EC-121Qs in support of Allay Digger.

(u) ~~(S)~~ Another item hit by Project 703 was the number of flying hours allocated to AEW&C aircraft. In a message dated 2 October, ADC notified 1st Air Force and NORAD of a severe reduction in the number of flying hours for the 551st AEW&C Wing.³¹ First Air Force sent instructions to its subordinate units in a message of 3 October, with information copies going to ADC and NORAD, that for the immediate future Station 50 would be random manned on a 35 per cent basis.³²

CONTINUED NEED FOR AIR DEFENSE FORCES

(u) ~~(S)~~ Cuban MIG-17 Incident. The directive to random man Station 50 on a 35 per cent basis was put into effect on 4 October and the station was vacated that evening at 7:23 (2323Z) EDT.* Exactly

(u) * ~~(S)~~ Later, this directive was reviewed by the ADC DCS/Operations and found to be "neither illogical nor inappropriate." But, he added, it was "not in consonance with CINCONAD requirements. . . ." (see Note 32)

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17 hours later, at 12:23 p.m. EDT on Sunday, 5 October, an armed Cuban Revolutionary Air Force MIG-17 landed unchallenged at Homestead AFB, Florida, near the plane of President Richard M. Nixon. The President was visiting Key Biscayne.³³

(u) (s) The MIG was piloted by Lt Eduardo Guerra Jimenez, who departed Santa Clara, in central Cuba, on a direct course for Homestead AFB. He flew at an altitude of about 33 feet until halfway to Homestead. He then climbed to about 2600 feet to confirm his navigation and, upon sighting land, descended to about 33 feet again. When he reached landfall, he climbed briefly and flew over Homestead, rocking his wings to request a landing.³⁴

(u) (s) Here are the air defense actions during this time:³⁵

12:10 p.m. - The radar (Z-209) at Key West NAS detected an object heading north 87 n.m. east of Key West and 65 n.m. south of Homestead. Although this track was at an altitude of 2,600 feet, it was 20 miles beyond the theoretical (line-of-sight) radar coverage from Key West and at the edge of theoretical coverage from Site Z-210 at Richmond, Florida. A temperature inversion between 2,000 and 3,000 feet caused the radar to detect this object. The radar returns were available for interpretation at the Key West Manual Control Center but were not sufficient for the SAGE system to forward data to the 32nd Division Direction Center at Gunter AFB, Alabama.

12:11 p.m. - Key West got a height reading of 8,000 feet on the track. Later, this error in height was attributed to the extreme range from the height finder radar and to the temperature inversion. At this time, Key West contacted the 32nd DC and

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asked for information on the track but got no help because the DC was not receiving any data.

12:12 p.m. - Key West classified the track as "pending."

12:13 p.m. - Key West passed the responsibility for this track to the 32nd DC.

12:14 p.m. - The track disappeared from the radar scope. With no data associated with the track at the 32nd DC, the Senior Director decided not to classify it as "unknown."

12:15 p.m. - As a precautionary measure, the Senior Director at the DC ordered the 319th FIS at Homestead to put two F-104s on "battle stations." At this time, the MIG was about 25 miles from Homestead and eight miles from the coastline.

12:17 p.m. - The Senior Director released the F-104s from "battle stations" and returned them to five minute alert status.

12:19 p.m. - The MIG-17 entered the Homestead air traffic pattern.

12:23 p.m. - The MIG-17 landed at Homestead.

(U) The Cuban pilot was granted political asylum. The MIG aircraft was returned to Cuba on 7 October by arrangements made through the Czechoslovakian Embassy in Washington, D.C.

(u) (S) An examination by CONAD of the circumstances which permitted the MIG-17 to evade the air defense system indicated that had Station 50 been manned, the aircraft still might not have been detected or intercepted before it arrived at Homestead AFB. The uncertainties were related to the MIG's low altitude and small size and to the existing weather conditions.³⁶

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(u) (s) Reevaluation of Air Defense Forces Required in Southern Florida. This incident caused a reconsideration of the need for forces in Southern Florida. Full time manning of Station 50 (AEW&C) was resumed immediately, but CONAD told the JCS it would stop this on 15 October unless given other guidance.³⁷ CONAD followed this up with recommendations for maintaining an interceptor capability in that area, the main reason being to protect the President. CONAD said that "an attempt to harass the President while in residence at Key Biscayne would be particularly embarrassing if no interceptors were available to identify, divert, force to land, or destroy an intruder. . . ." Another consideration was that CONAD would not be able to provide interceptor escorts for hijacked aircraft while they were in the Southern Florida area. Noting that it would not be able to maintain peacetime sovereignty over Southern Florida airspace after 15 October, CONAD recommended the following to the JCS as a partial remedy to the problem:³⁸

1. Task the Navy (LANT/COMWESTFOR) to provide two all-weather interceptors on five-minute identification alert at Key West NAS.

2. Task the Air Force (STRIKE/TAC) to provide two all-weather interceptors on identification alert at Homestead AFB.

3. Put these Navy and TAC interceptors under the operational control of CINCONAD on an around-the-clock basis.

(u) (s) One other recommendation concerned the need for keeping a base that would be able to handle ADC interceptors. CONAD said its contingency plans called for interceptor deployments to Southern Florida in the event of increased tensions between the U.S. and Cuba. However, Project 703 would close ADC facilities

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at Homestead AFB and Key West NAS. As a partial remedy to offset this loss, CONAD recommended to the JCS that they task CINCLANT to provide facilities at Key West NAS, during Cuban contingencies, capable of supporting operations for an 18 aircraft ADC F-106 squadron.³⁹

(U) ~~(S)~~ In reply to CONAD's request of 2 October for release of the 551st AEW&C Wing from its missions, the JCS told CONAD on 13 October that they were reviewing the mission for Station 50.⁴⁰ A telephone call from the JCS on 14 October directed CONAD to continue full support of air defense requirements in Southern Florida until a reevaluation of the needs could be made.⁴¹ CONAD sent instructions the same day to its Eastern Region and ADC to continue full time manning of Station 50 and to maintain fighter-interceptor alert commitments.⁴² A message from the JCS on 15 October confirmed the telephone call of the previous day. As stated in this message, the JCS and USAF were making a reevaluation because of the MIG-17 incident. A decision was expected by about 1 November 1969.⁴³

(U) ~~(S)~~ On 21 October, the JCS asked CONAD to recommend a way to perform the Southern Florida air defense mission with forces that would be left after Project 703 cuts. They said that USAF was examining ways to provide forces for the Southern Florida mission and the Joint Staff was preparing a report for the JCS on the impact of Project 703. The JCS also wanted to know what the impact of providing forces to Florida would be on the overall air defense posture.⁴⁴

(U) ~~(S)~~ CONAD sent its recommendations and comments to the JCS on 25 October. CONAD said it did not recommend performing the mission in Southern Florida within the remaining forces because it would be detrimental to CONAD's overall capabilities. However,

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if it had to be done, CONAD recommended against using regular fighter-interceptor units. Instead, CONAD recommended the permanent deployment of an ANG squadron to the Miami-Key West area. The reason was that after Project 703, the regular squadrons would be based in the best overall posture for the limited remaining forces. The deployment of a regular unit to Southern Florida, CONAD said, would create a major break in the primary defense. Concerning Station 50, CONAD said that seven EC-121s were needed to man this station full time, but it could not be supported within Project 703 resources until late 1970.⁴⁵

(u) ~~(S)~~ Another point mentioned by CONAD concerned any contingency plan that would call for deploying aircraft to support defense requirements while the President was staying at Key Biscayne. CONAD felt that such deployments might be undesirable because they would show the President's movements. CONAD stated that Navy and TAC F-4s could be put on alert at Key West and Homestead under CONAD's operational control during the President's visits.⁴⁶

(u) ~~(S)~~ Concerning radar coverage, CONAD said that even a more extensive system "could not, in some instances, prevent an extremely low level intruder aircraft launched from Cuba from penetrating U.S. territory undetected."⁴⁷

(u) ~~(S)~~ In a message of 30 October, the JCS informed CONAD that their reevaluation would not be finished by 1 November and to continue full time manning of Station 50 and the interceptor alerts until further notice.⁴⁸ CONAD, in turn, sent this on 31 October to its Eastern Region and ADC. CONAD told ADC not to take any actions on Project 703 that would degrade the capability of the units concerned.⁴⁹ USAF authorized ADC additional flying hours and funds to continue the missions through 15 November.⁵⁰

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(u) ~~(S)~~ But before the end of October, it was announced that the units in Florida were to be closed. On 29 October, Secretary of Defense Melvin R. Laird announced base and unit closures which included the 319th FIS at Homestead AFB; Detachment 1, 319th FIS at Patrick AFB; Detachment 3, 32nd Air Division at Key West NAS; and the 966th AEW&C Squadron at McCoy AFB. The target date for inactivating these units was 31 December 1969.⁵¹ This announcement was followed on 5 November by a Secretary of Defense information release that contained the main outline of what was to come from the reevaluation being made by the JCS. This release reaffirmed the closures announced on 29 October. However, it said that a detachment of three EC-121s would be kept at McCoy AFB and that F-4 fighter aircraft stationed in Southern Florida would assume the interceptor role under the control of CONAD. CONAD passed this information to its units on 7 November, telling them to remain on alert until it had specific instructions. At this time, CONAD released the 319th FIS from Phase II Dispersed Operating Base requirements at Patrick AFB.⁵²

(u) ~~(S)~~ On 10 November, with the reevaluation completed, the JCS sent CONAD specific instructions. The JCS directed that at least two fighter aircraft from CINCLANT and CINCSTRIKE were to be put on alert in the Key West/Homestead area and were to assume the air defense interceptor role under the control of CINCONAD when on alert. A detachment of three EC-121s was to be kept at McCoy AFB for random patrols of about 150 hours per month on Station 50. The F-102 alert at Key West was to end on 15 November. The F-104 alert at Homestead was to end as soon as replacement aircraft were ready to take up the alert, but it had to be by 15 November. CINCONAD was to prepare a plan for the interceptor alert, in coordination with CINCSTRIKE and CINCLANT, and send it to



the JCS for review. At this time, the JCS rescinded SM 914-61, which had approved a CINCONAD plan of June 1961, "Implementation Plan Phase II, Air Defense Improvements in the Florida Area." Also this SM had directed full time manning in the Straits of Florida by EC-121 aircraft. Also rescinded was SM 713-63, authorizing a permanent detachment of all-weather interceptors at Key West.⁵³

(u) (s) CINCLANT and CINCSTRIKE Aircraft. On 11 November, CONAD wired CINCLANT and CINCSTRIKE about putting their aircraft on alert, outlining two options. The first one called for two aircraft on five-minute alert plus two aircraft on 15 minute alert. When those on five minutes were scrambled, the ones on 15 minutes would advance to five minutes. All four aircraft should be at one base for this option, CONAD said. The second option called for two aircraft on five minute alert at Key West and two on five minutes at Homestead. CONAD asked CINC-LANT and CINCSTRIKE for their comments. Before the crews assumed alert, they were to be certified by the unit commander as qualified to fly intercept missions in accordance with CONAD OPLAN 302C-68, "Augmentation of Strategic Defensive Forces (U)," 15 September 1968.⁵⁴

(u) (s) Also, on 11 November CONAD directed its 33rd Division (redesignated 20th Region on 14 November) to be responsible for overall implementation of directives concerning the Florida area and for coordination details on operational control of CINCLANT and CINCSTRIKE forces on alert. CONAD said the 319th FIS and Detachment 3, 32nd Air Division, were to be released from CONAD alert at 1700Z, 15 November. On 14 November, the 20th Region was to assume operational control of the AEW&C force at McCoy AFB and begin 20 per cent random manning of Station 50 at 1700Z, 15 November.⁵⁵

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(U) (S) On 13 November, CINCAFLANT informed CONAD that two aircraft from the 4531st Tactical Fighter Wing, based at Homestead AFB, could assume the five-minute alert on 15 November.⁵⁶ CINCLANT concurred and told CONAD this would fulfill the JCS requirement for a minimum of two aircraft on alert.⁵⁷ CINCSTRIKE told CONAD that this proposal would satisfy the immediate JCS requirement, but it was investigating both of CONAD's options.⁵⁸

(U) (S) CINCONAD, General Seth J. McKee, referred the matter to the JCS on 13 November. General McKee asked the JCS to approve the alert commitment of two aircraft at Homestead as an interim measure. CONAD wanted this considered as "interim" because it provided only half of the aircraft CONAD wanted on alert. CONAD interpreted the JCS requirement to mean that two aircraft were to be on alert at all times. To do that, CONAD needed a minimum of two aircraft on five-minute alert and two on 15-minute alert. General McKee asked the JCS to direct CINCSTRIKE and CINCLANT to provide four aircraft on alert to meet either of the CONAD options.⁵⁹

(U) (S) The JCS answered on 14 November that two aircraft on five-minute alert at either Key West or Homestead satisfied their requirements.⁶⁰ And as scheduled, CINCONAD assumed operational control of two F-4s on air defense alert at Homestead AFB effective 1700Z, 15 November.⁶¹

(U) (S) CINCSTRIKE felt that if this requirement continued, it should be shared between CINCSTRIKE and CINCLANT forces. CINCSTRIKE suggested a meeting to solve the problems.⁶² CONAD hosted the meeting on 2-3 December, where it was agreed that CINCSTRIKE would keep aircraft on five-minute alert at Homestead while CINCLANT would provide aircraft on 30-minute alert at Key West. This arrangement was

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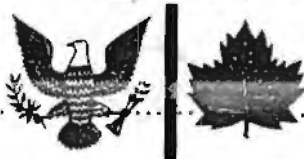


to begin on 15 December. When the availability of forces at Key West allowed, CINCLANT would assume the five-minute alert at Key West and CINCSTRIKE's aircraft would revert to the 30-minute status. Rotation of the alert was to be on a mutually agreed upon schedule.⁶³

(u) (S) CONAD informed the JCS of the results of the meeting on 3 December, but pointed out that the forces provided were only an interim solution because of the adverse impact on the primary mission of CINCSTRIKE and CINCLANT. CONAD told the JCS, "If coverage of Southern Florida is desired on a continuous basis for an indefinite period, this Headquarters urges that specific forces for CINCONAD be programmed for that purpose."⁶⁴

(u) (S) CONAD Operation Plan 308. The 20th CONAD Region had started on 15 November to man Station 50, between Florida and Cuba, on a 20 per cent random basis. But with the President making occasional trips to his residence at Key Biscayne, an extra step was taken to give better protection. On 26 November, the JCS directed NORAD to man Station 50 on a full time basis from 27 to 30 November.⁶⁵ CONAD complied but told the JCS that it needed more guidance if this was to happen again. CONAD said the only guidance it had was to patrol the station for 150 hours per month with four EC-121s (three UE and one NOA). CONAD stated that it was able to do the full time manning this time because Project 703 cuts to AEW&C aircraft and crews were not yet completed. After 31 December, when they were completed, the AEW&C detachment at McCoy AFB could not man the station full time for more than 2½ days. And to do that, enough prior notice had to be given so that all aircraft and crews were ready. CONAD asked the JCS if future full time manning was expected so that resources would be available for success of the mission.⁶⁶

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(U) ~~(S)~~ The JCS answered in messages of 6 and 12 December. The JCS said to include in the random patrol program a 24-hour patrol posture during the time the President was staying at Key Biscayne. A planning factor of 30 days per year was to be used. Also, the JCS said that arrangements had been made for the NMCC to be notified as far in advance as possible of Presidential visits to Key Biscayne. The estimated times of arrival and departure at Key Biscayne were to be sent to the Command Director, CONAD COC. The JCS said they anticipated four or five days notice, but at times there might be little or no warning.⁶⁷

(U) ~~(S)~~ On 12 December, CONAD notified CINCLANT and CINCSTRIKE that it was preparing an operations plan to cover those periods when the President was staying at Key Biscayne.⁶⁸ With the JCS directing a 24-hour patrol of Station 50, CONAD said it would also be wise during these visits to increase the state of alert for the aircraft provided by CINCLANT and CINCSTRIKE. This would mean an increase in the alert from two F-4s on five-minute and two on 30-minute to two on five-minute and two on 15-minute alert.

(U) ~~(S)~~ Neither CINCSTRIKE nor CINCLANT concurred with CONAD's proposal. CINCLANT said that to raise the alert he would have to send additional forces TDY to the area from the training base. Further, CINCLANT said that both he and CINCSTRIKE had agreed to support air defense requirements in Southern Florida with more forces -- two F-4s on 30-minute alert -- than were required by the JCS.⁶⁹

U ~~(S)~~ Overlooking these objections, on 19 December, NORAD sent NORAD/CONAD Operation Plan 308, "Fan Palm," to the JCS, CINCLANT, CINCSTRIKE, and others, asking for their concurrence. This plan stated that the mission was to provide an



increased interceptor alert and early warning capability in the Southern Florida area when the President was in residence at Key Biscayne. ADC was tasked to deploy enough additional EC-121s and crews for 24-hour manning of Station 50. NORAD believed these actions were necessary for improved security and considered the interceptor alert to be the minimum acceptable under these circumstances. Under the provisions of this plan, CINCNORAD/CINCONAD would direct the 20th NORAD/CONAD Region to:⁷⁰

1. Exercise operational control of all forces made available for this plan.
2. Increase AEW&C manning of Station 50 to 24 hours per day.
3. Direct selected ADA fire units in the Miami-Homestead defense to assume five-minute alert status on a rotational basis.
4. Change the alert of interceptor forces provided by CINCLANT and CINCSTRIKE to two F-4s on five-minute alert and two on 15-minute alert.

(U) ~~(S)~~ However, CINCSTRIKE and CINCLANT again would not agree to increase the alert for their interceptors. Both asked that the operation plan be changed to show the alert they were already standing. CINCLANT also said he intended to maintain operational control of Navy and Marine forces and, when asked, would provide aircraft for intercept control.⁷¹

(U) ~~(S)~~ In a message of 30 December to CINCSTRIKE and CINCLANT, NORAD stated specific requirements for the five-minute and 30-minute alert aircraft that would give an acceptable alert without an increase to 15-minute status. However, NORAD stated



that when any interceptors assumed five-minute status, the aircraft and crews must come under the operational control of CINCNORAD/CINCONAD.⁷²

(U) ~~(S)~~ Apparently, these conditions were agreeable and the operation plan was revised accordingly. On 8 January 1970, the revised NORAD/CONAD Operation Plan 308, "Fan Palm," was sent to the JCS and the commands concerned.⁷³ The JCS approved the plan on 29 January 1970, subject to the condition that the term "NORAD" be deleted from the title and all references to NORAD within the plan be removed.⁷⁴

COLLEGE SOUTH

(U) ~~(S)~~ Since 1961, plans had been in existence for deploying interceptors and AEW&C aircraft to augment the Southern Florida area to meet any Cuban threat contingencies. Directed by CONAD operations plans, ADC had issued a series of implementing operation plans titled at first "Southern Tip" and changed in 1966 to "College South."

(U) ~~(S)~~ The 1968 College South Plan (ADC Operation Plan 33-68, 1 July 1968), as amended, remained in force during 1969 until superseded by Operation Plan 33-70 on 25 November 1969. 33-68 and 33-70 both provided for the deployment of 24 F-106 aircraft to Florida bases (six each to Patrick, MacDill, McCoy and Homestead) and 14 F-102s to Key West NAS when directed by CINCONAD. Six EC-121s were also to be sent to McCoy AFB for use in manning two stations as required.

(U) ~~(S)~~ As specified by ADC Operation Plan 33-70, ADC was to deploy these aircraft into the 20th CONAD Region under the operational control of the Region Commander. Interceptor forces were to deploy with

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conventional armament and external fuel tanks, so as to be on five-minute alert status within 36 hours after plan implementation. The bases were termed Dispersed Bases (DBs) and it was noted that primary weapons would be deployed to DBs and used when directed by CINCONAD.

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SECTION III - ALASKA

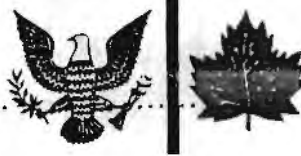
COLLEGE SHOES

(u) (s) Since July 1963, eight F-106 aircraft from USAF ADC resources had been deployed to the Alaskan Region to augment the region's forces with a higher performance aircraft than the F-102s available to that command (in the 317th FIS). Deployment of eight F-106s continued during 1969 under ADC Operation Plan 17-68, 1 March 1968, as changed, until 25 November 1969 when a new plan was issued, 17-70. For the first time, NORAD issued a companion plan for this F-106 deployment, Operation Plan 307N-69, Fighter Augmentation, Alaskan NORAD Region, 1 April 1969. As had been the practice since the spring of 1966, two squadrons provided four aircraft and five aircrews each for approximately three months.

(u) (s) The reason for the deployment stated in NORAD's plan was that ANR forces required augmentation by higher performance interceptors to improve their identification capability. Frequent penetrations of Alaskan airspace, it was stated, by Soviet ELINT and weather reconnaissance aircraft had taxed ANR's capability to provide timely identification of these aircraft with its regularly assigned interceptor forces.*

(u) * (s) Deployment had begun in July 1963 following a March 1963 overflight of ANR by two Soviet aircraft and the complaint of CINCAL that his F-102s could not cope with high performance Soviet aircraft. The plan was first called "Eye Ball," and then "White Shoes" and finally College Shoes.

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(U) ~~(S)~~ Since 1963 also, ALCOM/ANR and NORAD had been trying to replace at least a part of the Alaskan F-102s with F-4 aircraft. In 1964, the JCS had directed continuation of the F-106 deployment until the first quarter of FY 1966 when they were to be replaced with a rotational TAC squadron of 18 F-4s. In September 1965, the 389th TFS with 18 F-4Cs deployed to Alaska. This deployment was short lived, however. In December 1965, the TAC rotation was suspended to meet SEA requirements and the JCS approved continuation of the ADC F-106 deployment.

(U) ~~(S)~~ The Alaskan Air Command's F-102 squadron, the 317th FIS, Elmendorf AFB, was originally programmed for inactivation in FY 4/67. In August 1966, the Secretary of Defense approved extension of the 317th FIS to FY 1/69. PCD Z-7-096, 16 December 1967, extended the Alaskan F-102 squadron through FY 1969. The PCD noted that further extension would be necessary if TAC rotational fighters were not available in FY 1970.

(U) ~~(S)~~ As covered in detail in Chapter II, a part of the reductions under Project 703 was the phase out of the 317th FIS. The squadron was deactivated on 11 December 1969. The upshot was that in February 1970, the JCS announced its decision to provide an 18 UE F-4 squadron to Alaska. The JCS directed CINC-STRIKE to provide such a squadron to ALCOM on a PCS basis. The JCS also stated that when the 18 UE squadron was operational in ALCOM, the F-106 College Shoes rotation was to be terminated.

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SECTION IV - SOUTH KOREA

TACTICAL AIR DEPLOYMENT

(u) ~~(S)~~ On 23 January 1968, the USS Pueblo and its crew were captured and taken to the port of Wonsan by North Korean gun boats. Part of the U.S. response was to move the 82nd FIS, equipped with F-102s, from Okinawa to South Korea. PACAF then asked for 18 all-weather interceptors in Okinawa to replace the deployed unit. On 30 January 1968, USAF told ADC to plan to prepare 18 F-106s for possible deployment to Okinawa in accordance with College Cadence except for the accompanying AEW&C aircraft. Also, it was planned that the F-106 squadron might be switched with the 82nd FIS for operational considerations.

(u) ~~(S)~~ The upshot was that on 7 February 1968, the JCS directed USAF to deploy the F-106 squadron and on the same date USAF directed ADC to deploy the squadron it had selected, the 318th FIS, McChord AFB. The 318th arrived at Naha, Okinawa, on 10 February and was later moved to Osan, South Korea. The 318th was replaced by the 48th FIS. The latter was replaced by the 71st which was in place in South Korea on 18 December 1968.

(u) ~~(S)~~ Meanwhile, on 8 May 1968, CINCONAD had recommended to the JCS that the F-106 deployment be stopped at the end of the 318th's TDY period because of the impact of the loss of an F-106 squadron on CONAD's shrinking force. However, on 29 May 1968, the JCS directed continuation of the F-106 deployment at least through the end of calendar year 1968.

(u) ~~(S)~~ On 16 January 1969, CONAD detailed to the JCS the impact of the F-106 deployment and asked for an end to it as early as practical. The JCS answered on 13 February acknowledging the problems caused

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CONAD but stating that ending the F-106 squadron deployment had to wait until a ROKAF F-4 squadron was in place or until a change in the threat made a force adjustment possible.⁷⁵ The JCS said the ROKAF was to receive 18 F-4 aircraft by 31 December 1969, or, in other words, the F-106 deployment would have to continue through calendar year 1969 unless there was a great improvement in the threat situation.

(u) (S) As noted above, the 71st FIS, Malmstrom AFB, Montana, had gone to Korea in December 1968 and would complete its 179 day TDY period in May and June 1969. ADC issued Operation Order 69-2, College Cadence, 1 April 1969, to provide for replacement of the 71st by the 94th FIS, Selfridge AFB, Michigan. Only the personnel were to be shifted in South Korea. The aircraft of the 94th were to be ferried to Malmstrom and transferred to the 71st's returning personnel. The 94th's personnel were to move to South Korea and take over the aircraft of the 71st. The 94th's personnel moved in two increments -- 20 May and 5 June. The latter squadron's 179 day TDY period would end in November. ADC issued Operation Order 69-5, College Cadence Five, 1 September 1969, to provide for the replacement of the 94th by the 95th FIS, Dover AFB, Delaware. The 95th, both aircraft and personnel, was to begin a three-phase shift on 1 November.

(u) (S) In a message on 17 October, CONAD referred the JCS to its statement back in February that a ROKAF F-4 squadron was expected to be in place by 31 December and then the F-106 deployment could end. CONAD said that if this schedule was firm it intended to recommend that the currently-deployed F-106 squadron, the 94th, stay in place until 31 December.⁷⁶ This would save the time and money to move a new squadron to replace the 94th for only a few weeks, that is, until 31 December. The matter was not

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settled, however, and was still being discussed at the end of 1969. The 95th FIS replaced the 94th as scheduled.

COLLEGE CADENCE

(u) (S) ADC's College Cadence operation plan laid down responsibilities and procedures for the preparation and provision by ADC of interceptor and AEW&C forces for rapid deployment to overseas commands for air defense of overseas land areas in support of U.S. interests world wide. ADC issued its first College Cadence plan, Operation Plan 76-67, on 1 August 1967. At that time, ADC had not been assigned a change in mission. However, Air Force Regulation 23-9, 12 February 1968, added responsibility to ADC to provide forces for air defense of overseas land areas.

(u) (S) The 1968 College Cadence plan, 76-68, 15 May 1968, as changed, remained in force until superseded by Operation Plan 76-70, 25 November 1969. The latter said that all F-106 units would be organized and equipped with an organic mission-essential capability to deploy within the reaction times specified. It stated that ADC forces would deploy at the direction of the JCS.

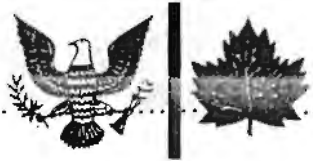
(u) (S) ADC's plan provided that interceptors would deploy by designated squadrons in elements of six aircraft and the AEW&C force would deploy with either four or eight EC-121s depending upon station requirements. Under normal readiness, the forces were to be capable of deploying with all required resources within 72 hours after notification. Under a Quick Reaction Capability, they were to be able to deploy with all resources within 24 hours notice from DEFCON 3 Readiness. Deployments were to be on a rotational

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basis. The normal TDY period for personnel, it was stated, would be 30 days. But if the contingency persisted, a maximum TDY period of 179 days per unit could be imposed.

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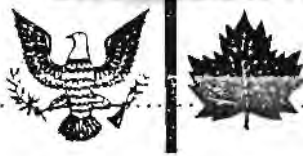
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SECTION II - SPACE WEAPONS
DETECTION SYSTEMS

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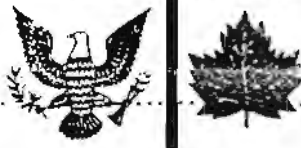
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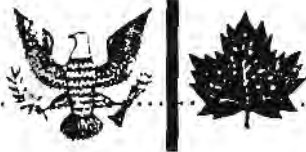
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APPENDIX i
SUMMARY OF FORCE
STATUS AND CHANGES

SUMMARY OF NORAD FORCES
(As of 1 February 1970)*

(u) ~~(S)~~ WEAPONS

Regular Interceptor Force:

17 Squadrons, 292 Aircraft**

Type	-	F-101	CF-101	F-106	F-4
Sqdns/Acft	-	3/54	3/48	11/186	7/4

ADC/ANG Interceptor Force:

17 Squadrons/306 Aircraft

Type	-	F-101	F-102
Sqdns/Acft	-	3/54	14/252

Seven Bomarc Squadrons, 196 B Missiles/
196 Launchers

* (U) Source: NORAD Forces and Program Change
Summary (U), 1 February 1970.

(u) ** ~~(S)~~ Aircraft total does not include aircraft
deployed to PACAF (F-106s).





47 RA Hercules Fire Units. 38 ARNG
Hercules Fire Units, 1,398 Missiles/
834 Launchers

Eight RA Hawk Batteries, 288 Missiles/
48 Launchers

Satellite Intercept System

(u) (S) SURVEILLANCE AND WARNING

Long Range Radars:	111
Gap Filler Radars:	16
AEW&C Stations:	4 East Coast - no aircraft availa- ble for peacetime station manning. 5 West Coast - manned randomly by EC-121D air- craft. 1 Southern Florida - manned randomly by EC-121Q air- craft.
DEW Line:	
Continental Segment:	29 Stations
Greenland Segment:	4 Stations
G-I-UK Barrier:	2 Iceland-based radars (under operational con- trol of CINCLANT).
BMEWS:	3 Stations

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OTH Radar System: 4 transmitter sites,
5 receivers (system
in interim opera-
tional capability
status during
transition from
R&D to fully
operational
status).

Space Detection and Tracking System:
Space Defense Center
USAF Spacetrack System
U.S. Naval Space Surveillance System

CF Baker-Nunn Camera
NASA Eastern Test Range, Western Test
Range, and Pacific Missile Range -
data as available and/or upon request.

Nuclear, Biological and Chemical Warning
and Reporting System.

NORAD Forward Automated Reporting System
(fully operational 10 October 1969).

NORAD Attack Warning System.

Civil Defense Warning Systems.

(u) ~~(S)~~ . COMMAND AND CONTROL

1 Combat Operations Center
8 NORAD Region Control Centers
19 NORAD Control Centers (14 BNCCs, 5
NMCCs).
15 SAM Fire Coordination Centers

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(u) ~~(S)~~ NORAD/CONAD MANPOWER ASSIGNED

NORAD Headquarters:	1,004
NORAD Regions, except Alaskan:	567
Alaskan NORAD Region:	3,469
Manpower for Air and Missile Defense Forces (Reg.):	95,495
National Guard and M-Day Mob.:	20,950
TOTAL:	116,445



NORAD FORCES ELIMINATED DURING CY 1969

(u) ~~(S)~~ MANNED INTERCEPTORS

Nine squadrons and one detachment

Reg. - 3 F-101 Sqdns (ADC)
1 F-102 Sqdn (AAC)
1 F-104 Sqdn (ADC)
1 F-102 Det. (ADC)

ANG - 1 F-89 Sqdn*
3 F-102 Sqdns

(u) ~~(S)~~ BASES

Three MOBs
Five DOBs

(u) ~~(S)~~ MISSILES

Eleven Nike Hercules batteries
Five ARADCOM and six Army
National Guard

One Bomarc squadron

(u)
* ~~(S)~~ These were two F-89 squadrons. The other one converted to F-102s and then to F-101s.



(u) ~~(S)~~ SURVEILLANCE AND COMMAND AND CONTROL

Fifteen Long Range Radars

Six DEW Line sites (Aleutian Segment)

One Gap Filler radar

One AEW&C Wing

One AEW&C Squadron

Four region combat centers -

Five Division direction centers*

Five NORAD control centers

One Spacetrack radar site

(u)
* ~~(S)~~ All 13 direction centers in existence at the start of the year were discontinued. Seven became region control centers and the other six were eliminated, five during CY 1969, one early in 1970.



FORCES REMOVED FROM NORAD CONTROL
DURING CY 1969 BY UNIT AND DATE

<u>FORCES</u>	<u>DATE REMOVED FROM OPERATION OR DROPPED ALERT</u>
(u) (S) Manned Interceptor Squadrons	
152nd FIS (ANG, F-102s), Tuscon MAP, Arizona	1 May 1969
124th FIS (ANG, F-89Js), Des Moines MAP, Iowa	15 May 1969
182nd FIS (ANG, F-102s), Kelly AFB, Texas	16 June 1969
2nd FIS (F-101s), Suffolk County AFB, New York	30 October 1969
59th FIS (F-101s), Kingsley AFB, Oregon	30 October 1969
75th FIS (F-101s), Wurtsmith AFB, Michigan	30 October 1969
111th FIS (ANG, F-102s), Ellington AFB, Texas	5 November 1969
319th FIS (F-104s), Homestead AFB, Florida	15 November 1969
Det 3, 32nd Air Div. (F-102s), Key West NAS, Florida	15 November 1969
317th FIS (F-102s), Elmendorf AFB, Alaska	8 December 1969
(u) (S) Missile Units	
Four Nike Hercules fire units, two RA, two ARNG, from New York-Philadelphia, Detroit-Cleveland, Chicago- Milwaukee, and Cincinnati- Dayton Defenses	18 June 1969

FORCESDATE REMOVED
FROM OPERATION
OR DROPPED ALERT

One Nike Hercules fire unit (ARNG) from Detroit- Cleveland Defense	1 August 1969
35th ADMS (Bomarc), Niagara Falls IAP, New York	31 October 1969
Six Nike Hercules fire units (3 RA, 3 ARNG) from Cincinnati-Dayton and Niagara-Buffalo Defenses	10 December 1969

~~(S)~~ Radars

LRRs: F-1, Fire Island; F-9, Northeast Cape; and F-20, Unalakleet (all Alaska)	1 June 1969
DEW Radars: COB 1, 2, 3, 4, and 5 (Alaska)	1 June 1969
LRR: Z-31, Arlington Heights, Illinois	19 June 1969
LRRs: Z-18, Chandler AFS, Minnesota; Z-73, Bellfontaine AFS, Ohio; Z-78, Perrin AFB, Texas; Z-81, Waverly AFS, Iowa; and Z-89, Sweetwater AFS, Texas (plus 27 height finders)	1 July 1969 27 August 1969
DEW Radar: COB Main	
LRRs: Z-75, Lackland AFB, Texas; Z-79, Ellington AFB, Texas; Z-92, Mt. Lemon AFS, Arizona; Z-163, Las Vegas AFS, Nevada; Z-181, Luke Range, Arizona; and Z-197, Thomasville AFS, Alabama.	4 November 1969



<u>FORCES</u>	<u>DATE REMOVED FROM OPERATION OR DROPPED ALERT</u>
Spacetrack Radar: Moorestown, New Jersey, AN/FPS-49	7 November 1969
Gap Filler Radar: Z-126A, New Orleans, Louisiana	31 December 1969
 (4) (S) <u>COMMAND AND CONTROL</u>	
Three NORAD Control Centers - Z-69, Finland, Minnesota (BUIC II); Z-29, Finley North Dakota (MNCC); F-1, Fire Island, Alaska (MNCC)	1 June 1969
Two NORAD Control Centers - Z-78, Perrin AFB, Texas (MNCC); Z-181, Luke Range, Arizona (MNCC)	1 July 1969
One combat center, Hamilton AFB, California	15 September 1969
Two direction centers, 26th Division, Adair AFS, Oregon and 36th Division, Topsham AFS, Maine	15 September 1969
ALRI operations (East Coast) ended on all stations	29 October 1969
Three combat centers, Richards- Gebaur AFB, Missouri (Cen- tral Region) and Stewart AFB, New York (Eastern Region) North Bay (NNR SAGE)	14 November 1969
Three direction centers, 32nd Division (SAGE) Gunter AFB, Alabama; 34th Division (SAGE)	



FORCES

DATE REMOVED
FROM OPERATION
OR DROPPED ALERT

Custer AFS, Michigan;
and 31st Division (Man.)
Oklahoma City AFS.*
551st AEW&C Wing

966th AEW&C Squadron

31 December 1969
(inactivated)
31 December 1969
(inactivated)

⁽⁴⁾
* ~~(S)~~ Seven other divisions were also discontinued at this time, but seven regions were established in their place -- see Chapter One.



STATUS SUMMARY OF NORAD FORCES
AFFECTED BY REDUCTIONS

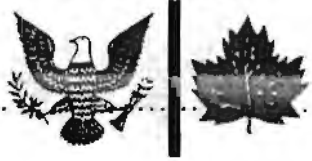
<u>FORCE</u>	<u>31 December 1968</u>	<u>31 December 1969</u>
(u) (S) <u>INTERCEPTOR</u> <u>SQUADRONS:</u>	43	34
F-101	6	3
F-102	1	0
F-104	1	0
F-106	11	11
CF-101	3	3
F-89 (ANG)	2	0
F-102 (ANG)	19	17
(S) <u>MISSILES:</u>		
Bomarc Squadrons*	8	7
Hercules Bat- teries Reg/NG	52/44	47/38
(u) (S) <u>SURVEILLANCE</u> <u>AND COMMAND AND</u> <u>CONTROL:</u>		
LRRs	126	111
Gap Fillers	17	16

(u)
* ~~(S)~~ Includes two Bomarc squadrons in Canada.



<u>FORCE</u>	<u>31 December 1968</u>	<u>31 December 1969</u>
DEW Line		
Aleutian Segment	6 Stations	0
ALRI Stations	4 East Coast (randomly manned)	0
AEW&C Stations	5 West Coast (randomly manned)	5 West Coast (randomly manned)
	1 South Fla. (manned full time)	1 South Fla. (randomly manned)
AEW&C Wings	2	1
AEW&C Aircraft (asgd)	77	46 (includes 9 NOA)
Combat Centers	5	0
Direction Centers	13	0
Region Control Centers	0	8
NORAD Control Centers	20 (8 BNCCs, 12 NMCCs)	19 (15 BNCCs,** 4 MNCCs)
Spacetrack Radar Sites	4	3

(u)
 ** (S) One BUIC III Control Center was inactivated on 15 January 1970.



APPENDIX II WAR GAMING

HISTORY OF WAR GAMING

(U) The earliest war game, chess, was first recorded in the Odyssey some 3,000 years ago. It was, therefore, appropriate that the earliest "modern" war games were derivations of chess. The game was made increasingly complex by increases in the number of squares (in 1798 to as many as 3,600) on the board and an attempt to show terrain by tinting the squares in various shades. By 1811, terrain models with toy soldiers and miniature artillery pieces that fired tiny projectiles were used. With the increasing complexity of the game board, mathematical tables covering movement of forces, losses and effects of fire were developed. Dice were used to determine the effects of chance on the combat.

(U) By 1883, mathematical calculations were used to determine such minute details as the state of training, morale, terrain variations and the like. The first efforts to simulate "real time" were made by the younger von Reisswitz in Prussia in 1824. New interest in gaming beyond the limits of physical models was stimulated by John von Neumann's "minimax" game theory in 1927. This theory outlined a conflict situation in which the consequences of a decision depended on the actions of an opponent.¹

(U) Elements retained from the old war gaming techniques are the recognition of the complexity of the game, the element of chance -- represented



by dice before the computer age and the Monte Carlo technique after, and the minimax game theory.*2

NORAD GAMING

(U) Game preliminaries consist of establishing many variables such as the scenario, the threat and the defensive forces, to conform with the guidance and purpose for the game. Once these preliminaries are established, two teams are chosen. The Red Team represents the offensive position and the Blue Team represents the defensive position. The Red Team targets the Red inventory of weapons on the Blue targets in accordance with Red objectives, target values, damage expectancy, etc. This procedure involves allocating the best weapon for each type target and the use of cross-targeting by different weapon systems. This is a very detailed and time consuming portion of the game. After this weapons laydown is completed, the Blue Team conducts the defense against this postulated Red attack.

(U) The actual game play starts with the Red missile attack occurring first. The Blue Team then employs the assumed ABM system to engage the incoming missiles making the best possible use of the coverage, rate of fire, and missile stockpile of the available ABM sites. At the end of the missile

* (U) The Monte Carlo technique involves the use of computer generated random numbers representing the effects of chance on a particular event.



attack, a preliminary damage assessment must be made to determine what air breathing defensive facilities have been destroyed or rendered unusable.

(U) With those facilities and weapons systems which survive, the Blue Team then conducts the air breathing battle making the best possible use of the interceptors and SAMs available. Again, random numbers are used to determine the outcome of the critical events. At the conclusion of the air breathing battle, an assessment of the total damage is made. With this action, one iteration or evaluation has been completed. Several iterations are the results. These results are then analyzed to determine whether and to what degree the Red objectives were met and subsequently to determine the implications to the defense of North America.³

DISADVANTAGES OF MANUAL OPERATION

(U) The above procedures, when done entirely by manual means, consume the entire efforts of the War Gaming Division and produce only one game result. Since a considerable number of iterations are required to establish the limits within which the results could be expected to fall, automated procedures have become vital to the efficient production of results. Manual procedures, then, have these disadvantages: (1) Lack of responsiveness to short suspenses, and (2) Inability to complete more than one game or iteration at a time.

(U) Besides eliminating these disadvantages, automated war gaming has these additional advantages:

1. Increased responsiveness to varied requirements.



2. Simulation of systems too complex for valid manual simulation.

3. Reduction of manual errors.

4. Iteration of games to produce more reliable results.

5. Increased flexibility of response on results.

6. Elimination of human influence on results.

(U) Therefore, NORAD began planning on the automation of NORAD war gaming.

NORAD AUTOMATED WAR GAMING SYSTEM

(U) In 1968, it was realized that NORAD did not have the capability to develop suitable computer models or programs to provide increased responsiveness. Therefore, models developed by other agencies were reviewed to determine whether a model or combination of models would fulfill the requirements and could be reprogrammed for use by NORAD on local computers. A system consisting of a combination of models was chosen and several models were selected which seemed to offer promise. Each of these models was acquired without regard to interactions with the other models. This introduced the problem of providing additional auxiliary programs to interface the outputs and inputs of the various models.

(U) Although this need for additional interface was a disadvantage of this type of system, there were two major advantages.



1. Each portion of the model or program could be run separately as required for a particular problem or separate evaluation.

2. This system allowed the opportunity for manual intervention at several points during the conduct of a game.

(U) The NORAD automated war gaming system, which was expected to be in use by about May 1970, would employ the following major models:⁴

1. QUICK Plan Generator.^{5*} This computer model performed the function of targeting, that is, produced an optimum or near-optimum laydown of the Red weapons on the Blue targets.

2. Defended Area Model 3 (DAM 3). The DAM 3 Model played the area ABM game by simulating the area ABM defense (the function of the Spartan missile).

3. Defended Area Model 2 (DAM 2). The DAM 2 Model played the terminal ABM game by simulating the terminal ABM defense through simulation of the function of the Sprint missile.

4. Intelligence Threat Evaluation Model (ITEM). The ITEM played the air breathing defensive game by simulating the defense against an

* (U) The Plan Generator is a portion of a complete model entitled QUICK Reacting Global War Game (QUICK) produced by the National Military Command System Support Center for the Joint War Games Agency, JCS.



attack by air breathing offensive systems. The ITEM Model was developed by NORAD to simulate the interaction of bombers, ASMs, and cruise missiles with the interceptors and SAMs of the air breathing defensive forces.

5. Comprehensive Blast and Radiation Assessment (COBRA). The COBRA Model assessed the damage resulting from the nuclear attack. The model provided as an output the expected fatalities, expected damage to industrial worth, the probability of damage to military facilities, and the expected radiation level by time at each point in the target list.

(U) Four auxiliary interface programs were used in the NORAD system:

1. Auxiliary interface program A-1 provided an interface between the Plan Generator and the DAM 3 Model by taking the missile portion of the war plan produced by the Plan Generator and converting the missile sorties to a format which was readable and workable in the DAM 3.

2. Auxiliary interface program A-2 provided an interface between the Plan Generator and the ITEM Model by taking the bomber portion of the war plan produced by the Plan Generator and converting the bomber sorties into a format which was readable and workable in the ITEM Model.

3. Auxiliary interface program A-3 determined by Monte Carlo technique the success or failure of each attacking object penetrating the area defense. The surviving objects were then converted into a format which was readable and workable in the DAM 2.



4. Auxiliary interface program A-4 determined by the Monte Carlo technique the success or failure of each attacking object penetrating the terminal defense. The surviving objects of both the Spartan and Sprint defenses were then converted into a format which was readable and workable in the COBRA Model.

(U) Finally, two manual evaluations took place in the NORAD system.

1. H-1 (Manual Evaluation #1) provided for a manual evaluation of the war plan produced by the Plan Generator to ensure that the plan met the Red objectives established initially.

2. H-2 (Manual Evaluation #2) adjusted the air breathing defensive forces to reflect damage sustained in the missile attack.

RELATIONSHIP BETWEEN NORAD, ADC, ARADCOM WAR GAMING STAFFS⁶

(U) As the war gaming capabilities of NORAD and the components have developed during the past three years, a close working relationship has been maintained with the component offices engaged in war gaming.

(U) For example, in 1966, DA tasked ARADCOM to conduct Nike Hera studies on a full-scale war game basis. As ARADCOM's war gaming capability was limited to SAMs, NORAD provided models and data to complete the interceptor portion of these games.

(U) In 1967, NORAD carried out a series of games on the F-12 interceptor against certain specified threats because ADC's war gaming capability provided only "expected value" results and



a more detailed evaluation was desired to check the validity of ADC game results.

(U) In 1967 and 1968, the NORAD War Gaming Division lost 90 per cent of its qualified war gamers. To provide training for newly assigned unqualified personnel, assistance was asked and received from ARADCOM.

(U) A joint NORAD-ADC committee was established in 1967 to develop an agreed set of operational factors covering manned interceptors. This was completed and the committee continued to function whenever revisions were required or new systems proposed.

(U) Because any recommendations from NORAD would be more readily accepted if they were based on analyses using common data, the concept of agreed factors for manned interceptors was expanded to include the establishment of a common data base for all analytical work within NORAD. Meetings were held with representatives of ADC and ARADCOM in an attempt to develop such a common data base acceptable by all commands.

(U) In accordance with the reorganization of the NORAD DCS/Plans and Programs (J-5) in January 1969, the Directorate of Studies and Gaming was established effective 6 January 1969. The directorate has two divisions; the Studies and Integration Division and the War Gaming Division.

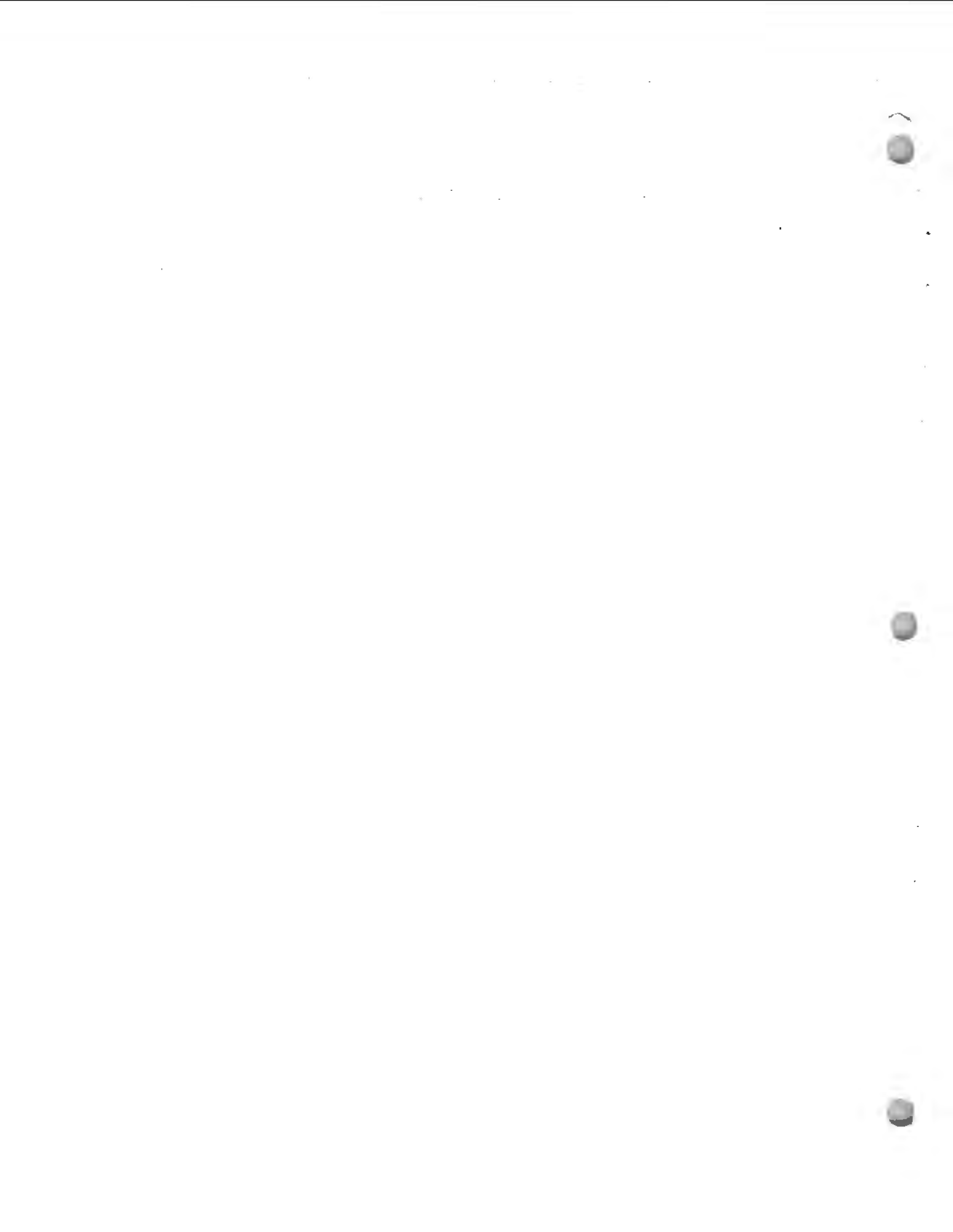


SOURCES FOR APPENDIX II

1. Booklet, "The Game of War," prepared for Technical Operations Inc. by Colonel K. S. Anderson, USA, Ret., from the works of John P. Young: "A Survey of Historical Developments in War Games," Operations Research Office, the John Hopkins University, 1959 (610).
2. Interview with Lt Col J. R. Walker, NPPS, 23 March 1970.
3. Memorandum for Assistant DCS/Plans, NPPS, "The Automated War Gaming System," 3 September 1969 (610).
4. See Note 2.
5. See Note 3.
6. Fact Sheet for DINS Personnel, NPPS, "Relationship between NORAD, ADC, ARADCOM Wargaming Staffs," undated (610).



GLOSSARY



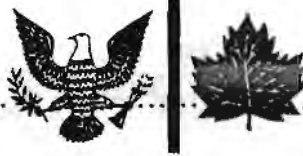


GLOSSARY OF ABBREVIATIONS USED IN THIS REPORT

AAC	Alaskan Air Command
ABM	Anti-Ballistic Missile
ABMIS	Airborne Ballistic Missile Intercept System
ACC	Area Coordination Center
ACR	Alaskan CONAD Region
ACW	Aircraft Control and Warning
AC&W	Aircraft Control and Warning
ADA	Air Defense Artillery; Air Defense Area
ADC	Aerospace Defense Command
ADC-CC	Aerospace Defense Command Computer Center
ADMS	Air Defense Missile Squadron
ADNAC	Air Defense North American Continent
AEW	Airborne Early Warning
AEW&C	Airborne Early Warning and Control
AFLC	Air Force Logistics Command (Formerly AMC)
AFSC	Air Force Systems Command (Formerly ARDC); Air Force Speciality Code
ALCOM	Alaskan Command
ALCOP	Alternate Command Post
ALRI	Airborne Long Range Radar Input
ANG	Air National Guard
ANMCC	Alternate National Military Command Center
ANR	Alaskan NORAD Region
ARADCOM	Army Air Defense Command
ARNG	Army National Guard
ASCII	American Standard Code Interchange Information
ASM	Air-to-Surface Missile
ASW	Antisubmarine Warfare
AUTOVON	Automatic Voice Network
AVA	Azimuth versus Amplitude (Indicators)
AWACS	Airborne Warning and Control System



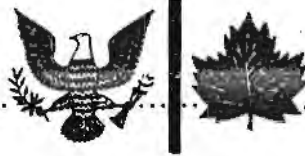
BMDC	Ballistic Missile Defense Center
BMEWS	Ballistic Missile Early Warning System
BNCC	BUIC NORAD Control Center
BUIC	Back-up Intercept(or) Control
CADIZ	Canadian Air Defense Identification Zone
CANUS-69	Canada-United States Intelligence Estimate--1969
CANUSAD	Canadian-United States Cooperative Studies on Aerospace Defense
CC	Combat Center
CCTV	Closed Circuit Television
CDS	Chief of Defence Staff (Canada)
CEL	Combat Evaluation Launch
CF	Canadian Forces
CFWLO	Canadian Forces Warning Liaison Officer
CMC	Cheyenne Mountain Complex
COC	Combat Operations Center
CONAD	Continental Air Defense Command
CONUS	Continental United States
CSA	Combat Support Aircraft
DA	Department of the Army
DB	Dispersed Base
DC	Direction Center
DCA	Defense Communications Agency
DDR&E	Director Defense Research and Engineering
DEFCON	Defense Readiness Condition
DEW	Distant Early Warning
DEWIZ	Distant Early Warning Identification Zone
DINS	Director Inspection Services
DIP	Display Information Processor
DOB	Dispersed Operating Base
DOD	Department of Defense
ECCM	Electronic Counter-Countermeasures
ECM	Electronic Countermeasures



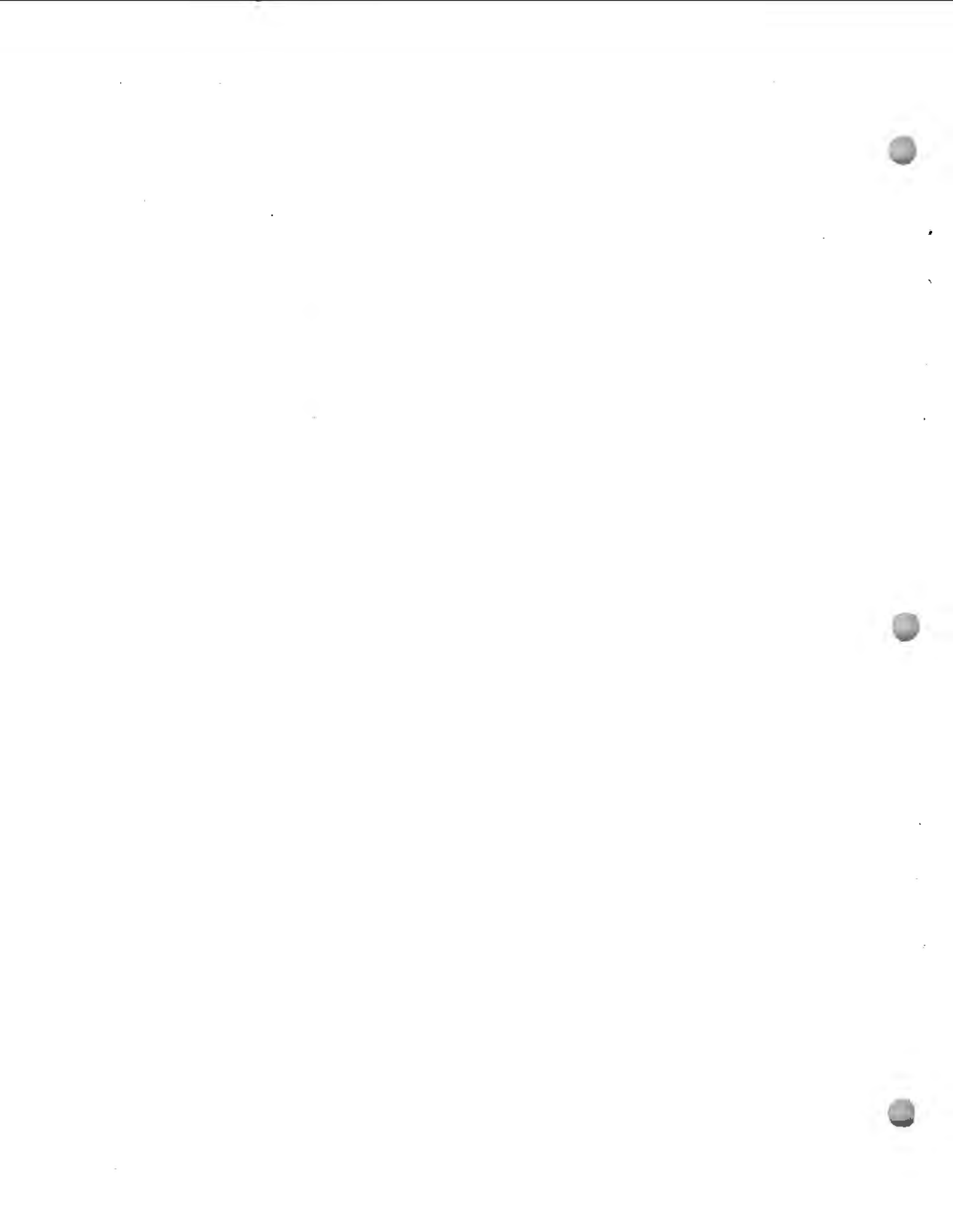
ECR	Eastern CONAD Region
ELINT	Electronic Intelligence
ENR	Eastern NORAD Region
ERD	Equipment Readiness Date
ESD	Electronic Systems Division
FAA	Federal Aviation Agency
FCC	Fire Coordination Center
FERD	Final Equipment Readiness Date
FIS	Fighter Interceptor Squadron
FOBS	Fractional Orbital Bombardment System
FOC	Full Operational Capability; Flight Operations Center
FORSTAT	Forces Status Report
FY	Fiscal Year
G-I-UK	Greenland-Iceland-United Kingdom
GO	General Order
ICBM	Intercontinental Ballistic Missile
IDF	Iceland Defense Force
IMI	Improved Manned Interceptor
IOC	Initial Operational Capability
JARCC	Joint Air Reconnaissance Control Center
JCC	Joint Control Center
JCS	Joint Chiefs of Staff
JSOP	Joint Strategic Objectives Plan
JTD	Joint Table of Distribution
LE	Launch Emplacement
LDS	Launch Detection System
LRR	Long-Range Radar
LWIR	Long Wavelength Infrared
MCCDS	Modified Central Computer Display System
MDC	Missile Direction Center
MNCC	Manual NORAD Control Center



MNGCI	Master NORAD Ground Control Intercept Station .
MNSS	Master NORAD Surveillance Station
MOB	Main Operating Base
MSR	Missile Site Radar
MWD	Missile Warning Display; Missile Warning Division
MWDS	Missile Warning Display Subsystem
NACP	NORAD/CONAD Airborne Command Post and Data Processing Center
NADOP	North American Air Defense Objectives Plan
NASA	National Aeronautics and Space Administration
NAVSPASUR	Naval Space Surveillance System
NBC	Nuclear, Biological and Chemical
NCA	National Command Authority
NCC	NORAD Control Center
NCMC	NORAD Cheyenne Mountain Complex
NCOC	NORAD Combat Operations Center
NCS	NORAD Computer System
ND	NORAD Division
NEC	Nuclear Employment Concept
NEMWDS	NORAD Expanded Missile Warning Display System
NMCC	National Military Command Center
NNR	Northern NORAD Region
NOEC	NORAD Operational Employment Concept
NORAD	North American Air Defense Command
NQR	NORAD Qualitative Requirement
NSS	NORAD Surveillance Station
O&M	Operation and Maintenance
OSD	Office of the Secretary of Defense
OSV	Ocean Station Vessels
OTH	Over-the-Horizon
PAR	Perimeter Acquisition Radar
PBD	Program Budget Decision



PCD	Program Change Decision
PD	Passive Detection
RA	Regular Army
RCC	Region Control Center
ROC	Required Operational Capability
SABMIS	Sea-Based Ballistic Missile Inter- cept System
SAGE	Semi-Automatic Ground Environment
SAM	Surface-to-Air Missile
SAM-D	Surface-to-Air Missile Development
SAR	Search and Rescue
SATCON	Satellite Alert Condition
SAMSO	Space and Missile Systems Office
SCC	Space Computational Center
SDC	Space Defense Center
SEA	Southeast Asia
SEAM	Suspected Event Alerting Message
SIS	Satellite Intercept System
SLBM	Sea-Launched Ballistic Missile
SLCM	Submarine-Launched Cruise Missile
SMAMA	Sacramento Air Materiel Area
SPADATS	Space Detection and Tracking System
STRAF	Strategic Army Force
TAC	Tactical Air Command
UE	Unit Equipment





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COMMAND HISTORY (U) 1970



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NORTH AMERICAN AEROSPACE DEFENSE COMMAND

17 MAR 1999



MEMORANDUM FOR NORAD/USSPACECOM/HO

FROM: N/J3V

SUBJECT: Declassification of CONAD Histories 1970 and 1971

1. The following information for CONAD History for 1970 should remain classified. All other information is unclassified.

a. Page 7, paragraph 2. (1) on the left side of the page. Reason 1.5 (a, b), recommend this information be exempt from declassification for reason X4. X6.

b. Pages 76 to 79, paragraphs 1 and 2, remain classified reason 1.5 (d).

c. Page 81, paragraph 3 remains classified by reason 1.5 (c).

d. Pages 83 to page 86, last paragraph. USSPACECOM and AFSPACE own these systems and they should review this section.

e. Pages 91 to 98, Ballistic Missile Defense Organization (BMDO) or USSPACECOM/J5B should review this section.

f. Pages 99 to 102, USSPACECOM should review.

2. The following information for CONAD History for 1971 should remain classified. All other information is unclassified.

a. Pages 74 and 75, "Deployment Bases in Canada." Reason 1.5 (a), recommend this information be exempt from declassification for reason X4.

b. Pages 111 and 112, paragraphs 1 to 4, USSPACECOM or AFSPACE should review this section.

c. Page 115, polar map remains classified for reason 1.5 (d).

d. Pages 117 to 120, remain classified for reason 1.5 (d).

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- e. Page 121, paragraph 1 remains classified for reason 1.5 (a).
 - f. Page 121, paragraphs 2 to page 124, the last line remains classified for reason 1.5 (b and d).
 - g. Pages 125 and 126 remain classified for reason 1.5 (b).
 - h. Pages 127 to 134 remain classified for reason 1.5 (f).
 - i. Page 135, USSPACEOM should review.
 - j. Page 137, recommend USSPACECOM determine the classification of this page.
 - k. Page 153, "Change in the NORAD Attack Warning System," for reason 1.5 (a).
3. Point of contact is Lt Col Sneath, N/J3OOC, DSN 692-5471 or (719) 554-5471.

For

R. F. SMITH
Colonel, USAF
Vice Director of Operations

*Archie D. Fadden, COL USAF
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CONTINENTAL AIR DEFENSE COMMAND

COMMAND HISTORY (U) 1970

1 JULY 1971

COMMAND HISTORY DIVISION
SECRETARY, JOINT STAFF
HEADQUARTERS CONAD

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CINCSO	1	CHCR	1
		CNPA	1
		CAPM	1
CINCLANT	1	CAMO	1
		CINT	1
		COPS	1
CINCEUR	1	COEV	1
		COOP	1
		COPP	1
CINCSTRIKE	1	COAD	1
		COSD	1
		COET	1
CINCPAC	1	COCO	1
		COCM	1
		COOT	1
CINCSAC	1	COBS	1
		COCE	1
		COSC	1
CINCAL	1	COCC	1
		CLOG	1
		CPAP	1
Continental Army Command	1	CPPP	1
		CPPL	1
		CPPF	1
ARADCOM	2	CPPA	1
		CPPG	1
		CPRO	1
USAF ADC	1	CPCC	1
		CPWS	1
		CPCP	1
CONAD Regions	1 each	CELC	1
		CECO	1
		CEEC	1
HQ CONAD	<u>46</u>	CEPP	1
	80	CHSV-H	12



Left to right in the NORAD Command Post: Gen Seth J. McKee, USAF, CINCNORAD; LGen Edwin M. Reyno, CF, Deputy CINCNORAD; Lt Gen Thomas K. McGehee, USAF, Commander ADC; and LTG George V. Underwood, Jr., USA, Commanding General ARADCOM.

PREFACE

The CONAD Command History for 1970 was prepared as required by and in accordance with guidance outlined by the Joint Chiefs of Staff in SM 247-59, 5 March 1959 and SM 665-69, 3 October 1969. These memorandums require that commanders of unified and specified commands submit annually by 1 July a historical report that provides "a compact record of the activities of unified and specified command headquarters, . . . a comprehensive understanding of the operations of the headquarters, the problems faced by the headquarters, and the status of the command."

The command history, therefore, covers as fully as time and personnel permit all historically significant activities in North American aerospace defense that impact on the responsibilities of the Commander-in-Chief. Because of the nature of the missions, responsibilities and organization of the command, the historical report covers both CONAD and NORAD and should be considered a history of CONAD/NORAD. JCS SM 922-59, 16 September 1959, provides specifically for coverage of NORAD activities.

1 July 1971

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CHAPTER I
MANPOWER AND ORGANIZATION
ACTIVITIES

SECTION I - NORAD HEADQUARTERS

NORAD HEADQUARTERS MANNING

(U) Status. As of 31 December 1969, NORAD/CONAD Headquarters had an authorized strength of 1,002. Ten spaces were added during 1970 -- eight in a change to the SAC/NORAD Joint Operations Task Force (JOTF) and two from an authorization previously omitted. As of 31 December 1970, the NORAD/CONAD Headquarters authorized strength was 1,012.

(U) Change in JOTF Manning. At the start of 1970, five U.S. Army Air Defense Command personnel spaces and three USAF Aerospace Defense Command spaces were provided on a dedicated basis to the SAC/NORAD JOTF.* General Seth J. McKee, CINCNORAD, directed these spaces be transferred to the NORAD/CONAD Joint Table of Distribution (JTD). NORAD proposed this change to the JCS on 12 January 1970.¹ The JCS approved on 3 February.² This transfer included three officer, three enlisted, and two civilian spaces.

(U) Annual Manpower Submission. NORAD forwarded the annual manpower submission to the JCS on 9 February 1970.³ It contained a request to increase manpower by 13 spaces and to make minor organizational and grade

* (U) See Chapter VII, for information on the JOTF.

~~DOWNGRADED AT 12 YEAR
INTERVAL; NOT AUTOMATICALLY
DECLASSIFIED. DOD DRS 10
Group 3~~

~~SECRET~~

changes. Among the latter was the upgrading of an Air Force 05 to 06 in the Directorate of Protocol and the conversion of six Air Force officer positions to enlisted positions. Of the 13 additional spaces requested, 11 (one officer and ten enlisted) were for the CONAD Special Security Office (SSO). These spaces were in support of documented workload measured against a Defense Intelligence Agency manpower standard for SSO communication facilities. The other two spaces requested had previously been approved by OSD but had been inadvertently omitted by USAF during preparation of the USAF Manpower Authorization Voucher for NORAD.⁴

(U) The JCS did not approve the 11 spaces for the CONAD SSO, noting that current budgetary and manpower constraints prevented their authorization at this time.⁵ Three SSO spaces were validated. The organizational and grade changes were approved. The two spaces previously omitted were added, bringing the NORAD/CONAD Headquarters total to 1,012.

(U) Disestablishment of Assistant Chief of Staff Position. NORAD requested authority to disestablish the function of Assistant Chief of Staff, downgrade the space from Air Force 07 to Air Force 06, and establish the position of Executive Officer.⁶ The JCS approved this change on 13 May 1970.⁷ The civilian secretary authorization for the Assistant Chief of Staff was disestablished and realigned to DCS/Operations (J-3).

REORGANIZATION OF DCS/OPERATIONS (J-3)

(U) Changes to the NORAD/CONAD Headquarters DCS/Operations (J-3), effective 1 July 1970, involved realignments in authorizations and staff structure.⁸ A number of new directorates were established and placed under two Assistant DCSs. Under the Assistant DCS/Combat Operations (established in November 1969) were placed six directorates, all but one of which, Directorate for Command and Control, were located at the NORAD Cheyenne Mountain Complex. A second Assistant Deputy, established at this time, Assistant DCS/Operations, was assigned four directorates. Three of these,

Operations Plans, Air Defense, and Space Defense, had been at division level under the old Directorate of Operations. The fourth directorate, Exercises and Training, was a portion of the old Training and Evaluation Directorate. Also established at this time, under the DCS/Operations, was an Assistant for Evaluation (see organizational charts on pages 4 and 5).

REORGANIZATION OF DCS/PLANS AND PROGRAMS (J-5)

(U) The NORAD/CONAD Headquarters DCS/Plans and Programs (J-5) made two organizational changes during 1970. The first change, effective 1 July 1970, involved directorates under the Assistant DCS/Plans. The Directorate of Plans and the Directorate of Policy were combined into one directorate, Plans and Policy, and the Directorate of Studies and War Gaming was renamed the Directorate of War Gaming.⁹

(U) The second change, effective 20 August 1970, abolished the Directorate of Systems and established the Directorate of Command and Control and the Directorate of Weapons and Surveillance under the Assistant DCS/Programs. Also, the Directorate of Computer Programs was renamed Assistant for Computer Programs and placed directly under the DCS/Plans and Programs.¹⁰

RECOMMENDED CHANGES TO THE UNIFIED COMMAND PLAN

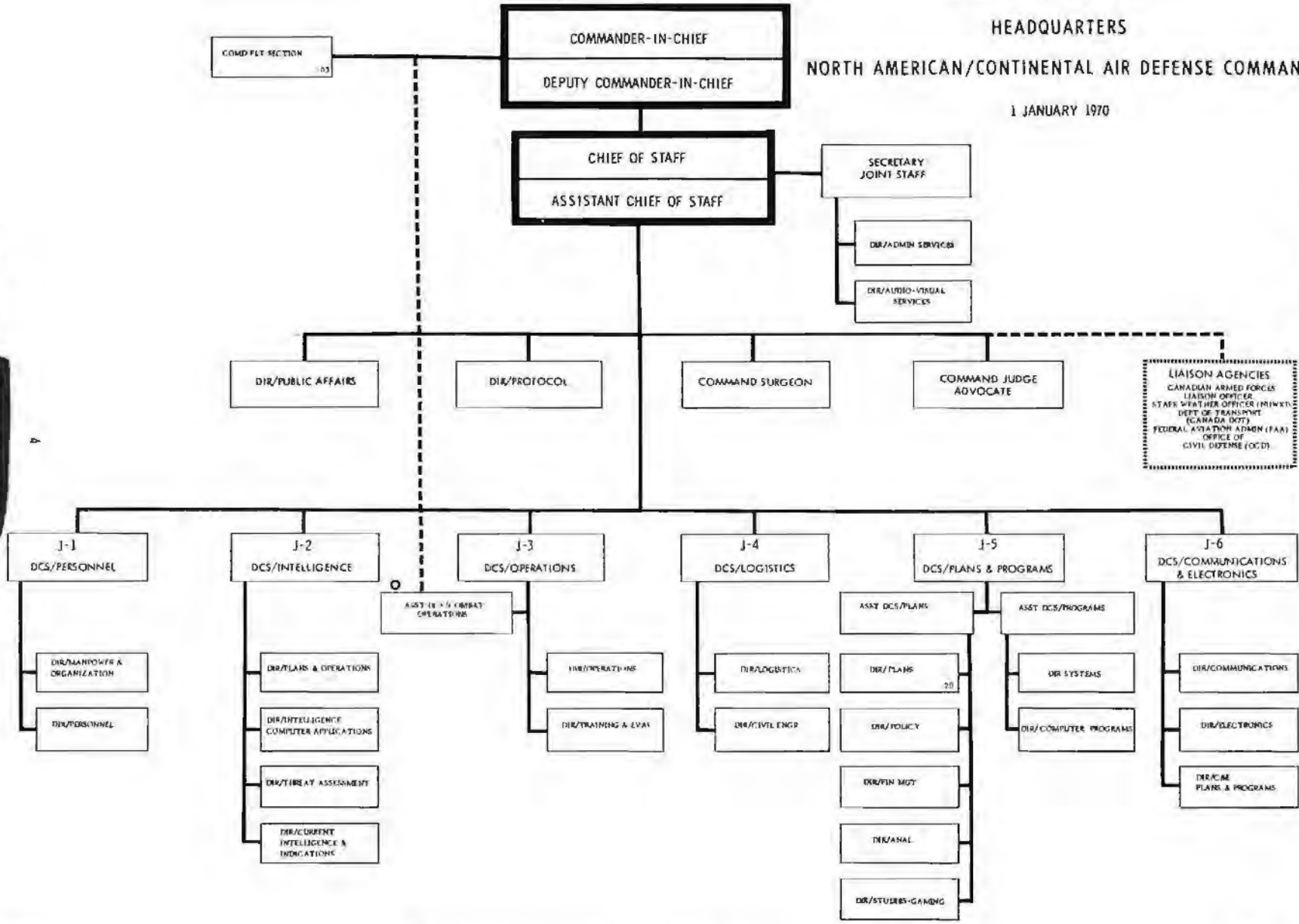
~~(S)~~ The JCS requested CINCONAD's recommendations, in September 1970, for a revision of the Unified Command Plan (UCP).¹¹ This would be the first revision since 1963. CINCONAD recommended three changes: CINCNORAD's mission statement be revised to include the functional responsibility for missile defense, CINCONAD's mission be changed from "air defense" to "aerospace defense," and CINCONAD's responsibility for air defense of bases

ORGANIZATIONAL CHART

HEADQUARTERS

NORTH AMERICAN/CONTINENTAL AIR DEFENSE COMMAND

1 JANUARY 1970



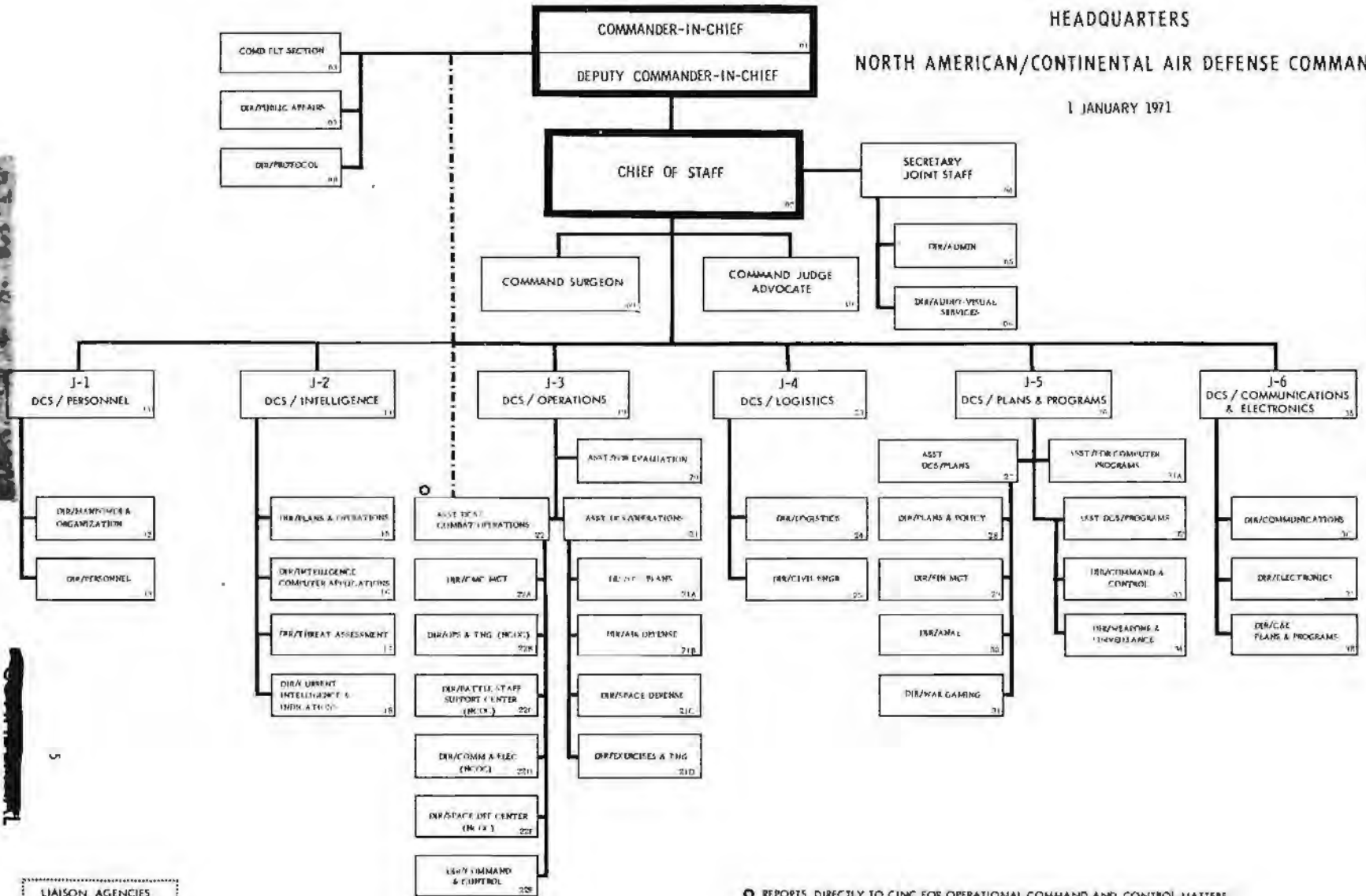
○ REPORTS DIRECTLY TO CINC FOR OPERATIONAL COMMAND AND CONTROL MATTERS

ORGANIZATIONAL CHART

HEADQUARTERS

NORTH AMERICAN/CONTINENTAL AIR DEFENSE COMMAND

1 JANUARY 1971



○ REPORTS DIRECTLY TO CINC FOR OPERATIONAL COMMAND AND CONTROL MATTERS

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5

LIAISON AGENCIES
 CP WARNING & LIAISON OFFICER
 FEDERAL AVIATION ADMIN (FAA)
 STAFF WEATHER OFFICER (SWO)
 OFFICE OF CIVIL DEFENSE (OCD)
 DEPT OF TRANSPORT
 (CARRIA DOT)

in Greenland be deleted.*12 CINCONAD recommended revision to incorporate these changes and for clarity.

UCP - 20 November 1963

a. The Commander-in-Chief, Continental Air Defense Command (CINCONAD) with present headquarters at Ent AFB . . . is the commander of a unified command comprising all forces assigned for the accomplishment of his mission. It is not the intention of the Joint Chiefs of Staff to provide for the assumption of operational responsibility by CINCONAD for the air defense of the United States less Hawaii except in the circumstances of action by Canada or the United States which make it impossible for the Commander-in-Chief, North American Air Defense Command (CINCNORAD) to exercise this assigned responsibility.

CINCONAD
Recommended Revision

a. The Commander-in-Chief, Continental Aerospace Defense Command (CINCONAD) with present headquarters at Ent AFB . . . is the commander of a unified command comprising all forces assigned for the accomplishment of his mission. It is not the intention of the Joint Chiefs of Staff to provide for the assumption of operational responsibility by CINCONAD for the air defense of the United States less Hawaii except in circumstances of unilateral action by Canada or the United States which make it impossible for the Commander-in-Chief, North American Air Defense Command (CINC-NORAD) to exercise this assigned responsibility.

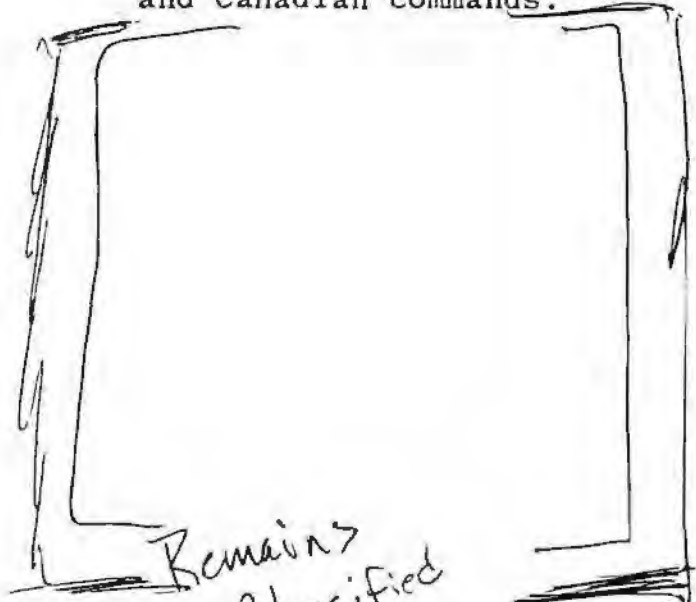
* ~~(C)~~ CINCONAD pointed out that the removal of air defense forces from Greenland in 1964-1965 made it impossible to discharge this responsibility. CINCONAD had recommended in 1966 deletion of this responsibility. The JCS had advised that this change would be considered in the next revision of the UCP.

UCP - 20 November 1963

b. Forces assigned to CINCONAD operating in the NORAD area are under the operational control of CINCNORAD for the accomplishment of his mission. The mission of CINCNORAD is to:

(1) Defend the Continental United States, Canada, and Alaska against air attack.

(2) Support other Continental United States and Canadian commands.



CINCONAD
Recommended Revision

b. Forces assigned to CINCONAD operating in the NORAD area are under the operational control of CINCNORAD for the accomplishment of his mission. The mission of CINCNORAD is to:

(1) Defend the Continental United States, Canada, and Alaska against air and missile attack; obtain and provide warning of attack by aircraft, missile and/or space vehicles through detection and tracking systems, and associated warning nets assigned to the operational control of CINC-NORAD.

(2) (No change.)

c. In addition, CINCONAD is responsible for:

(1) The aerospace defense of the Continental United States including Alaska, if U.S. unilateral action should become necessary.

UCP - 20 November 1963

CINCONAD
Recommended Revisions

(2) Defense
against space systems.

(2) Assisting in
the air defense of Mexico
in accordance with approved
plans and agreements.

(U) A revised UCP had not been issued by the end of CY 1970. The JCS had not advised of the status of CINCONAD's recommendations.¹³

MANPOWER FOR THE CONAD ALCOP

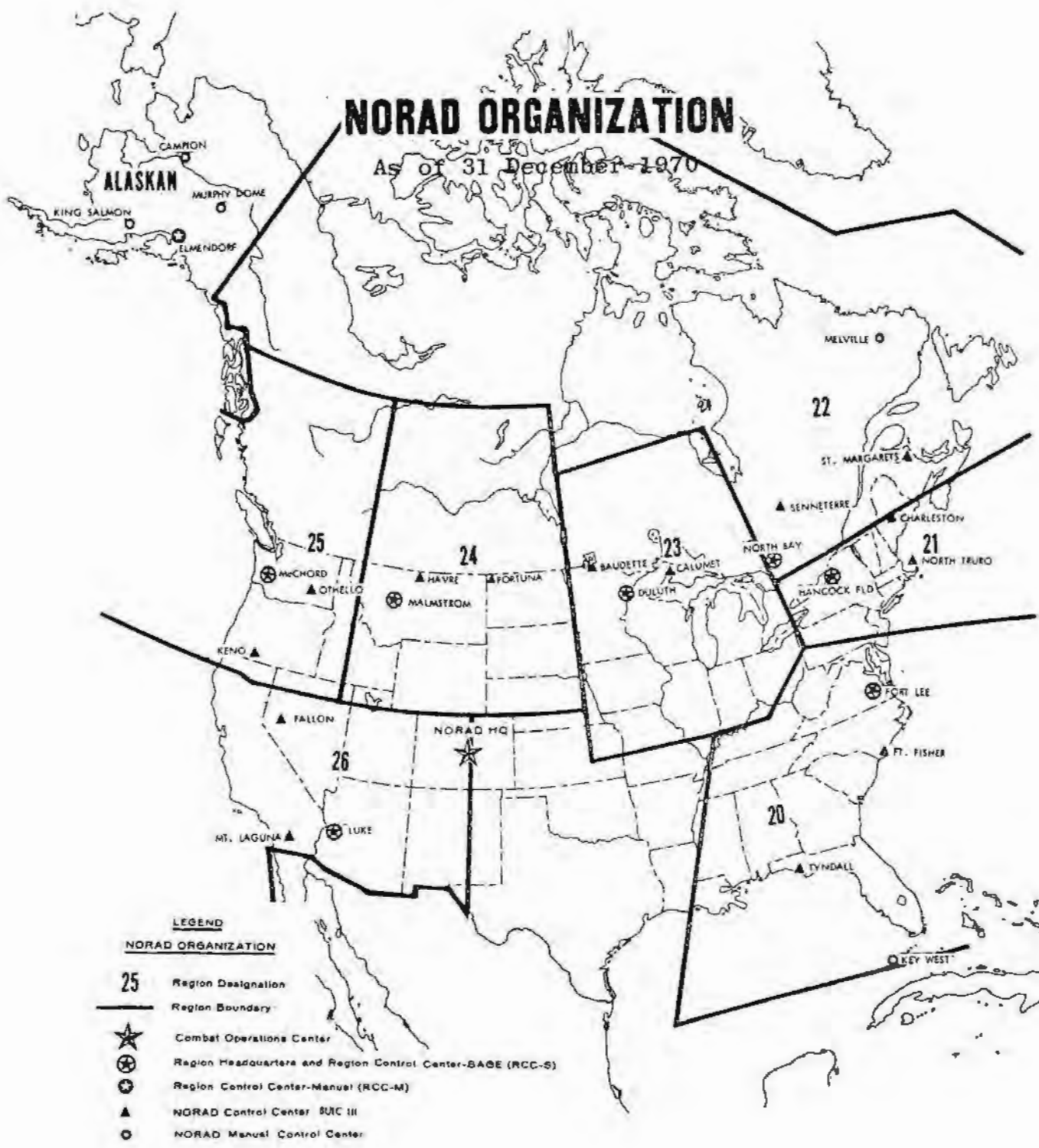
~~(S)~~ As a result of Project 703, on 14 November 1969, the Western Region Headquarters, Richards-Gebaur AFB, Missouri, was discontinued.* This had been the location of the CONAD Alternate Command Post (ALCOP).** The 71 USAF (ADC) manpower spaces were part of the total force returned to USAF Headquarters under Project 703.

~~(S)~~ CINCONAD designated the 24th CONAD Region, Malmstrom AFB, Montana, as the CONAD ALCOP, effective 11 March 1970 (see map following page).*** Initially,

* (U) For background on this reorganization and Project 703, see CONAD Command History, 1969, pp. 14-23.

** ~~(S)~~ This was also the location of the NORAD ALCOP, see Chapter VI.

*** ~~(S)~~ There was no CONAD ALCOP from 14 November 1969 to 11 March 1970. CINCNORAD directed that, during this time, the senior surviving U.S. region commander would assume command of CONAD. DCS/Personnel, Headquarters NORAD/CONAD, issues up-to-date Succession to Command lists.¹⁷



NORAD ORGANIZATION

As of 31 December 1970

LEGEND

NORAD ORGANIZATION

- 25 Region Designation
- Region Boundary
- ★ Combat Operations Center
- ⊕ Region Headquarters and Region Control Center-SAGE (RCC-S)
- ⊙ Region Control Center-Manual (RCC-M)
- ▲ NORAD Control Center SUC III
- NORAD Manual Control Center

~~SECRET~~

the manpower for this facility was provided on a temporary basis from the resources of the 24th Region. This was impractical, however, because of a requirement for 24-hour manning to meet response criteria established by the JCS and the requirement to man the ALCOP on a tactical warning basis.

(U) The 24th CONAD Region submitted a request for 29 manpower authorizations for the ALCOP.¹⁴ The CONAD staff concurred in this number as the minimum required.¹⁵ USAF ADC was directed to provide 19 of these and ARADCOM the other ten.¹⁶

(U) Manpower spaces were not available in ADC and ARADCOM. CINCONAD made the decision to realign the majority of the spaces from within the command headquarters.¹⁸ CONAD Headquarters provided 27 spaces and one space each was provided by the 20th and 26th Regions.¹⁹

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SECTION II - MNCC MANNING

MANNING OF MELVILLE MANUAL NORAD CONTROL CENTER (MNCC)

(S) Background. In September 1969, USAF ADC proposed closing the 37th Air Division, Goose AB, Labrador, for economic reasons. ADC said that the area could be consolidated under the Melville Manual NORAD Control Center (MNCC), Melville AS, Labrador (C-24), without degrading the defense posture.

(S) The JCS proposed to the Chief of the Defence Staff (CDS) in December 1969, elimination of the 37th Division, maintenance of Cold Shaft operations (see Chapter III for Cold Shaft), and retention of a control capability by designating C-24 as the MNCC under the 22nd NORAD Region. The JCS also suggested Canadian command and manning of radar sites and headquarters in the area. Canadian Forces Headquarters (CF HQ) agreed with these proposals except that manning of the entire area by CF personnel was not deemed feasible. CF HQ agreed that the MNCC should be commanded by a Canadian.

(U) The 37th NORAD/CONAD Division was discontinued on 15 January 1970. The AC&W station at Melville, C-24, was designated the Melville MNCC, reporting to the 22nd Region.

(C) Manning Agreement. NORAD and CF HQ representatives reached agreement in March 1970 on manning of the MNCC.²⁰ It was to be established as a co-manned NORAD element operationally responsible to the 22nd NORAD Region. Canada was to provide 19 of the 38 spaces required and the commander was to be a Canadian O6/O5. The deputy commander was to be the U.S. commander of the 641st AC&W Squadron at C-24 on a dual-hatted basis.

(C) Following this agreement, NORAD informed ADC that the 19 U.S. spaces currently authorized the 641st AC&W Squadron, should be realigned to the 22nd NR JTD.²¹

~~SECRET~~

ADC replied on 13 April that the 19 manpower spaces would be transferred through Headquarters USAF to the JCS.²² NORAD requested the JCS to authorize adding the 19 U.S. and 19 Canadian spaces to the 22nd NR JTD.²³ The JCS approved the request on 11 May 1970.²⁴ The spaces were added in Change 3 to the 22nd NR JTD (25 May 1970) effective 17 April 1970.

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SECTION III - PLAN FOR THE IMPLEMENTATION
OF EXECUTIVE ORDER 11161 (DOD/FAA RELATIONSHIPS)

BACKGROUND

(U) Executive Order 11161, signed by the President in July 1964, directed the Department of Defense (DOD) and the Federal Aviation Agency (FAA) to plan for probable transfer of the FAA to DOD in time of war. A Memorandum of Understanding was signed by the DOD and the FAA (7 March 1966/13 April 1966) to facilitate implementation of the executive order. In June 1966, the Secretary of Defense asked the JCS to develop proposed directives to implement the provisions of the executive order and the DOD/FAA Memorandum of Understanding. In February 1967, the JCS directed CINCNOAD to develop, in consultation with FAA, and in coordination with other commands, a basic plan to implement the executive order and the memo.

(U) NORAD submitted a draft plan to the JCS in 1968 which the JCS forwarded to the FAA.²⁵ On 29 August 1969, the FAA advised that the Department of Transportation (DOT) approved the plan subject to certain changes. DOT wanted the plan revised to specify the non-military functions of the FAA which had to be provided for even if the military-related functions were transferred to the DOD during wartime.

ISSUANCE OF THE PLAN

(U) On 27 April 1970, the JCS authorized CINCNOAD to sign, promulgate, and issue implementing instructions to the plan as a unilateral DOD document.²⁶ A follow-on message from the JCS on 13 May 1970, authorized CINCNOAD to sign and promulgate the basic plan.

(U) During the summer of 1970, NORAD revised and updated the draft plan in accordance with recommendations of the Department of Transportation and the JCS. The plan (titled "Department of Defense Plan for DOD/FAA Relationships in Wartime and During Emergencies Short of War") was dated 14 September 1970.²⁷

SECTION IV - 1970 NORAD/CONAD
KEY PERSONNEL CHANGES

HEADQUARTERS NORAD/CONAD

Command Section

Colonel William C. Branan, USAF, became Executive to the Commander-in-Chief, effective 22 April 1970.

Secretary Joint Staff

Colonel Dewey G. Cooper, USAF, became Secretary Joint Staff, effective 1 December 1970, replacing Colonel R. L. McRae, USAF.

Lieutenant Colonel William G. Broome, USAF, became Director of Audio Visual Services, effective 4 September 1970, replacing Lieutenant Colonel R. L. Andreason, USAF.

DCS/Intelligence (J-2)

Major General John R. Kullman, USAF, became DCS/Intelligence, effective 1 May 1970, replacing Major General S. W. Griffith, USAF.

Captain Claredon H. Sigley, USN, became Assistant DCS/Intelligence, effective 7 August 1970, replacing Captain Patrick Faircloth, USN.

Captain Robert P. Smyth, USN, became Assistant DCS/Intelligence, effective 5 November 1970, replacing Captain C. H. Sigley, USN.

Colonel John P. Smith, USAF, became Director of Intelligence Computer Applications, effective 13 August 1970, replacing Colonel A. G. Whitley, USAF.

DCS/Operations (J-3)

Brigadier General John W. Dean, Jr., USA, became DCS/Operations, CONAD, effective 10 August 1970.

Brigadier General John W. Dean, Jr., USA, became Vice DCS/Operations, NORAD, effective 10 August 1970, replacing Brigadier General G. B. Webster, Jr., USA.

Brigadier General Norman L. Magnusson, CF, became Deputy Assistant DCS/Combat Operations, effective 8 January 1970.

Brigadier General Morgan S. Tyler, Jr., USAF, became Assistant DCS/Combat Operations, effective 8 January 1970.

Colonel James M. Fogle, USAF, became Assistant DCS/Operations, effective 13 July 1970. Colonel Fogle was promoted to Brigadier General on 1 August 1970.

Colonel John T. Brakefield, USA, became Director, Battle Staff Support Center, effective 8 June 1970.

Colonel Cullen A. Brannon, USAF, became Director of Operations and Training, effective 12 May 1970.

Colonel Donald L. Campbell, USAF, became Director of Communications and Electronics, effective 14 September 1970, replacing Colonel B. E. Tillotson, Jr., USAF.

Colonel Alvin J. Chesser, USAF, became Director of Command and Control, effective 12 August 1970, replacing Colonel J. E. Goodbread, USAF.

Colonel Dewey G. Cooper, USAF, became Director of Cheyenne Mountain Complex Management, effective 14 September 1970, replacing Colonel K. N. Retzer, USAF.

Colonel Stanton G. Davies, USAF, became Director, Space Defense Center, effective 1 July 1970, replacing Colonel W. C. Watts, USAF.

Colonel Jonah E. Goodbread, USAF, became Director of Command and Control, effective 12 May 1970.

Colonel Allan S. Harte, Jr., USAF, became Director of Exercises and Training, effective 13 August 1970, replacing Colonel P. E. Smith, USA.

Colonel Don M. Hartung, USAF, became Director of Space Defense, effective 12 May 1970.

Colonel Robert F. Herman, USAF, became Director of Air Defense, effective 29 June 1970, replacing Colonel C. W. King, USAF.

Colonel Marshall P. Kean, USA, became Director of Operations Plans, effective 12 May 1970.

Colonel Charles W. King, USAF, became Director of Air Defense, effective 12 May 1970.

Colonel Karl N. Retzer, USAF, became Director of Cheyenne Mountain Complex Management, effective 8 January 1970.

Colonel Alvin D. Skaggs, USAF, became Director of Space Defense, effective 6 August 1970, replacing Colonel D. M. Hartung, USAF.

Colonel D. A. B. Smiley, CF, became Deputy Assistant DCS/Operations, effective 9 March 1970.

Colonel Page E. Smith, USA, became Director of Exercises and Training, effective 12 May 1970.

Colonel Bascom E. Tillotson, Jr., USAF, became Director of Communications and Electronics, effective 12 May 1970.

Colonel William C. Watts, USAF, became Director, Space Defense Center, effective 12 May 1970.

Colonel R. L. Wood, USAF, became Assistant for Evaluation, effective 8 June 1970.

Lieutenant Colonel Charles S. Fricke, USA, became Acting Director, Battle Staff Support Center, effective 13 September 1970, replacing Colonel J. T. Brakefield, USA.

DCS/Logistics (J-4)

Colonel William L. Barnes, USA, became DCS/Logistics, effective 2 January 1970, replacing Colonel D. F. Sharp, USAF (Acting).

Colonel Frank J. Jowdy, USAF, became Director of Logistics, effective 20 August 1970, replacing Colonel D. F. Sharp, USAF.

Lieutenant Colonel Stuart Wood, Jr., USA, became Director of Civil Engineering, effective 4 August 1970, replacing Lieutenant Colonel L. W. Dornbush, USA.

DCS/Plans and Programs (J-5)

Brigadier General Lynn W. Hoskins, Jr., USA, became Assistant DCS/Plans and Programs, effective 24 August 1970, replacing Brigadier General Jerry S. Addington, USA.

Colonel James V. Hartinger, USAF, became Assistant DCS/Plans, effective 29 June 1970, replacing Major General John R. Kullman, USAF.* Colonel Hartinger was promoted to Brigadier General effective 1 October 1970.

Colonel Robert H. Damico, USAF, became Assistant for Computer Programs, effective 20 August 1970.

Colonel Lon R. Dickson, USA, became Director of Weapons and Surveillance, effective 25 August 1970.

Colonel Lawrence J. Fleming, USAF, became the CONAD Liaison Officer to the Joint Continental Defense Systems Planning Staff (JSIPS), Washington, D.C., on 16 January 1970, replacing Colonel C. A. Upton, USA.

Colonel Gordon C. Hannaford, USAF, became Assistant DCS/Programs, effective 21 August 1970, replacing Brigadier General Spencer S. Hunn, USAF.

Colonel Hobert L. Kiger, USAF, became Director of War Gaming, effective 1 August 1970, replacing Colonel F. B. Howes, USAF.

Colonel Clarence W. Lewis, Jr., USAF, became the CONAD Liaison Officer to JSIPS, Washington, D.C., on 1 July 1970, replacing Colonel L. J. Fleming, USAF.

* Major General John R. Kullman was promoted from Brigadier General effective 1 May 1970.

Colonel Max R. McCarthy, USA, became Director of Weapons and Surveillance, effective 31 December 1970, replacing Colonel L. R. Dickson, USA.

Colonel William H. Weaver, Jr., USAF, became Director of Command and Control, effective 20 August 1970.

DCS/Communications and Electronics (J-6)

Colonel Robert C. Doctor, USA, became Director of Communications and Electronics Plans and Programs, effective 24 June 1970, replacing Colonel R. W. Ewell, USAF.

Colonel Robert W. Ewell, USAF, became Director of Communications, effective 24 June 1970, replacing Colonel W. S. Winneshiek, USAF.

Colonel Bascom E. Tillotson, Jr., USAF, became Assistant to the DCS/Communications and Electronics, effective 15 September 1970.

Director Public Affairs

Colonel Albert E. Audick, USAF, became Director of Public Affairs, effective 21 August 1970, replacing Colonel Horace E. Frink, USAF.

Director Protocol

Colonel Harold E. Ottaway, USAF, became Director of Protocol, effective 1 October 1970, replacing Lieutenant Colonel A. L. Laney, USAF.

Command Judge Advocate

Colonel Joseph M. Caffall, USAF, became Command Judge Advocate, effective 1 August 1970, replacing Brigadier General M. Menter, USAF.

NORAD/CONAD REGION COMMANDERS

Brigadier General Richard G. Cross, Jr., USAF, became Commander, 26th NORAD/CONAD Region, effective 24 August 1970, replacing Major General Sanford K. Moats, USAF.

NORAD COMPONENT COMMANDERS

Lieutenant General Thomas K. McGehee, USAF, became Commander, Aerospace Defense Command, effective 1 March 1970, replacing Lieutenant General Arthur C. Agan, USAF.

SOURCES FOR CHAPTER I

1. NORAD to JCS, "Manpower for the SAC/NORAD JOTF," 12 January 1970 (3 X 604).*
2. NAPM Historical Report, January-February 1970 (959.1).
3. NORAD to JCS, "Annual Manpower Submission (U)," 9 February 1970 (3).
4. As in Note #2.
5. Msg, JCS to CINCNORAD, et al, 6672, 212229Z April 1970 (3).
6. Msg, CINCNORAD to JCS, 061510Z May 1970 (3).
7. NAPM Historical Report, May-Jun 1970 (959.1).
8. NORAD to JCS, "Reorganization of DCS/Operations (J-3)," 5 June 1970 (3); Msg, JCS to NORAD, 4694, 102115Z July 1970 (3).
9. NORAD/CONAD JTD, 1 July 1970 (3.1); Interview with SFC G. M. Carne, DCS/Personnel, 21 May 1971.
10. DF, NPAP to NAMO, "JTD Change," 19 August 1970 (3); DF, NPAP to NAMO, "JTD Change -- Computer Programs," 19 August 1970 (3); DF, NAMO to NPAP, "JTD Change -- J-5," 20 August 1970 (3).
11. Msg, JCS to CINCONAD, 1253, 171941Z September 1970 (2).
12. Msg, CONAD to JCS, CPPP 061800Z October 1970 (2).
13. Interview with Lt Col E. G. Denkler, Jr., NPPO, 3 June 1971.

* The number in parentheses is the NORAD/CONAD Headquarters Command History Division Archive File number.

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14. NAPM Historical Report, July-August 1970 (959.1).
15. Ibid.
16. CONAD to USAF ADC, "Manpower for the CONAD ALCOP (U)," 4 August 1970 (4 X 51.2); CONAD to ARADCOM, "Manpower for the CONAD ALCOP (U)," 20 August 1970 (4 X 51.2).
17. Msg, NORAD to JCS, NOOP-C 061700Z November 1969; Interview with Col F. J. Riordan, NAPR, 3 June 1971.
18. DF, CAMO to Staff, "CONAD ALCOP (U)," 3 November 1970 (2.5).
19. NHCS to Staff, "Manpower for the CONAD ALCOP (U)," 21 December 1970 (2.5).
20. Msg, CANFORCEHED to CINCNORAD, DCG 79, 232107Z March 1970 (4).
21. NORAD to ADC, "MNCC Manning (U)," undated (ca. 2 April 1970)(4).
22. ADC to NORAD, "MNCC Manning (U)," 13 April 1970 (4).
23. NORAD to JCS, "Manpower for the Melville Manual NORAD Control Center (U)," 23 April 1970 (4).
24. Msg, JCS to CINCNORAD, 8526, 111334Z May 1970 (4).
25. DF, NOPS to J-Staff, "DOD Plan for DOD/FAA Relationship in Wartime and During Emergencies Short of War," 26 June 1970 (667).
26. Ibid.
27. DF, DCS/Operations to CINC, C/S, "DOD Plan for DOD/FAA Relationship in Wartime and During Emergencies Short of War," 10 August 1970 (667).

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CHAPTER II

AIR DEFENSE RADAR SYSTEMS

SECTION I - GROUND BASED RADAR

RADAR REDUCTIONS

(S) CONUS Long Range Radar Closures. USAF Headquarters advised ADC in September 1969 that 11 radar sites might have to be closed to save FY 1971 funds. ADC made a study to determine the minimum-required radar coverage and identified 10 sites that could be closed:¹

Z-17	Wadena AFS, Minnesota	Z-130	Winston-Salem AFS, North Carolina
Z-32	Condon AFS, Oregon	Z-157	Red Bluff AFS, California
Z-54	Palermo AFS, New Jersey	Z-164	Tonopah AFS, Nevada
Z-118	Burns AFS, Oregon	Z-196	Dauphin Island AFS, Alabama
Z-126	Houma AFS, Louisiana	Z-200	Cross City AFS, Florida

(S) This reduction was approved by General McKee on 22 October 1969.² ADC also sent this proposed reduction to USAF, stating that savings would be made in other areas to pay for operating the eleventh site.*³ By the end of 1969, the schedule for closing these

* (S) The eleventh site, Z-121, Bedford AFS, Virginia, remained in operation.

EXCLUDED FROM AUTOMATIC REGRADING;
DOD DIRECTIVE 200.10 DOES NOT APPLY
Group 1

~~SECRET~~

sites called for all to cease operations on 1 July 1970, except Z-54, which was to stop operations on 1 March 1970.⁴

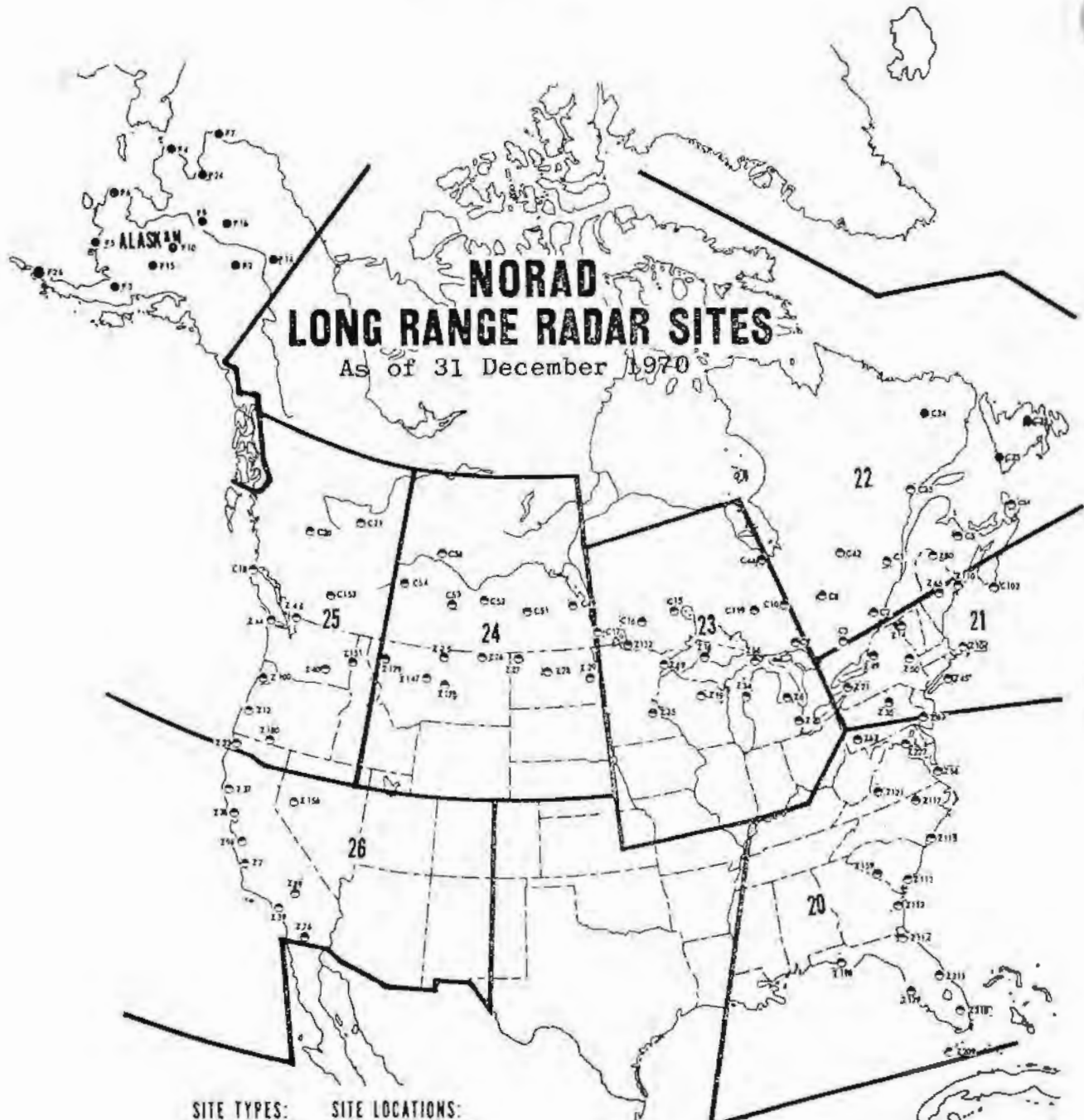
(S) Z-54 closed as scheduled. To save additional funds, three sites closed early: Z-164 on 23 March 1970, Z-130 on 22 April, and Z-200 on 5 June. The remaining six sites ended operations on 1 July 1970.⁵ Four of these sites -- Z-32, Z-157, Z-164, and Z-200 -- were to be transferred to the FAA.⁶ See map on page 26 for radar status at the end of CY 1970.

(S) Phase-out of Gap Filler Radar. There were 16 gap filler radars in operation in Florida at the end of CY 1969. All were programmed to be eliminated in 1970. CONAD recommended to the JCS that three be kept operating indefinitely for low level coverage around the southern tip of Florida. These radars were Z-210A, Naples; Z-210B, Long Key; and Z-210C, Jupiter.⁷

(S) The JCS replied that a review showed that the Manual Control Center at Key West normally used gap filler inputs only from Z-210B at Long Key. The JCS requested information on future plans for Southern Florida that might have a bearing on retention of the three gap fillers.⁸ CONAD replied that there were no plans to change the ground radar environment in Southern Florida, but it hoped to keep that environment as effective as possible for peacetime identification, increased vigilance during Presidential visits, and Cuban contingency requirements. CONAD recommended retention in the following order of priority: Z-210B, Z-210C, and Z-210A.⁹

(S) The JCS advised, however, that they supported phasing out all the gap fillers by the end of FY 1970. The JCS recognized the operational desirability of keeping the gap fillers, but felt that the EC-121 detachment at McCoy AFB could provide low altitude coverage as needed.¹⁰

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NORAD
LONG RANGE RADAR SITES
 As of 31 December 1970

SITE TYPES:		SITE LOCATIONS:	
SAGE	85	CONUS	59
MANUAL	16	CANADA	29
TOTAL	101	ALASKA	13
		TOTAL	101

LEGEND
 ○ SAGE
 ● MANUAL

(U) The 16 gap fillers closed as follows:11

22 April 1970

Z-112C	Alma, Georgia	Z-198B	Eglin AFB, Florida
--------	------------------	--------	-----------------------

5 June 1970

Z-200A	Perry, Florida	Z-210A	Naples, Florida
Z-200B	Bridgeboro, Georgia	Z-210C	Jupiter, Florida

1 July 1970

Z-113A	Statesburg, South Carolina	Z-129A	Wintergarden, Florida
Z-113B	Georgetown, South Carolina	Z-129B	Inverness, Florida
Z-113C	Parris Is. MCAS, South Carolina	Z-196B	Gulfport, Mississippi
Z-114A	Bunnell, Florida	Z-198A	Carabelle, Florida
Z-114B	Blythe Island Georgia	Z-210B	Long Key, Florida

(U) USAF Radar Closure in Canada. USAF ADC operated three manual, long range radar sites in Canada. These sites were manned and operated on the basis of a U.S.-Canada Agreement of 1 August 1951.

(S) In 1969, NORAD proposed Canadian takeover of these sites. The JCS concurred, but recommended that one site, C-29, be closed. On 18 December, CF Headquarters (CF HQ) asked for CINCNORAD's opinion on the relative value of C-29. CF HQ advised that, if Canadian Forces had to man and operate C-29, some other activity might have to be closed. CF HQ also stated that it could not man all of the radars in the area.

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(S) NORAD responded to CF Headquarters' request on 31 December, stating that C-29 had the lowest priority of all NORAD radars in Canada. Closing this station was preferred, NORAD stated, to closing other segments of CF ADC activity.¹²

(S) CF HQ recommended to the JCS in January 1970 that USAF continue operation of C-29 because its deactivation would greatly increase the existing surveillance gap in that area. However, CF HQ stated that if the U.S. decided to close C-29, the Canadian Government should be asked for its concurrence in accordance with the U.S.-Canada Agreement of 1 August 1951.¹³ The U.S. State Department obtained Canada's concurrence on 1 June 1970.¹⁴

(S) USAF directed ADC on 18 June to inactivate C-29 and the site ceased operations 0001Z, 1 July 1970.¹⁵

(S) The JCS advised in December 1970 that USAF proposed to close the two remaining USAF-operated radar sites in FY 4/71. The JCS requested recommendations on ways of keeping the sites in operation, such as manning and operation by Canada.¹⁶

(S) CINCNORAD replied that he did not concur with closing either one of the sites. The following were recommended as ways to keep the sites in operation:

1. Complete Canadian manning and support.
2. Joint USAF/Canadian manning and equal USAF/Canadian funding.
3. Joint USAF/Canadian manning and support, except that Canada would contribute more.

(S) CINCNORAD advised that the Canadians might want to discuss tradeoffs, such as closing other Canadian radar sites, to cover the cost of the increased commitments. But the NORAD position was that any further

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degradation of the radar environment was highly undesirable. However, if U.S./Canadian budget restraints could not be resolved, CINCNORAD said he preferred closing C-23 and C-24 rather than lose any other southern Canada or Continental United States radars as tradeoffs.¹⁷

(S) Closing of DEW Line Station Fox-1. One auxiliary station of the Continental Segment of the Distant Early Warning (DEW) Line was closed in 1970. This was Station Fox-1, at Rowley Island in the Northwest Territory of Canada. The DEW Line contractor, International Telephone and Telegraph Arctic Services, Inc., recommended closing the site to take advantage of upgraded communications equipment on the DEW Line. This equipment made possible a direct link between stations Fox Main and Fox-2 so that Fox-1 could be closed. With minor modifications to the AN/FPS-19 radars at Fox Main and Fox-2, coverage about equal to that currently existing would be provided. It was estimated that closing Fox-1 would save the Air Force \$276,000 annually.¹⁸

(S) ADC agreed with the proposal and obtained NORAD approval in June 1970.¹⁹

(S) Because of a U.S.-Canada Agreement of May 1955 concerning the DEW Line, the U.S. State Department in July 1970 informed the Canadian Government of the proposed closing and asked for Canadian concurrence. In August, the State Department gave Canada assurance that no further closures were anticipated during FY 1971 and that future planning did not include any "landslide" of deactivations. Canada concurred on 4 September 1970.²⁰

(U) NORAD released Station Fox-1 from its radar operation mission on 1 October 1970. The communications facilities were to be discontinued and the site deactivated on 15 January 1971.²¹

REPLACEMENT OF FREQUENCY DIVERSITY SEARCH RADARS

(S) In 1969, the Secretary of Defense directed replacement of frequency diversity (FD) search radars with search radars for joint air defense/air traffic

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control use at eight sites. Four had FPS-27s and four had FPS-35s. USAF and FAA were to agree on radars that would suit both their needs. The air defense mission at two FPS-27 sites, Z-163, Las Vegas AFS, Nevada, and Z-32, Condon AFS, Oregon, terminated by mid-1970, so choice of radars was left to the FAA.²²

(S) Replacement at the six remaining sites was made or scheduled as follows:²³

	<u>Site</u>	<u>FD Radar</u>	<u>Replacement Radar</u>	<u>Date</u>
Z-39	San Pedro AFS, California	FPS-27	ARSR-1E*	Jun 1970
Z-59	Boron AFS, California	FPS-35	FPS-67B	Jul 1970
Z-156	Fallon AFS, Nevada	FPS-35	FPS-8 inter- im radar awaiting FPS-66A	Jan 1971
Z-30	Benton AFS, Pennsylvania	FPS-35	FPS-67B	Nov 1971
Z-29	Finley AFS, North Dakota	FPS-35	ARSR-3	Aug 1972
Z-69	Finland AFS, Minnesota	FPS-27	ARSR-3	Aug 1972

PRIORITIES FOR ELECTRICAL POWER AT SELECTED RADAR SITES

(U) ADC asked NORAD to assign priorities for operation of equipment at radar sites when temporary electrical power limitations made it necessary to shutdown some equipment. ADC explained that the problem of equipment priority was brought to its attention by the 20th Air Division concerning sites Z-115, Ft. Fisher AFS, North Carolina, and Z-129, MacDill AFB, Florida. These sites were converting from commercial power to

* (U) FAA Air Route Surveillance Radar.

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on-base generating plants for prime power and, during this conversion, there might be times when there would be insufficient power to run all equipment. Both sites had search and height finder radars and both had AN/FSS-7 radars of the Sea Launched Ballistic Missile (SLBM) Detection and Warning System. In addition, Z-115 was a BUIC site.²⁴

(S) NORAD provided a priority system on 15 October 1970 that covered all sites where a conflict might arise. NORAD pointed out that this system modified the current priority for site power where there were SLBM radar operations.²⁵ As defined in NORAD Operation Order 300N-70, 15 April 1970, SLBM radars had first priority on power except when interceptors were under the control of a BUIC site (this exception applied to only the three SLBM/BUIC sites: Z-65, Z-76, and Z-115). Then, the BUIC search radar had first priority until the aircraft were recovered or handed off.²⁶ This policy remained unchanged but was subject to modification according to the new order of priorities:²⁷

During DEFCON 5 and 4:

1. Joint use FAA radar will have priority over SLBM radar at sites Z-76, Mount Laguna, California, and Z-129, MacDill AFB, Florida.

2. Priorities for other sites having multiple systems:

3:* a. During Levels of Operation 1, 2, and

1st Priority - SLBM radar.

2nd Priority - Search Radar and Height Radar, in that order.

* (U) For a description of the various Levels of Operation, 1 through 5, see Annex C, "Continuity of Operations," to NORAD Operation Order 300N-70, 15 April 1970.

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3rd Priority - BUIC. During a region Level 2 situation, a BUIC computer might replace Search and Height radars in priority.

b. During Level of Operation 4 (actual):

1st Priority - SLBM radar.

2nd Priority - BUIC.

3rd Priority - Search and Height Radar.

During DEFCON 3 or Higher:

All conflicts in system priorities will be referred to the NORAD Combat Operations Center (NCOC) by the region concerned for resolution on an individual basis. Determination of priorities will be made at the NCOC based on tactical considerations.

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SECTION II - MODERNIZED SURVEILLANCE SYSTEM

NORAD OBJECTIVES

(S) In North American Aerospace Defense Objectives Plan, 1973-1980 (NADOP 73-80), 15 August 1970, NORAD listed requirements for a modernized system of air defense sensors. Of the three systems currently in operation -- AEW&C aircraft, DEW Line radars, and long range radars -- only the long range radars were projected for use with the modernized force. NORAD stated a requirement for 97 long range radars for the years beginning with end FY 1976. According to the NADOP, 57 of these were to be USAF/FAA joint-use radars; the remaining 40 radars included 29 in Canada, nine in Alaska, and two in Iceland. The AEW&C aircraft and DEW radars were to be phased out as the Airborne Warning and Control System (AWACS) and Over-The-Horizon Backscatter (OTHB) radars became operational.²⁸ AWACS and OTHB were termed "essential elements of a modernized air defense force" by General McKee.²⁹

AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)

(S) NORAD stated in NADOP 73-80 that "a survivable system such as the Airborne Warning and Control System (AWACS) is required as the primary air defense command, control and wartime surveillance system."³⁰ Twenty stations were to be manned, eight on an outer perimeter line, six on a backup line, and six over CONUS for region control center functions. To man these, NORAD said it needed a total of 13 aircraft by end FY 1976, 25 by end FY 1977, and 46 by end FY 1978.³¹

(S) Development Concept Paper #5, Revised. Development Concept Paper (DCP) #5, Revised, approved by DOD on 27 February 1970, called for a total of 42 AWACS aircraft: 25 for USAF ADC, 10 for Tactical Air Command, and seven for training and attrition.³² The DCP also approved selection of a contractor and starting a

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four-phased development program. Phase I, which included testing, evaluation, and selection of a radar for AWACS, was to be completed in 1973. Phase IV, production, was to start in 1973 and be completed in October 1978. Initial operational capability was scheduled for April 1977.

(U) Boeing was announced as the prime contractor for AWACS on 8 July 1970 and, on 24 July, the first contract for Engineering Development -- the start of Phase I -- was signed.³³ For the airframe, a modified Boeing 707-320B with eight engines was selected.³⁴

(U) NQR 2-70. On 30 June 1970, NORAD Qualitative Requirement (NQR) 2-70, for an Airborne Warning and Control System, was published, replacing NQR 3-64, 16 November 1964. The revision did not change the specific content of the earlier NQR, but changes were made for editorial reasons and to update the document.³⁵

OVER-THE-HORIZON BACKSCATTER RADAR

(S) Another element of the proposed modernized force was Over-The-Horizon Backscatter (OTHB) radar. As stated in NADOP 73-80, the OTHB radar system would:³⁶

provide long-range detection, early threat warning and act as a bomber holdback line. In the interim period between missile warning and impact the OTHB radars could provide notification to defensive systems of inbound non-friendly traffic or lack thereof, during this very critical time period.

It was felt that such a system would correct the shortcomings of the current air defense radar coverage. OTHB was to be capable of detecting aircraft at all altitudes and ranges between 500 and 2,000 nautical miles from the sites.³⁷

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(S) Development Concept Paper #49. On 8 June 1970, the Department of Defense approved DCP #49, authorizing USAF to begin the contract definition phase for OTHB. There were to be two sites with 90° coverage built in the United States, one in the Northeast and one in the Northwest. Initial operational capability was set for 1975. To start system acquisition, USAF issued a System Management Directive on 30 July 1970. The Air Force Systems Command established the OTHB System Program Office at L. G. Hanscom Field, Massachusetts.³⁸

IMPROVED MANNED INTERCEPTOR

(U) For coverage of the Improved Manned Interceptor see Chapter III.

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SECTION III - PROJECT POCKET VETO

ARPA PROPOSAL

(S) The Advanced Research Projects Agency (ARPA) suggested to NORAD suspending a radar from a tethered balloon to provide low altitude radar coverage in the Florida Straits. NORAD appointed a staff project officer and recommended to ARPA that tests be held at an operational site for realism and to speed up availability.

(S) On 29 April 1970, CINCONAD advised the JCS, ARPA and ADC of interest in the balloon borne radar, which had now been termed Project "Pocket Veto." CINCONAD stated that there was no full time capability to detect low flying aircraft approaching the Southern Air Defense Identification Zone. Pocket Veto might provide this capability. CINCONAD said that air defense requirements for the system included reliable low-level detection of MIG-size aircraft out to 150 miles and 24-hour per day surveillance coverage.³⁹

SITE SELECTION

(S) ADC and ARPA officials met in April to identify possible sites. ADC suggested Cudjoe Key AFS, Florida, located 25 miles east of Key West; and Richmond AFS, Florida, about 20 miles south of Miami. Richmond AFS was dropped because the FAA could not reserve any airspace. At Cudjoe Key, the FAA was able to reserve an area four miles in diameter up to an altitude of 14,000 feet.⁴⁰ ADC and ARPA agreed upon Cudjoe Key as the test site and CINCONAD approved on 10 July.⁴¹

EQUIPMENT TESTING

(S) At a meeting of USAF, ARPA, ADC, and CONAD representatives, at the Pentagon on 14 July 1970, roles, schedules, missions, and other details of Pocket Veto were discussed. It was agreed that ARPA would obtain

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and operate the equipment until testing was completed. Included would be two radars and two balloons. One radar would have a range of 75 nautical miles (n.m.) and an 84,000 cubic feet balloon. The other radar, the one CONAD was most interested in, would have a range of 150 n.m. and a 200,000 cubic feet balloon. It had been planned to have two 150 n.m. radars in the system, but at this meeting ARPA said it could provide only one because of funding limitations.⁴²

(S) ARPA's testing team and the 75 n.m. radar arrived at Cudjoe Key in December 1970. Feasibility testing was to be on a limited scale until Westinghouse delivered the 150 n.m. radar. Testing of the latter radar was planned for May to July 1971 and, if it satisfied the air defense requirement, ADC would accept it in August 1971.⁴³

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CHAPTER III

AIR DEFENSE WEAPONS

SECTION I - MANNED INTERCEPTORS

OPERATION PLANS

ALASKAN DEPLOYMENT

(S) The Alaskan Air Command's only interceptor squadron, the F-102-equipped 317th FIS, Elmendorf AFB, was deactivated on 11 December 1969. This left no assigned fighter interceptor aircraft in the Alaskan Command (ALCOM). The only interceptors remaining were the eight F-106s deployed from USAF ADC's resources under College Shoes, the program that had started in July 1963. College Shoes, known initially as "Eye Ball" and then as "White Shoes," began after an overflight of ALCOM by two Soviet aircraft and the complaint of CINCAL that his F-102s could not cope with high performance Soviet aircraft. Deployment during 1970, until ended on 2 October, continued under ADC Operation Plan 17-70, 25 November 1969.

(S) This reduction of Alaskan forces with no replacement was a matter of great concern to CINCAL and CINCNORAD. Both requested the JCS to assign an F-4 squadron to Alaska. In January 1970, CINCNORAD outlined to the JCS the problems involved and again requested the "earliest resolution of the requirement to position an F-4 squadron in Alaska."¹

(S) The JCS advised on 13 February 1970 that upon the return of an F-4 wing from Southeast Asia, an 18 UE F-4 squadron would be assigned to ALCOM on a PCS basis.² When this squadron became operational, the College Shoes F-106 rotation was to cease.

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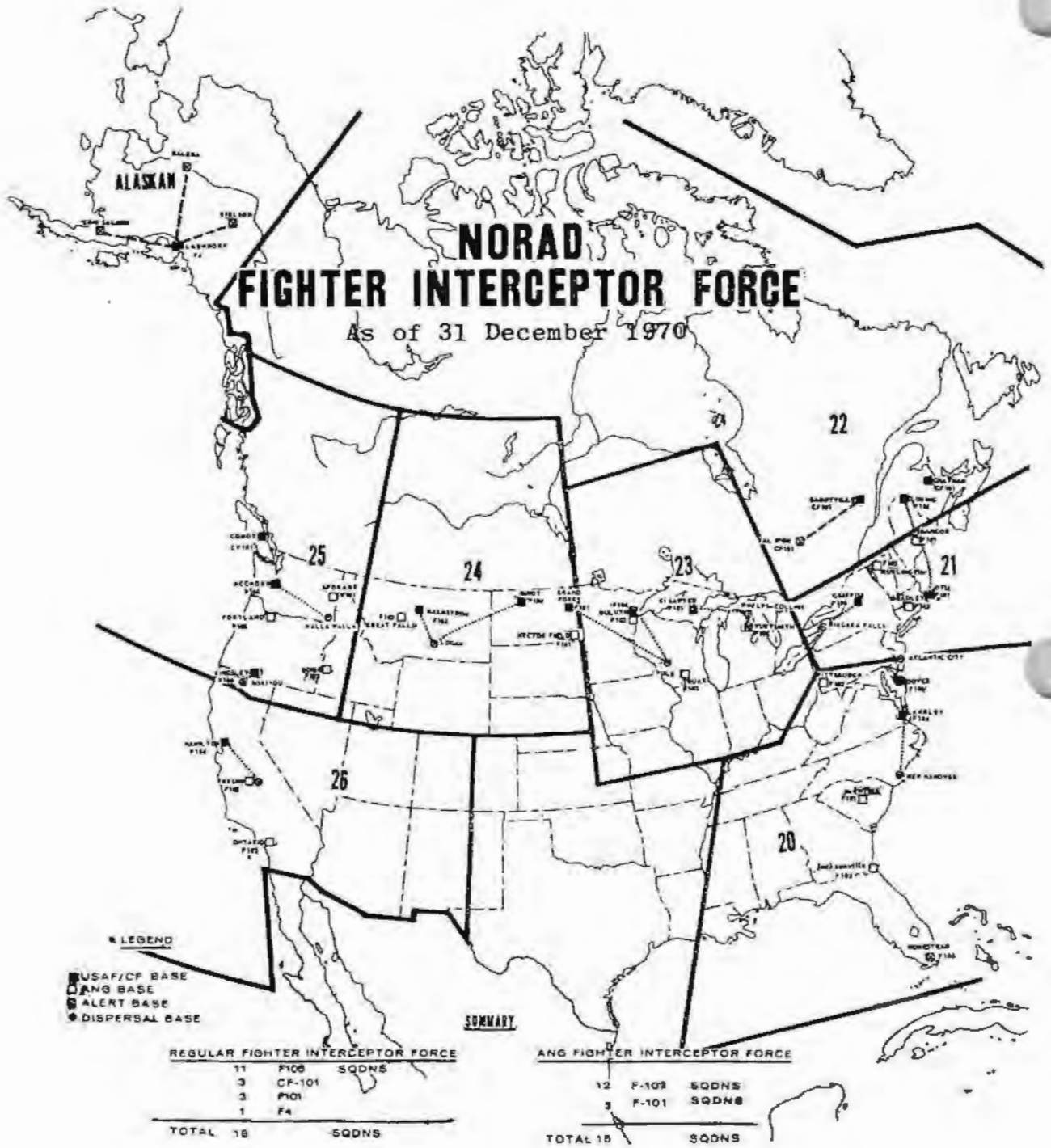
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(S) CINCSTRIKE stated that he would transfer the 16th TFS, Eglin AFB, Florida, to ALCOM beginning 1 June and that the squadron would reach operational status by 1 July.³ CINCAL objected, reiterating his urgent need for forces and asked that the deployment of the 16th TFS begin by 1 May.⁴ CINCSTRIKE did not agree, advising CINCAL that he considered 1 June a realistic date that had the least adverse impact on all involved.⁵ CINCSTRIKE also stated that he would transfer the 43rd TFS, MacDill AFB, Florida, instead of the 16th TFS.

(S) CINCONAD pointed out to the JCS in May that air defense in Alaska would have to be provided by the 18 UE dual-mission squadron where before it had been performed by a 26 UE F-102 squadron and eight F-106s.⁶ CINCONAD stated that it was essential to continue the F-106 deployment until the ALCOM force was increased. The most effective way to do this, CINCONAD said, was to keep the 318th FIS, McChord AFB, as a 24 UE unit. Two of USAF ADC's F-106 squadrons (318th FIS and 95th FIS, Dover AFB, Delaware, see map on page 44) were 24 UE, but were programmed for reduction to 18 UE in FY 4/70, in the JCS reduction of the F-106 force to 198 aircraft. CINCONAD also proposed that the USAF ADC Detachment 3, 25th Air Division, the unit that supported the F-106 deployment, be continued. (CINCONAD also wanted to retain the 95th as a 24 UE unit for support of Southern Florida defense -- see pages 46 - 52).

(S) The JCS would not change the decision to terminate the F-106 deployment to Alaska, however. Based on this decision, on 7 July, CINCONAD directed that the F-106 rotation be terminated.⁷ Accordingly, on 10 July, USAF ADC directed that the F-106s be redeployed on or about 2 October 1970.⁸ ADC also directed that Det 3, 25th Air Division be deactivated during October. The USAF Chief of Staff confirmed, on 17 August to CINCONAD, that the F-106 squadron at McChord AFB would not be maintained at 24 UE, noting that the decision of the JCS to end the F-106 deployment obviated the need for 24 UE.⁹

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(S) An increase in F-4s for Alaska was promised by the Air Force Chief of Staff, however. He advised that, effective by end FY 2/71, the 43rd TFS would be increased from 18 to 24 UE.¹⁰ The Chief of Staff recognized the short term posture degradation following the ending of the F-106 rotation which might require, he said, "reliance on the availability of emergency CONUS support, if necessary, for crisis reaction during that period."¹¹

(S) The 43rd TFS arrived at Elmendorf AFB on 23 June and assumed alert on 1 August 1970.¹² As noted above, the College Shoes aircraft were to return to the CONUS on 2 October and the project terminated. But ADC's 94th FIS, which had four of the F-106s in Alaska, failed its Operational Readiness Inspection (ORI) and received a C-3 rating. A retake of the ORI was set for 17 October. ADC asked for return of the 94th's aircraft and crews about 15 September instead of 2 October.¹³ The other F-106s and crews, which belonged to the 84th FIS, were to remain until 2 October.

(S) Alaskan NORAD Region (ANR) did not want the 94th's aircraft to leave early, for there would be a degraded posture from October to receipt of additional F-4s in December 1970.¹⁴ ANR requested that scheduling remain as originally set. NORAD analyzed the problem and concluded that the 94th's aircraft should be returned on 15 September. CINCNORAD directed ANR to release the aircraft for redeployment on 15 September.¹⁵

(S) The last four F-106s, those of the 84th FIS, left Elmendorf AFB at 021759Z October 1970.¹⁶ Det. 3, 25th Air Division ceased air defense alert operations with the departure of these aircraft and thus ended the ADC F-106 augmentation of Alaskan forces, a deployment that had sustained for over seven years.

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FLORIDA AIR DEFENSE

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(S) Background.* Included in the forces inactivated under the Project 703 fund reduction were the F-104 equipped 319th FIS, Homestead AFB, Florida; the F-102 equipped Det 3, 32nd Air Division, Key West NAS, Florida; and the East Coast EC-121 AEW&C Force which included the 966th AEW&C Squadron, McCoy AFB, Florida. The latter manned AEW&C Station 50, located between Florida and Cuba. Project 703 also cut AEW&C flying hours and on 4 October 1969, Station 50 was reduced to a 35 per cent random manning basis. Some 17 hours later, during a period when Station 50 was not manned, an armed Cuban Revolutionary Air Force MIG-17 landed unchallenged at Homestead AFB, Florida. President Richard M. Nixon's plane was at Homestead AFB at the time. The President was at Key Biscayne.

(S) An investigation by CONAD showed that had Station 50 been manned, the aircraft still might not have been detected or intercepted before it arrived at Homestead AFB. The uncertainties were related to the MIG's low altitude and small size and to the existing weather conditions. Nevertheless, this incident resulted in a re-evaluation of the need for forces in Southern Florida.

✓ (S) On 10 November 1969, the JCS advised CINCONAD that at least two fighter aircraft from CINCLANT and CINCSTRIKE were to be put on alert in the NAS Key West/Homestead AFB area for air defense. A detachment of three EC-121s was to be kept at McCoy AFB for random patrols of about 150 hours per month on Station 50. CINCONAD was directed to prepare a plan for Southern Florida air defense in coordination with CINCLANT and CINCSTRIKE.

* (U) For further background, see CONAD Command History, 1969, pp. 127-140.

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(S) CONAD OPLAN 308. NORAD drafted an operation plan (308 - Fan Palm) for air defense of Southern Florida when the President was in residence and sent it for concurrence in December 1969. CINCSTRIKE and CINCLANT requested a number of changes basically involving interceptor alert status. A coordinated, revised plan was sent by message to all concerned, including the JCS, on 8 January 1970.

(S) Under the concept of operations, NORAD directed that during periods when the President was at Key Biscayne, an improved early warning and air defense capability would be established for forces in the Southern Florida area.¹⁷ Interceptors would be provided at Key West NAS and Homestead AFB. Also, when directed by CINCNORAD/CINCONAD, the 20th NORAD/CONAD Region commander was to increase the state of alert of selected Air Defense Artillery (ADA) fire units and increase airborne early warning capability. Enough AEW&C aircraft and personnel were to be deployed to Southern Florida by ADC to augment the force to provide 24-hour manning of Station 50 when the President went to Key Biscayne. The specific tasks of the 20th Region Commander were these:

1. Exercise operational control of all forces made available for this plan.
2. Increase AEW&C manning of Station 50 to 24-hours per day beginning not later than two hours prior to the President's arrival and ending not earlier than one hour after his departure.
3. Maintain the readiness posture of interceptor forces in the Southern Florida area provided by CINCLANT/CINCSTRIKE at two F-4 aircraft on five-minute readiness and two on 30-minute readiness posture during the time the President was in Southern Florida.
4. Direct selected ADA fire units in the Miami-Homestead defense to assume five-minute status on a rotational basis during the time that the President was at Key Biscayne.

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(S) On 29 January 1970, the JCS approved Operation Plan 308, with one change.¹⁸ The JCS required that the term NORAD be deleted from the title and all references to NORAD be removed from the Plan. Henceforth, it was to be a CONAD Plan. CONAD published Operation Plan 308C-70 on 1 April 1970.

(S) One shortcoming in the plan was pointed out by the 20th Region concerning the problem of a mandatory scramble situation.* The Region said that recent weather in Southern Florida raised the question of changing the five-minute alert from Homestead AFB to Key West NAS or vice versa when weather or other circumstances dictated mandatory scramble status.¹⁹ The Region asked that CONAD coordinate with CINCLANT and CINCSTRIKE to allow the five-minute location to be changed at the discretion of the Key West Manual CONAD Control Center (MCCC) commander when a mandatory scramble condition existed. The Region added that if both Homestead AFB and Key West NAS were in mandatory scramble condition, the Key West MCCC commander would decide on the five-minute alert location.

(S) On 23 January, CINCONAD proposed this change to CINCLANT and CINCSTRIKE.²⁰ Both commanders concurred.²¹

(S) CINCLANT Crew Qualification. CONAD Operation Plan 308C-70 stipulated that CINCLANT/CINCSTRIKE would maintain two F-4 aircraft on five-minute readiness and two F-4s at 30-minutes during the period the President was in the Southern Florida area. Scheduling of aircraft for the alert posture, i.e., either five or 30 minute alert at Key West NAS or Homestead AFB, was to be mutually agreed upon by CINCLANT, CINCSTRIKE, and Commander 20th CONAD Region. When the aircraft at five minutes were scrambled, those at 30 minutes were to assume a five-minute posture as quickly as possible and

* (U) Mandatory scramble status is defined in Air Force Manual 3-16, Chapter 7.

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no later than 25 minutes after notification by the CONAD controlling agency. When advanced to five minutes, these aircraft were to pass to the operational control of CINCONAD until released by the CONAD controlling agency.

(S) CINCLANT advised that only flight leaders would be certified as air defense qualified (IAW Appendix 1, Annex B, CONAD OPLAN 302C-68) and that the wingman would not be fully qualified and would be used only in support of flight leaders. CINCONAD pointed out to CINCLANT that if his interceptors were scrambled and the flight leader aborted, there would appear to be no qualified air defense capability in Southern Florida unless back-up aircraft with qualified crews were immediately available.²² CINCONAD asked how CINCLANT proposed to meet the air defense task. CINCLANT replied that there would be times when he would fall short of meeting CINCONAD's conditions, but at no time would he fall short of meeting the JCS minimum requirement of two interceptor aircraft when standing the primary five-minute alert.²³

(S) CINCONAD said that he could not risk using less qualified air crews and asked CINCLANT to re-evaluate his capabilities to provide qualified air crews.²⁴ CINCLANT detailed his resources, showing the considerable impact the air defense task was already having.²⁵ CINCONAD then turned to CINCSTRIKE for resolution of the problem. On 26 February, he apprised CINCSTRIKE of the situation and asked if he could meet both the five-minute and 30-minute requirement until CINCLANT and CINCSTRIKE were relieved of the whole task.²⁶

(S) In the meantime, on 11 February, the JCS directed CINCONAD to provide the aircraft for air defense in Southern Florida from ADC resources within 30 days after ending the TDY commitment to the Republic of Korea or Alaska.²⁷ The JCS pointed out that CONAD forces supported 18 F-106s in Korea and eight F-106s in Alaska. It was concluded, the JCS said, that upon ending either deployment, enough resources would be available to support the alert commitment in Southern Florida.

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(S) CINCSTRIKE replied to CINCONAD's request that he had evaluated his capability and found it impossible to increase the level of fighter support in Florida.²⁸ CINCONAD informed the JCS that in view of the CINCLANT/CINCSTRIKE comments, the possibility existed that there might be periods when CONAD had to maintain air defense of Southern Florida with less than fully qualified aircrews.²⁹ The JCS stated, however, that if CINCLANT could not provide two fully-qualified aircrews CINCONAD should use only one back-up aircraft. CINCONAD should employ only fully qualified aircrews even though there might be periods when the back-up alert requirement was slightly degraded.³⁰

(S) CINCONAD directed the 20th Region Commander to insure that only fully qualified aircrews were used.³¹ CINCONAD stated that it was realized there could be periods when the Region's back-up alert requirement might be slightly degraded. When the Region was advised that the wingman was not fully certified and the lead aborted, the Region was not to complete the intercept but was to use other resources if available.

(S) Use of CONAD Forces. As noted earlier, the JCS directed that CINCONAD take over from CINCLANT and CINCSTRIKE the provision of aircraft for air defense of Southern Florida. This was to be made possible and was to occur when the TDY commitment to Korea or Alaska ended.

(S) On 23 April, CINCONAD directed ADC to relieve CINCLANT/CINCSTRIKE by 4 June 1970.³² ADC informed CINCONAD that it was trying to keep the 95th FIS, Dover AFB, Delaware, as a 24-UE squadron. If this was approved by USAF, a detachment would be established at Homestead AFB under the 95th FIS.³³ If the 95th was not authorized 24 UE, the 48th FIS, Langley AFB, Virginia, (18 UE) would assume the alert. Retaining the squadron at 24 UE was not approved, however.³⁴

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(S) As of 2000Z, 3 June 1970, CINCONAD assumed responsibility for providing the aircraft for the air defense of Southern Florida, relieving CINCLANT and CINCSTRIKE.³⁵ A detachment from ADC's 48th FIS, Langley AFB, Virginia, assumed the task.

(S) CONAD's Operation Plan 308C-70, Fan Palm, 1 April 1970, was superseded by a new plan, Operation Plan 318C-70, "Family Man," 17 June 1970.³⁶ As directed by 318C-70, the 20th CONAD Region Commander was to do the following:

1. Exercise operational control of all forces made available for this plan.

2. Increase AEW&C manning of Station 50 (or Station 52 if so specified by the CONAD COC) to 24 hours per day beginning not later than two hours prior to the President's arrival and terminating no earlier than one hour subsequent to the President's actual departure from the Southern Florida area.

3. Maintain the readiness posture of interceptor forces in the Southern Florida area at two interceptors at 5-minute readiness posture and two interceptors at 15-minute readiness posture during the period starting two hours prior to the President's scheduled arrival at Key Biscayne, Fla., and terminating not earlier than one hour subsequent to the President's actual departure from the Southern Florida area.

4. Direct selected ADA fire units in the Miami-Homestead defense to assume 5-minute status on a rotational basis during the period that the President is in residence at Key Biscayne, Fla.

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(S) Alternate Florida AEW&C Station. The JCS requested CONAD's recommendations for an AEW&C orbit location that would maximize low level warning of Cuban MIGs when the President was at Walker Cay. CONAD recommended an AEW&C orbit location at 24 degrees 00 minutes north, 79 degrees 00 minutes west.³⁷ It was emphasized, however, that no number of AEW&C orbit locations could ensure warning of a near-surface Cuban MIG on a one way mission.

(S) The JCS approved CONAD's recommendation and directed that procedures for establishing this alternate AEW&C orbit location be included in CONAD OPLAN 308C-70. CONAD advised the 20th Region of this alternate orbit location by message on 11 June, stating that it was designated AEW&C Station 52.³⁸ The 20th Region would be instructed to move the aircraft from Station 50 to Station 52 or vice versa when required. CONAD OPLAN 308C-70 was superseded by CONAD OPLAN 318C-70, 17 June 1970. The latter plan provided that either Station 50 or Station 52 would be manned as directed by the CONAD COC upon implementation of the plan. Station 50 was designated the primary AEW&C station and was the station to be manned unless otherwise directed.

GREENLAND AIR DEFENSE

(S) Background. CINCONAD was charged by the Unified Command Plan, 20 November 1963, with responsibility for air defense of bases in Greenland. Because of this responsibility and the removal of air defense forces in 1964-1965 from Greenland, CINCONAD had to be prepared to deploy forces to Greenland to counter harassment by an adversary during a cold or limited war situation. There had been no harassment in that area, but the USSR had the capability.

(S) To provide for the deployment of forces to Greenland, USAF ADC issued the College Green operation plans, beginning with Operation Plan 15-67, 15 March 1967. ADC superseded this with OPLAN 15-69, 1 February 1969. As did the previous plan, 15-69 provided for the

deployment at the direction of CINCONAD of eight F-106s and four EC-121s to Thule AB, Greenland, as a main operating base. Sondrestrom AB, Greenland, was to be used as an additional operating base for interceptor alert and staging EC-121s. The force was to be in place and operational within 72 hours after initial notification. OPLAN 15-69 was superseded by 15-70 on 1 December 1969 (for changes and task force, see next page).

(S) CONAD issued the first operation plan in 1969 to provide implementing instructions for this responsibility, Operation Plan 315C-70, Familiar Ground, 28 November 1969. OPLAN 315C-70 stated that the mission was to be "prepared to deploy interceptor and AEW&C aircraft to Thule and Sondrestrom, Greenland, to counter harassment of these bases by the USSR." USAF ADC was directed to be prepared to deploy eight F-106s and four EC-121s to the Greenland area so as to be in place and ready to assume alert and man AEW&C stations within 72 hours after implementation of the plan. The plan provided that CINCONAD would issue implementing instructions to USAF ADC, 21st CONAD Region and 26th CONAD Region. Deployed forces were to be returned to home bases upon direction of CINCONAD.

(S) ADC OPLANS 15-70 and 15-71. ADC OPLAN 15-70, with changes 1 and 2, remained in force during 1970 until superseded by OPLAN 15-71, 1 November 1970. OPLAN 15-70 provided for the ADC air division organizational structure resulting from the reorganization in November 1969 which established six air divisions in the Continental United States (for detailed coverage of this reorganization, see CONAD Command History, 1969, pp. 19 - 25). OPLAN 15-70 did not change the number of aircraft to be deployed that were stipulated in ADC OPLAN 15-69, the deployment bases, or the time to be in place. 15-70 directed the 23rd Air Division to be prepared to deploy eight F-106s of the 87th FIS, Duluth IAP, Minnesota. If the 87th was unable to execute the OPLAN, the 24th Air Division was to be prepared to deploy aircraft of the 5th FIS, Minot AFB, North Dakota. The 552nd AEW&C Wing, McClellan AFB, California, was to provide the four EC-121s.

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(S) OPLAN 15-69 stipulated that deployed forces would be returned to home bases at DEFCON 3. OPLAN 15-70 changed this to read that deployed forces would be returned at the direction of CINCONAD. 15-69 provided that CINCONAD would exercise operational control through Eastern CONAD Region (discontinued on 14 November 1969). 15-70 changed this to read that CINCONAD would exercise operational control of deployed forces.

(S) Change 1 to ADC OPLAN 15-70, 15 January 1970, changed the primary squadron to provide the F-106s from the 87th to the 94th FIS, Wurtsmith AFB, Michigan. The 5th FIS remained as alternate, and the 552nd was still tasked to provide the EC-121s. Change 2 to OPLAN 15-70 updated the personnel guidance.

(S) ADC OPLAN 15-71, 1 November 1970, did not change the numbers of aircraft to be deployed, the deployment bases, or the task force. 15-71 changed the readiness time. OPLAN 15-70 stated that the force had to be capable of being in-place and operational within 72 hours after initial notification. 15-71 changed this to "capable of being in place within 72 hours after initial notification and operational within 8 hours of the in-place time." 15-71 specified that CONAD would exercise operational control of ADC forces deployed to Greenland through the 21st CONAD Region commander.

(S) ADC OPLAN 15-71 remained in force at the end of CY 1970. It had not been exercised during the year.

(S) CONAD OPLAN 315C-70, Familiar Ground. The CONAD OPLAN 315C-70, 28 November 1969, remained in force during 1970, with one change. An interim Change 1 was issued by message on 31 July 1970 which provided that the commander of the 21st CONAD Region would exercise operational control of the air defense forces deployed to Greenland effective upon arrival of the forces in Greenland.³⁹ Change 1, with this provision, was published on 20 October 1970.

REPUBLIC OF KOREA DEPLOYMENT

(S) Background. On 23 January 1968, The USS Pueblo was captured and taken to the port of Wonsan by North Korean gun boats. Part of the U.S. response was to move the 82nd FIS, equipped with F-102s, from Okinawa to the Republic of Korea (ROK). The Pacific Air Forces then asked for 18 all-weather interceptors in Okinawa to replace the deployed unit. The result was that ADC was directed to deploy an F-106 squadron. It sent the 318th FIS, McChord AFB, which arrived at Naha, Okinawa, on 10 February 1968. It was later switched with the 82nd at Osan, ROK, for operational reasons.

(S) CONAD advised the JCS of the impact of this F-106 deployment and asked an end to it as soon as possible. The JCS acknowledged the problems caused by the deployment but said it could not end until a ROKAF F-4 squadron was in place or the threat changed greatly.

(S) Redeployment - 95th FIS. The 95th FIS was the last squadron to deploy to South Korea as a result of the Pueblo contingency. It had deployed in November 1969 and was scheduled to redeploy to its home base, Dover AFB, in April 1970.

(S) USAF advised all concerned on 16 April that the JCS had directed termination of the deployment of the 95th on or about 22 April 1970 and that no replacement squadron was required.⁴⁰ The 95th FIS returned from Osan to Dover AFB on 4 May 1970.⁴¹

SOVIET AIRCRAFT IDENTIFICATION - 22nd NR

(S) Background. Starting in early 1968, there was a large increase in penetrations of the Greenland-Iceland-United Kingdom (G-I-UK) Line by Soviet bomber aircraft. Periodically, these aircraft continued on a southwesterly course and flew into the Canadian Air Defence Identification Zone (CADIZ).

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(S) To handle these Soviet incursions into the CADIZ, a number of measures were tried,* but the final solution was to establish an identification alert at two bases, Loring AFB with F-106s and CFB Chatham with CF-101s, responsive to requirements generated by Soviet aircraft penetrations of the G-I-UK Line. The operation was directed by NORAD Operation Plan 304N-68, 15 July 1968. CF ADC and 22nd NR termed the operation "Cold Shaft." This term was still used by these commands during 1970. USAF ADC termed its operation plan "College Shaft."

(S) NORAD OPLAN 304N-70. NORAD replaced 304N-68 with 304N-70, Soviet Aircraft Identification -- 22nd NR (U), 8 April 1970. Under Concept of Operations, it was stated that the 22NR Commander would maintain an identification alert capability as noted above. Upon receipt of a G-I-UK Line penetration suspected to be proceeding toward the 22NR CADIZ, interceptors at Loring AFB and CFB Chatham were to be scrambled to their forward turnaround base at Goose AB and Gander AB, respectively, and immediately recycled to forward Strategic Orbit Points. During the period 1 November through 31 March, both the F-106 and CF-101 interceptors were to use Goose AB as the forward turnaround base because of bad weather at Gander AB during these months.**

(S) The NORAD plan, 304N-70, required USAF ADC to maintain enough weapons controllers at Melville AFS (C-24) to support a combat-ready control capability at all times on one-hour notice and a 15-minute turnaround capability at Goose AB for two F-106 interceptors. Canadian Forces Air Defence Command (CF ADC) was to maintain enough combat-ready manual weapons controllers at Gander AB (C-25) to support a combat-ready control capability at all times on one-hour notice. NORAD OPLAN 304N-70 stipulated that

* (U) For coverage of these measures, see CONAD Command History, 1968, pp. 24 - 29.

** (U) See background in CONAD Command History, 1969, p. 124.

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during the period 1 April to 31 October when both Gander AB and Goose AB could be used as forward turnaround bases, CF ADC was to provide a 15-minute turnaround capability at Gander AB for two CF-101 interceptors. During the period 1 November to 31 March, when Gander AB could not be used because of bad weather and the F-106s and CF-101s had to use Goose AB, CF ADC was to augment the turnaround capability at Goose AB as necessary to support the CF-101s.

(S) Implementation Summary. The 22nd NR summarized implementation of "Cold Shaft" as follows: January 1970 - implemented one time, February - 2, March - 1, April - 5,* May - 2, June - 1, July - 3, for a total of 15 times (Cold Shaft was not implemented after July during 1970).⁴²

SUPPORT OF U.S. SOUTHERN COMMAND(S)

(S) CINCONAD was charged by the JCS with supporting U.S. Southern Command air defense operations in certain contingency situations. To provide for this support, CONAD issued Operation Plan 314C-70, 6 April 1970, which superseded CONAD OPLAN 314C-69, 14 July 1969. The 1970 plan had one significant change. The 1969 plan provided for deployment of AEW&C aircraft as required. The 1970 plan added a requirement to provide interceptor augmentation forces.

(S) The 1970 plan stated, in Concept of Operations, that U.S. Commander in Chief South would defend the Panama Canal and the Canal Zone with assigned forces. In addition, the U.S. had to be prepared to react to a variety of contingencies in the USSOUTHCOM area. If the threat was beyond the capabilities of assigned forces, USCINCSO might ask the JCS for augmentation. On direction of the JCS, CINCONAD would deploy AEW&C and interceptor forces to bases specified by USCINCSO. The CONAD

* (S) The relatively large number for April is accounted for by the fact that the Soviet Navy held exercises in the North Atlantic during this month.

plan stipulated that ADC was to be prepared to deploy a force of four EC-121D aircraft with crews, supporting personnel and equipment. In addition, if required, USAF ADC was to provide six F-106 aircraft with crews, supporting personnel and equipment. The plan remained in effect at the end of CY 1970. It had not been implemented during the year.

(S) ADC Operation Plan 50-69, College Tonic, 15 September 1969, directed that the four EC-121s required be provided by the 552nd AEW&C Wing. This plan was superseded by ADC OPLAN 50-70, 15 June 1970, which was still in effect at the end of CY 1970. 50-70 required that the 552nd AEW&C Wing provide the four EC-121s and that all ADC F-106 fighter-interceptor squadrons be prepared to deploy six F-106 aircraft. When CONAD directed implementation of the plan, ADC would task an air division to insure the F-106 FIS units were prepared for deployment. The deploying F-106 and EC-121 aircraft would have to depart their home station within 72 hours after notification.

COLLEGE TANG (See Air National Guard Section following)

AIR NATIONAL GUARD

F-101 CONVERSIONS

(S) As of the end of CY 1969, there were 17 ANG squadrons in the NORAD force. Three of these were converting to F-101s and were not standing alert, however. This conversion resulted from a requirement to meet Project 703 fund cuts. Three regular ADC F-101 squadrons were deactivated in 1969 and the aircraft provided to the ANG squadrons. Two of the squadrons, the 116th FIS, Spokane IAP, Washington, and the 178th FIS, Hector Field, North Dakota, dropped alert in November 1969. The third squadron, the 132nd FIS, Bangor IAP, Maine, was released from alert in July 1969 to convert from F-89s to F-102s. It then converted to F-101s. The 178th was the first to

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return to standing alert. It placed two aircraft on alert on 10 February 1970.⁴³ The 116th FIS placed two aircraft on alert on 1 March, and the 132nd FIS placed three aircraft on alert on 1 May 1970.

1970 ANG LOSSES

(S) Two ANG squadrons were lost from the NORAD force during 1970, reducing the total to 15 at the end of the year. The two squadrons were the 175th FIS, Joe Foss Field, South Dakota, which was relieved from alert on 1 May 1970, and the 122nd FIS, New Orleans, Louisiana, which dropped alert on 30 November 1970.⁴⁴

OPERATIONAL CONTROL OF ANG UNITS

(S) The ADC agreements with the various states for the emergency use of Air National Guard units and ADC Manual 55-3, 15 August 1970 (Air National Guard Air Defense Alert Detachments) provided for placing ANG units under the operational control of CINCNORAD. There were no provisions for placing these units under the operational control of CINCONAD. CONAD felt there was need for the latter because of the possibility of situations arising that required unilateral U.S. action. CONAD directed ADC on 9 October 1970 to change the agreements and manual to provide for assignment of operational control of ANG units to CINCONAD in the event that unilateral U.S. action made it impossible for CINCNORAD to exercise his responsibility.⁴⁵

(S) The National Guard Bureau (NGB) advised the individual state Guard Bureaus on 2 November 1970 that ADC had requested that CONAD be included in all places where NORAD was referenced in state agreements on operational control of ANG detachments/units under various situations.⁴⁶ The NGB said it agreed that this would more accurately and completely define the existing operational channels. The NGB asked each state addressed to respond to CONAD in the same manner as to NORAD until ADC/state agreements had been redone. ADC notified CONAD

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in January 1971 that USAF Headquarters, the NGB, and the State Adjutants General all concurred with revising the agreements. ADC directed its air division commanders to reaccomplish the agreements. No new agreements had been made by the end of CY 1970.⁴⁷ The NGB also asked that ADC revise current directives, such as ADCM 55-3, to indicate CONAD in parallel with NORAD and that these be forwarded to the NGB for coordination. ADCM 55-3 was not revised by the end of CY 1970.

ANG DEPLOYMENT PLAN - COLLEGE TANG

(S) ADC issued Operation Plan 24-70, College Tang, on 1 July 1970 to provide for the employment of the 147th Fighter Group (Training) of the Texas Air National Guard (ANG). As explained by ADC in paragraph 1, Situation, this group was located in a relatively low priority target area but could be used to counter enemy bomber attacks if its interceptor aircraft were deployed for greater tactical advantage. In the event of war, this ANG force (nicknamed College Tang) was to cease its peacetime F-102 combat crew training and augment the regular defensive forces and be deployed by NORAD/CONAD to selected deployment bases.

(S) ADC outlined various deployment options which NORAD could choose for deployment to meet certain situations. One option included two Canadian bases, North Bay, Ontario, and Moose Jaw, Saskatchewan. ADC stated in the basic plan that CF ADC and the Canadian Department of Transport (DOT) would provide available assistance, support and base service for College Tang forces as requested by NORAD.

(S) Following issuance of this plan, NORAD asked CF ADC for its concurrence and/or comments on the deployment of this group to the Canadian bases.⁴⁸ NORAD said that the portions of the plan covering deployment to Canadian bases should be considered draft proposals. CF ADC replied that since the plan involved the movement of U.S. forces into Canada, and included other than CF ADC bases, approval should be sought through CF

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Headquarters.⁴⁹ The latter replied that it had no prior knowledge of the plan and there had been no coordination or approval of the plan.⁵⁰

(S) On 20 August, CINCNORAD told USAF ADC that those portions of the plan concerning deployment to Canadian bases were to be rescinded until further notice pending coordination with appropriate authorities.⁵¹ On the same date, CINCNORAD advised CF Headquarters that the parts of the plan having to do with Canadian deployment were being rescinded.⁵² NORAD said it would start action for Canadian approval and coordination.

(S) ADC issued Change 1 on 25 August 1970 to OPLAN 24-70 deleting all references to deployment to Canada.

(U) NORAD took action to assure that there would be proper coordination and approval from Canadian authorities on Canadian matters. On 1 December 1970, a NORAD and CONAD Regulation 11-8, (Channels of Communications) was issued to define the scope of authority and prescribe the channels of communication to be used in staff actions which involved NORAD and one or more Canadian departments or agencies and required agreement, approval or coordination of other U.S. commands or elements thereof.* Among the procedures established were these:

1. All actions affecting NORAD forces which involve the establishment or change of policy, or where agreement, approval or coordination from any Canadian authority external to CFADC is required, will be accomplished by NORAD through CFHQ.

2. Component commanders are authorized to communicate directly with CF ADC to resolve problems, effect support agree-

* (U) A revised 11-8 was issued on 25 February 1971.

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ments and establish procedures within the constraints of policy previously established between CINCNORAD and CFHQ or CF ADC; but will refer to CINCNORAD those matters requiring reference to CFHQ.

(U) ADC's College Tang plan was still in effect at the end of CY 1970 as revised by Change 1. There had been no further changes in the plan by the end of the year.

CANADIAN AIRCRAFT EXCHANGE

PROJECT PEACE WINGS

(C) ~~(S)~~ Background. In June 1967, the commander of the Canadian Forces Air Defence Command recommended to the Chief of the Canadian Defence Staff that its CF-101s be replaced with USAF F-101s being phased out of the USAF inventory. The reasoning behind the proposal was that rather than retire the USAF aircraft with their improved fire control system, it was better to use them in place of the unimproved Canadian aircraft. NORAD concurred with the proposal in August 1967 in a letter to the USAF Chief of Staff. The latter agreed with the reasoning and stated that he would recommend the exchange if asked by DOD.

(C) ~~(S)~~ Exchange Program. CF Headquarters informed NORAD in April 1970 that Canadian Cabinet approval had been received to negotiate an agreement with the United States to exchange CF-101s for F-101s under the Peace Wings Project.⁵³ USAF advised on 14 May that it had given approval, funding was available, and the Canadian Cabinet had approved the transaction.⁵⁴

(S) ~~(S)~~ The project involved an exchange of 58 aircraft -- 48 F-101Bs for 48 CF-101Bs and 10 F-101Fs for 10 CF-101Fs -- and acquisition by Canada of eight additional F-101Bs. Project Peace Wings was being used as an offset on USAF Pinetree Radar System cost sharing for the period 1 January 1970 through 31 July 1971.

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(b) The press release on the exchange, issued on 9 July 1970, stated that the exchange and procurement involved a cash expenditure by Canada of about seven million dollars to be spent in Canada for work on the aircraft and to modernize facilities for the repair and overhaul of the aircraft fire control system.⁵⁵ In addition, Canada would continue to assume the U.S. operational and maintenance financial responsibilities, which equated to about 31 million dollars, for certain Pinetree Line radar sites until 31 July 1971.

(c) The exchange program began early in July 1970 and was scheduled for completion in December 1971.⁵⁶ The 425 Squadron, Bagotville, was first (to be converted by March 1971), 416 Squadron, Chatham, was next (to be converted by June 1971), and 409 Squadron, Comox, was last (to be converted by December 1971).

INTERCEPTOR DISPERSAL

DISPERSED OPERATING BASES (DOBs)

(s) U.S. DOBs. The JCS directed NORAD in 1961 to develop plans to increase survivability of the air defense system. These plans were to include protection of interceptors by dispersal and other means. The dispersal program approved by DOD (in 1964) was for 17 bases in the U.S. to be developed as Dispersed Operating Bases (DOBs). Of these, 16 were to be developed to a Phase III capability and one to a Phase II capability.* By May 1967, 15 bases

* (s) DOBs were to have sufficient personnel, facilities, and prepositioned assets to support interceptor operations. Phase I provided for turnaround only; Phase II, one conventional re-load; Phase III(m), four mission nuclear (with reduced personnel); and Phase III, four mission nuclear. NORAD Operation Order 300N-70 stated that those squadrons "designated for Phase III dispersal normally will continuously disperse four aircraft per squadron at the designated DOB. Exception: A modified Phase III dispersal (Phase III(m)) commitment is authorized when severe personnel shortages exist in critical AFSCs. When this condition exists, the number of aircraft dispersed to DOBs may be reduced to a minimum of two nuclear-armed aircraft."

in the U.S. were developed to a Phase III(m) capability. The planned 16th Phase III base, Key West, was never developed. There were also four other bases established as DOBs in 1967, three with a Phase II capability and one with only a Phase I capability. There were, at the end of 1967, 19 DOBs in the U.S.

(S) Four DOBs were eliminated in 1968 because of reductions in interceptor squadrons so that by the end of that year there were 14 Phase III(m) bases and one Phase II base. During 1969, five more DOBs were eliminated, leaving ten DOBs. This was the same number in existence at the end of 1970 (all developed to a Phase III(m) capability).

(S) Effort to Obtain DOBs in Canada. In 1965, NORAD chose four Canadian bases that it wanted for use as dispersed operating bases. These were: Namao, Alberta; Cold Lake, Alberta; Portage la Prairie, Manitoba; and Val D'Or, Quebec. Later, CFB Gimli, Manitoba, was substituted for Portage la Prairie. Agreement by the Canadian Government was required for development and use of these bases as DOBs and a proposal for such was officially submitted by the U.S. Ambassador to Canada in September 1966. No agreement had been concluded, however, by the end of CY 1970.

DEPLOYMENT BASES (DBs) IN CANADA

(S) The same Canadian bases that NORAD desired for DOBs were assigned as optional Deployment Bases (DBs)* in NORAD Operation Order 300N-70, 15 April 1970. This order assigned these bases as follows:

* (S) 300N-70 directed the use of Canadian DBs as follows: "At DEFCON 1, or prior to DEFCON 1 if authority is granted, nuclear-armed interceptors may deploy to those Canadian bases for which prior NORAD approval has been obtained. Squadrons may deploy up to two-thirds of their interceptors to these Canadian bases together with personnel, equipment, and armament to support four wartime sorties per aircraft, and with a turnaround rate of four aircraft in 15 minutes."

- CFB Cold Lake - optional for 5th FIS (24th NR)
- CFB Gimli - optional for 18th FIS (24th NR)
- CFB Namao - optional for 318th FIS (25th NR)
- CFB Val D'Or - no squadron assigned

(S) NORAD was informed that Canada planned to close CFB Gimli. This was confirmed in September 1970 at a meeting of the Canada-U.S. Military Cooperation Committee.⁵⁷ The closure date was set for September 1971. NORAD advised ADC and the 24th Region in October 1970 that this closure might make it necessary to change planning to CFB Portage la Prairie. The Region was directed to examine the base situation.⁵⁸

(S) The Region investigated Edmonton, Winnipeg, and Portage la Prairie. None were found to be entirely adequate.⁵⁹ The runways at Portage la Prairie, the Region said, had to be repaired or they might become unusable.

(S) Near the end of 1970, Canadian Training Command advised NORAD that Canadian Forces had a program to spend around \$200,000 in FY 71/72 for refurbishing runways at CFB Portage la Prairie.⁶⁰ This would be to patch, crack fill and provide water tightness, etc. to keep the runways in current operating condition.

(U) NORAD was still considering the base situation at the end of CY 1970, however.

IMPROVED MANNED INTERCEPTOR

(S) A long sought after requirement by NORAD was an Improved Manned Interceptor (IMI). A requirement for an IMI was stated in NORAD Qualitative Requirement 4-64, 4 December 1964. The IMI was included in the North American Aerospace Defense Objectives Plans (NADOPs) as a required element of NORAD forces each year since 1962. Various aircraft have been considered as candidates for the IMI role over the years, the most recent being the F-14 and F-15 aircraft.

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(S) NADOP 73-80, 15 August 1970, recommended introduction of an IMI type interceptor as early as practicable. NORAD stated an objective to have, under the modernized force, one squadron of 18 aircraft by end FY 1976, two squadrons by the end of the following fiscal year, and three squadrons by end FY 1978.* For the damage limiting force, NORAD recommended two squadrons (18 aircraft each) by end FY 1976, four by end FY 1977, and nine by end FY 1979.

(S) This NADOP stated that the significant part of the modernized force structure was the step towards modernization by introduction of an IMI of the F-14/F-15 type. An IMI/AWACS force was required that was survivable and would engage hostile aircraft as far from the target baseline as possible. The IMI, the NADOP continued, had to have a look-down, shoot-down capability. NORAD stated that the F-14/F-15 type IMI met these requirements with one exception. It did not have the extended range necessary to fully exploit AWACS capabilities.

(S) As of the end of CY 1970, no approval had been received for an IMI for NORAD forces.

* (S) NADOP 73-80 included force levels tied to strategies as follows:

Modernized Force - A strategy of a low level of defense but having increased protection of strategic retaliatory forces.

A 20 - 30% Damage Limiting Force - A strategy of a higher level of defense possessing an effective damage-limiting posture in the event deterrence fails (i.e., 70 - 80% of the value of North America would survive an all-out nuclear attack).

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SECTION II - AIR DEFENSE MISSILES

NIKE HERCULES

REDUCTIONS

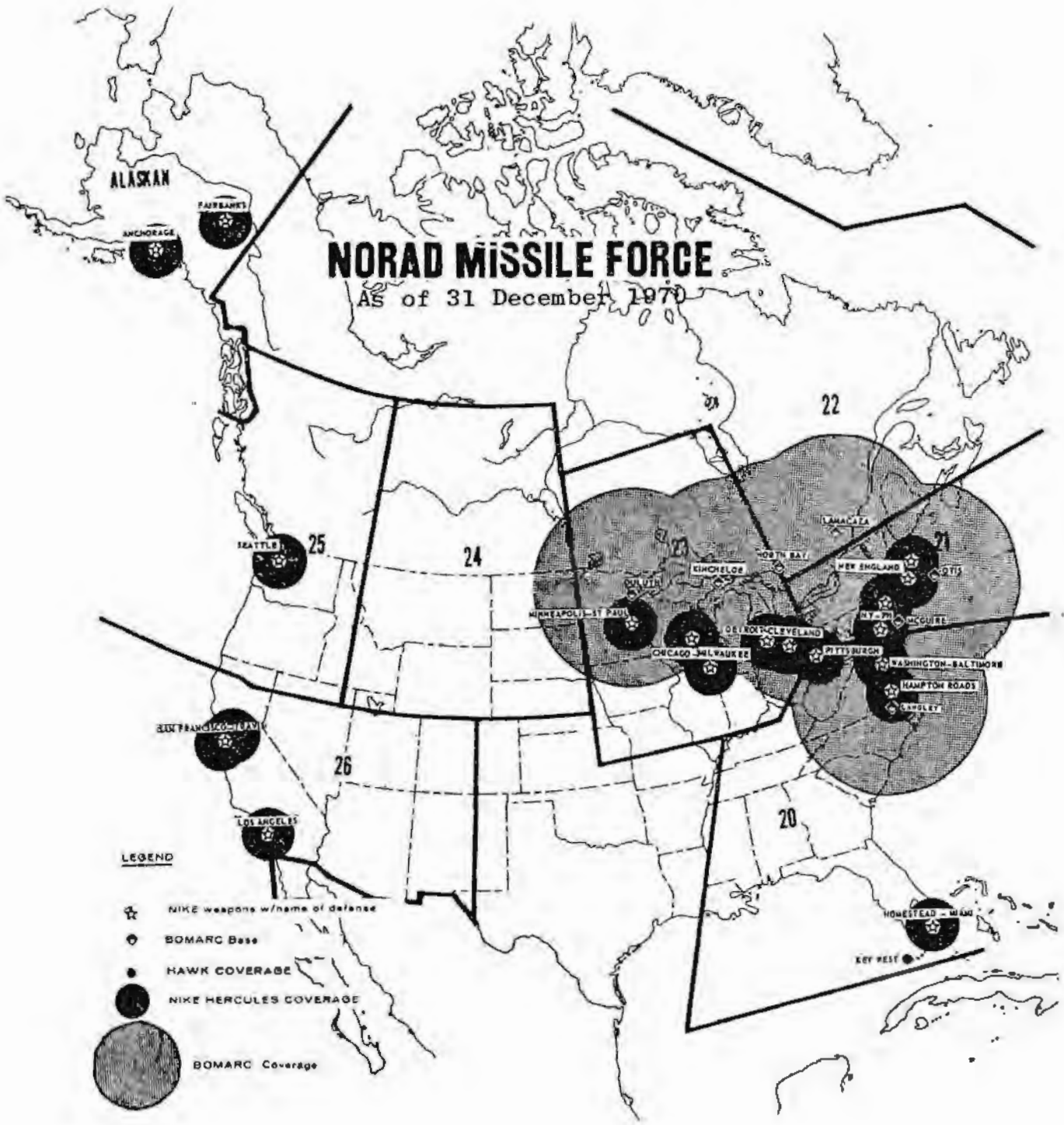
(S) Project 703. Project 703 reductions required a cut of nine Nike Hercules batteries (six Regular Army (RA) and three Army National Guard (ARNG)). This would decrease the NORAD force to 44 RA and 38 ARNG Nike Hercules batteries. Of the nine to be cut, six were to come from the ARADCOM force and three from the U.S. Army Alaska (USARAL) force. The six ARADCOM batteries (Cincinnati-Dayton and Niagara-Buffalo defenses) were released from alert on 10 December 1969. In the USARAL area, one fire unit in the Anchorage Defense dropped alert on 1 March 1970 and two fire units from the Fairbanks Defense dropped alert on 1 April 1970.⁶¹

(S) Program Budget Decision 398. The JCS informed CINCONAD on 21 December 1970, that Program Budget Decision 398, dated 9 December 1970, provided for a cut in FY 1971 of 22 active Army and eight ARNG Hercules batteries. The JCS said the Army reclama stated that if force levels were reduced, it would deploy 54 Hercules batteries -- 48 in the CONUS and six in ALCOM. CINCONAD was asked to recommend CONUS air defense priorities and deployment. On 31 December, CINCONAD provided his recommended deployment of 54 Nike Hercules fire units (six ALCOM and 48 CONUS -- 23 RA and 25 ARNG).

REVISION OF ADA ALERT REQUIREMENTS

(S) The ARADCOM Commanding General proposed to CINCNORAD on 10 November that the ADA alert requirements be changed to permit twenty-five per cent of assigned fire units to be released at all times.⁶² Currently, ARADCOM was required to place twenty-five per cent of its units on one-hour alert and seventy-five per cent

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on three hour alert unless released by the NORAD region commander. ARADCOM made the request because of personnel shortages and no prospects for improvement in the foreseeable future.

(S) CINCNORAD approved the request on 23 November as a temporary measure until the personnel shortages were alleviated.⁶³ The alert requirements under this change were for twenty-five per cent of assigned batteries within each ADA defense to be on one hour alert, fifty per cent on three hour alert (unless released), and twenty-five per cent released.⁶⁴ This temporary change was sent to all Regions by message on 23 November.

BOMARC FORCE

REDISTRIBUTION OF CIM-10B MISSILES

(S) As part of the Project 703 reductions, one Bomarc Squadron in the U.S. (35 ADMS, Niagara Falls, New York) was inactivated on 31 December 1969. This released 21 CIM-10B missiles for redistribution. Eight missiles were sent to the 46 ADMS, McGuire AFB, New Jersey, to bring it up to 28 missiles which was the strength of the other six squadrons. Five of the remaining missiles from the inactivated squadron were sent to the 4751st ADMS, Eglin AFB, Florida, to be used in the ADC Combat Evaluation Launch (CEL) program.⁶⁵ The other eight missiles from the inactivated squadron were stored at the five U. S. squadrons.* These latter were considered in depot storage status and were not NORAD operational resources. They also could be used in the ADC CEL program.

* (S) The eight missiles were stored as follows: one at the 74th ADMS, Duluth; one at the 37th ADMS, Kinchloe; two at the 26th ADMS, Otis; two at the 46th ADMS, McGuire; and two at the 22nd ADMS, Langley.

COMBAT EVALUATION LAUNCH PROGRAM

(S) Background. In June 1964, the Secretary of Defense approved an Air Force proposal to establish a Combat Evaluation Launch (CEL) Program to launch six missiles per year, one for each of the six squadrons in the CONUS. Through FY 1967, all missiles used in the CEL program came from one squadron which had more missiles than the others until it reached the same level as the others. In November 1965, DOD approved participation of the two Canadian squadrons in the CEL program, raising the annual reduction to eight. All the missiles were to come from the U.S. squadrons, however; the Canadian squadrons were not to be reduced.

(S) Change in CEL Program Reduction Rate. With the inactivation of the 35th ADMS, the annual reduction rate was cut to seven. However, this rate was changed. As noted above, 13 missiles from the inactivated squadron were to be used for the CEL program. These missiles would provide for the CEL program through the first quarter of FY 1973. In the second quarter of FY 1973, reduction (of operational missiles) would begin but at the rate of only four per year (three would be taken out in FY 1973, reducing the U.S. Bomarc strength from 140 missiles to 137 at the end of FY 1973). Then the reduction would continue at four per year, i.e., there would be 133 missiles at the end of FY 1974 in the U.S. squadrons, 129 at the end of FY 1975, etc.⁶⁶

(S) This change from reduction of seven per year to four per year became effective in January 1971.⁶⁷ ADC recommended this change and USAF and Canadian Forces Headquarters concurred. The approved program phased the Bomarc missiles (CIM-10B) down to 125 by end FY 1976 and showed no missiles beyond that date.⁶⁸

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CHAPTER IV

BALLISTIC MISSILE AND SPACE WEAPONS DETECTION SYSTEMS

SECTION I - MISSILE WARNING SYSTEMS

OTHF MISSILE DETECTION SYSTEM (440L)

* (U) "Interim capability" was used to describe the status of a system still under development which had a limited operational capability and could be put into operation.

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* (U) Category II testing involved testing a system in as near an operational configuration as possible.

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SLBM DETECTION AND WARNING SYSTEM (474N)

(S) Background. Work began in 1965 on modifying seven AN/FPS-26 height finder radars to be located around the coastal perimeter of the United States to detect missiles launched from submarines. The modified radars, termed AN/FSS-7s, were to comprise the Sea-Launched Ballistic Missile (SLBM) Detection and Warning System (474N). Also at this time, the AN/FPS-85 phased-array radar at Eglin AFB, Florida, was to have SLBM detection as a secondary mission (see subsection under Space Detection and Tracking System, page 83).¹⁰

(S) The AN/FSS-7 radars were located at the following sites:¹¹

Z-38 Mill Valley AFS, California
Z-65 Charleston AFS, Maine
Z-76 Mt. Laguna AFS, California
Z-100 Mt. Hebo AFS, Oregon
Z-115 Fort Fisher AFS, North Carolina
Z-129 MacDill AFB, Florida
Z-230 Laredo AFS, Texas

* (U) The permanent sites were designated "T" and "R" and the temporary sites "TS" and "RE."

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(S) Interim Capability (IC) Operations. The SLBM Detection and Warning System was to have reached operational capability in late 1967, but several problems prevented the system from becoming operational through 1969. Data collected during Category II testing, which ended in October 1969, revealed that the system had failed five of 14 tests that were to prove its operational capability. Normally, the end of Category II testing resulted in the turnover of a system to the operating command. However, CONAD and ADC felt that the system was not ready for operation.

(S) ADC sent the Electronic Systems Division (ESD) in December 1969, a list of testing requirements that, hopefully, would bring Category II testing to a successful conclusion. This phase of testing -- called Category II, Phase III -- was to include a test of ADC's capability to maintain the system and would be preceded by a period of on-the-job (OJT) training. USAF had to accept the system from the contractor so that OJT training could be given to ADC maintenance personnel and because ADC was to take over maintenance of the system for test purposes. ESD accepted the system on behalf of USAF on 27 February 1970.¹²

(S) OJT started in February for ADC's maintenance personnel. Phase III testing began on 17 March and ended 30 days later; Post-Phase III testing continued until 18 May 1970. Out of a total of nine tests held through mid-April, five were successfully completed. A seminar was held at ADC Headquarters on 16 April to discuss problems and corrective action. ESD felt that the system could soon begin interim capability operations and proposed to ADC that both commands declare an interim capability for the system on 1 May 1970.¹³ However, ADC stated that Lt. General Thomas K. McGehee, the ADC Commander, did not feel it was appropriate to establish an interim capability on 1 May. Data were still being collected on Phase III tests at the sites and ADC felt that it should not accept the system until all of the data were available. ADC asked for a briefing on the total Category II testing so that deficiencies, responsibilities, and capabilities could be determined.¹⁴

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(S) As a result of this briefing, held on 25 May, ADC advised NORAD that it would accept the system from ESD on 1 June 1970. ADC said that although there were numerous deficiencies in the system yet, it was believed that the system had an interim capability. ADC stated, however, that it did not intend to declare an initial operational capability (IOC) or start Category III testing (ADC testing of the operational system) until deficiencies had been corrected. ADC estimated that the major problems would be cleared up by 30 November 1970 and the others within 12 to 18 months. ADC asked NORAD to decide when the system should begin operations.¹⁵

(S) CINCNORAD notified all concerned on 17 June that the 474N System would be used in an interim capability status starting 1 July 1970; that the system, even though numerous major deficiencies still existed, had a limited SLBM warning capability.¹⁶

(S) Initial Operational Capability (IOC) Delayed.
The 474N System was expected to reach IOC about December 1970, but, in October, ADC stated that the system should be kept in an interim capability status until December 1971.¹⁹ ADC explained that:

correction of major software deficiencies, which affect credibility, will be under the Modification of the SLBM Software (MOSS) contract, and completion of this major item is not expected prior to December 1971. The declaration of IOC prior to completion of the MOSS contract is inappropriate. Continuation of the 474N System in the IC status, therefore, is anticipated until the MOSS contract is completed about December 1971.

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(S) NORAD informed the JCS and others concerned on 3 December 1970 of the new date -- about December 1971 -- for initial operation of the 474N System and that it would continue in an interim capability status until the MOSS contract was completed.²⁰ The MOSS contract was awarded to the System Development Corporation on 7 December 1970. By the end of 1970, no official comments on the delay in IOC had been received by NORAD.²¹

(U) Priorities for Electrical Power at 474N Sites.
See Chapter II, Air Defense Radar Systems, for coverage of this subject.

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SECTION II - SPACE WEAPONS DETECTION SYSTEMS

SPACE DETECTION AND TRACKING SYSTEM

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CHAPTER V
ABM SYSTEM AND
SPACE DEFENSE WEAPONS

SECTION I - ABM SYSTEM

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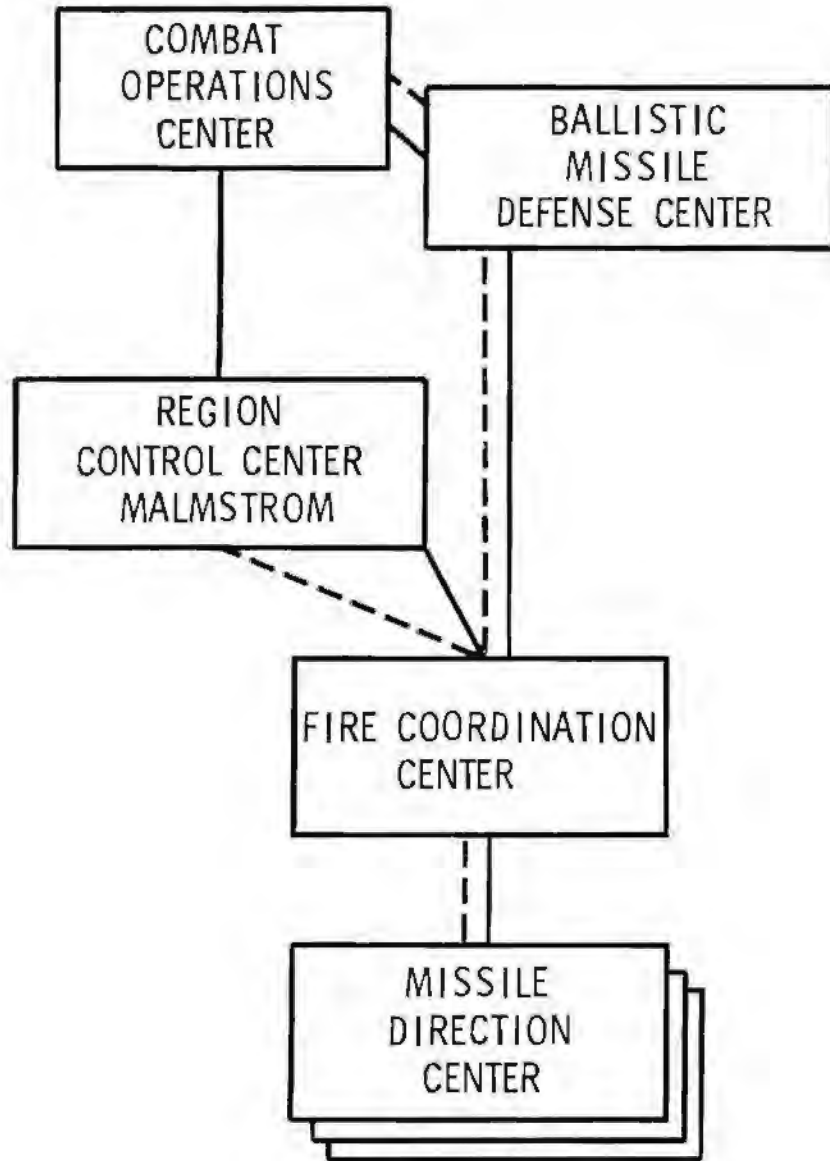
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SECTION II - SPACE DEFENSE WEAPONS

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CHAPTER VI

COMMAND, CONTROL AND
COMMUNICATIONS

SECTION I - NCOC MASTER PLAN

BACKGROUND

(U) Work on the NORAD Combat Operations Center (NCOC) Master Plan began following a JCS directive to unified commanders in 1965 to prepare a command and control plan. No deadline was set at the time for submission of the plan and guidance provided in 1965 and 1966 was general in nature.* Preparation of the plan started on 20 December 1966 under the overall direction of the DCS/Plans and Programs (J-5). The completed plan was delivered to the JCS on 6 December 1968.

Declar
(S) NORAD explained in Volume I, Introduction, of the five-volume plan that within the first few months of operation of the NCOC in the NORAD Cheyenne Mountain Complex (NCOM), it became apparent that a master plan for the evolution of the NCOC was essential. The Master Plan defined and described the operational configuration for the NCOC from 1968 to 1978. It took into account those defense systems to come into being and those to phase out as well as relationships to exist with external

* (U) For 1965-67 background, see CONAD Command History, 1967, pp 32-34.

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commands and agencies. It provided a basis for funding data for use by the JCS, the military departments, and DOD, and would serve as the basis for development of NCOC performance specifications.

(S) The following major systems or functions in the NCMC were listed in Volume V, Resources, of the plan:

Declass

<u>Present</u> <u>Systems or Functions</u>	<u>Future</u> <u>Systems or Functions</u>
NCOC	NCOC/NCS (NORAD Computer System)
SDC and Central Computer and Display Facility	SCC (Space Computational Center)
Intelligence	Intelligence
Weather	Weather
ADR/CRYPTO	ADR/CRYPTO
	BMDC (Ballistic Missile Defense Center)
	ADC-CC (ADC Computer Center)
DCA	DCA (Defense Communications Agency)

(S) To accommodate the future facilities required in the NCMC, NORAD stated a requirement in its plan for 30,000 square feet of additional space. The NCMC had eight buildings with 116,000 net square feet. Of this, 54,000 square feet were used for fixed activities -- mess hall, dispensary, etc., leaving 62,000 square feet for current systems. Future facilities would require 92,000 square feet. NORAD desired to obtain the additional space by constructing three new buildings in the NCMC.

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(U) The JCS validated the operational concept and the operational requirements in the Master Plan on 17 March 1969. The Secretary of Defense approved the operational concept for the NCOC as a point of departure for planning on 30 July 1969.

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(S) The magnitude and complexity of implementing the NCOC Master Plan was such as to require the application of appropriate system management procedures and facilities. USAF accepted the Master Plan as a NORAD Required Operational Capability and issued System Management Directive (SMD) 9-312-427M(1) establishing Program 427M on 20 June 1969. This SMD was to provide the engineering and procurement support to meet the operational requirements in the NCOC Master Plan (less the BMDC), i.e., to procure and implement the equipment, software, communications and personnel required to support the operational requirements.

MASTER PLAN REVISION

(U) NORAD explained to recipients of the first three changes to the Master Plan on 30 March 1970 that the JCS recognized that the plan would change before final implementation.¹ However, the JCS also recognized that a baseline plan was necessary as a starting point for follow-on planning. Consequently, the JCS approved the Master Plan for planning purposes, thus establishing it as a baseline plan. NORAD advised that it would not reissue the plan completely, but would issue serially-numbered supplements as needed.²

(S) In all, ten changes were issued during 1970.

Dec 1969
1. Change No. 1, 30 March 1970. Revised the operational concept of the ADC Computer Center. It changed the name to ADC RMC (Resource Management Center) and eliminated the requirement for a separate data processor. It also provided for the computational functions to be performed using the NORAD Computer System.

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2. Change No. 2, 30 March 1970. Updated the operational target dates for equipment and systems. D

3. Change No. 3, 30 March 1970. Provided NORAD/CONAD approval of specific documents published since issuance of the Master Plan which would be recognized as supplementing and/or supporting appropriate paragraphs within the Master Plan. E

4. Change No. 4, 6 April 1970. Provided CINCNORAD/CINCONAD policy guidance and revised the organizational composition of the NCOC Command Post. C

5. Change No. 5, 1 September 1970. Replaced Volume II, Operations, of the Master Plan. It contained a new operational and functional realignment of organizations within the NCMC. C

6. Change No. 6, 11 September 1970. Replaced Chapter V of Volume V, NCMC Manpower Requirements, of the Master Plan. It contained the manpower requirements to support the operational organizations in the NCMC.

7. Change No. 7, 24 August 1970. Revised the estimated technical power and cooling requirement for systems in the NCMC. A

8. Change No. 8, 11 September 1970. Was an addendum to the revised Volume II. It contained NORAD's operational requirements for the exchange of data in support of the Ballistic Missile Defense mission between the NORAD Computer System (NCS), the Space Computational Center (SCC), and the Safeguard Ballistic Missile Defense Center (BMDC). S

9. Change No. 9, 16 October 1970. Established the number and location of the communications centers in the NCMC. These were the Command Post Communications Center adjacent to the COC in Building 2; the Space Computational Communications Center on the second floor of Building 9; and the Special Security Office Communications Center on the third floor of Building 3. S

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10. Change No. 11, 17 December 1970. (Change No. 10 was to be published later). Change 11 superseded Change No. 6, revising the NCMC manpower requirements and button-up requirements.

FIELD SYSTEM MANAGEMENT OFFICE

(U) Air Force Systems Command (AFSC) established a 427M System Management Office at L. G. Hanscom Field, Massachusetts. General McKee suggested in October 1969 that AFSC establish a 427M field system management office in Colorado Springs in time to supervise publication of system and equipment specifications. CINCNORAD felt that early centralization of management offices in the Colorado Springs area would benefit all concerned. AFSC replied that 427M would be properly supported, but declined, for the present, to establish a local field system management office.

(U) General McKee again recommended location of management elements of the 427M Program at Colorado Springs in May 1970. The following month, General McKee wrote to General James Ferguson, Commander AFSC, suggesting that the 427M Program Manager and Engineering Section be placed in Colorado Springs and the System Program Director be left at L. G. Hanscom. General Ferguson replied that he understood General McKee's desire to have the 427M decision makers close by and that AFSC planned to have an adequate contingent of program people in the Colorado Springs area. However, because of a personnel reduction and because 427M was not far enough along to require augmenting AFSC's current level of effort at NORAD, he did not believe the situation warranted moving the Program Manager or Engineering Section to Colorado Springs.

CONSTRUCTION FUNDS

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(S) The USAF Director of Civil Engineering wrote to CINCNORAD in April 1970 that the estimated cost of the Military Construction Program (MCP) for the NCMC

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would exceed the \$20.8 million authorized by Congress by approximately \$2.9 million.³ The Director of Civil Engineering advised that the possibility of approaching Congress for additional funds was out of the question.

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(S) As a result of this letter, General McKee directed ADC to eliminate some items from the MCP to stay within authorized funds.⁴ He pointed out that it would not be possible to exceed the dollar ceiling of \$21.7 million which consisted of \$.9 million of FY 69 funds authorized for NCMC improvements and the \$20.8 million approved by Congress. General McKee directed that all future planning be based on the deletion of these items and responsible agencies were to initiate actions for immediate implementation.

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(S) The actions directed by CINCNORAD were the following:

Eliminate one of the new blast doors	\$.3	Million
Eliminate new addition to the parking lot		.1	
Obtain GFE equipment for Building 11		.6	
Reduce the number of Mechanical Equipment Room modifications		.2	
Eliminate the planned new water reservoir		1.0	
Obtain reductions as a result of a value engineering study		.5	
Make miscellaneous reductions		.2	
		<hr/>	
	Total	\$	2.9 Million

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(S) Another funding problem faced by NORAD was obtaining release of portions of the \$20.8 million not appropriated by Congress or not apportioned by the Office of Management and Budget (OMB)/OSD. Congress

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appropriated only \$12.8 million of the \$20.8 authorized, leaving a balance of \$8.0 million. But of the \$12.8 million appropriated, OMB/OSD apportioned only \$7.5 million. The remaining \$5.3 million was withheld apparently because OMB had not fully accepted NORAD's requirements for three new buildings.⁵

(S) USAF forwarded a memorandum from OMB in October 1970 with a list of questions on NCMC construction. NORAD forwarded a detailed response by CINCNORAD on 13 November 1970. There was no change in the situation by the end of CY 1970, however.

NCMC CHANGES

(U) ADC was informed on 30 January 1970 in a letter signed by the NORAD Chief of Staff, General K. H. Bayer, USA, that CINCNORAD had directed that no changes be made to plans for physical facilities in the NCMC after award of the construction contracts without his personal approval.⁶ It was later decided to make this requirement the subject of a NORAD/CONAD policy memorandum. Memorandum No. 12, 11 December 1970 addressed to all subordinate and component NORAD/CONAD commanders and NORAD/CONAD Headquarters, restated the above policy and added that the policy applied to the MCP which provided for the new construction and modification of facilities in the NCMC.

EXCAVATION CONTRACT

(U) Bids on rock excavation were opened on 17 November 1970, nine bidders having responded. The Tiro Construction Company of Wheatridge, Colorado, was the apparent low bidder. The contract was awarded to Tiro on 16 December 1970 after an evaluation of all bids by the Air Force Civil Engineer and the Corps of Engineers.⁷

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427M SCHEDULE

(S) The 427M schedule provided by AFSC in October 1970 showed about a two year slip in the program (from January 1974 to first quarter CY 1976).⁸ NORAD advised AFSC that the operational dates in the schedule were much later than desired and would impact on NCMC operational capabilities.⁹ At the end of the year, NORAD, USAF, ADC, and AFSC were investigating alternatives to compress the schedule.

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SECTION II - NCOC BATTLE STAFF AND BSSC

REPRESENTATION OF ADC AND ARADCOM COMMANDERS AND STAFFS

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(S) Background. Two recommendations of the Cheyenne Mountain Wartime Essential Functions Study, 17 November 1969, were that the CINCNORAD Battle Staff should include the ADC and ARADCOM commanders, and that space in the NCMC be provided for component support staffs. CINCNORAD had directed this study of the NCMC to identify any non-essential functions and to recommend operational improvements, organizational changes, and manning reductions. The study report was approved by CINCNORAD on 18 November 1969 with certain changes (see CONAD Command History, 1969, pp. 229-230).

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(S) The study report stated that analysis showed that the component commanders with staffs were required to assist CINCNORAD in accomplishment of his mission. The report explained that:

Since there is no provision for them in the NCMC, they now perform their essential functions from distant, non-survivable locations. The separation of CINCNORAD and component command posts leads to staff layering. Further, component staffs in non-survivable locations will not be available when required. . . . To be immediately responsive to CINCNORAD the Battle Staff must be physically located on the second level of the COC Command Post, adjacent to the CINC, with primary support by the Battle Staff Support Center. The component commanders require support by component support staffs located in the NCMC, on service-related matters. . . . Physical space for component support staffs is available in the first level of the command post, and in Room 2202.

(U) Inclusion on Battle Staff. CINCNORAD directed on 9 February 1970 that the ADC and ARADCOM commanders

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were to serve as members of his battle staff.¹⁰ A letter to each commander on 17 February 1970, signed by the NORAD Chief of Staff, advised that procedures for actual and exercise recall (Coca Color Alert) in NORAD Staff Memorandum 55-5 were being revised to add them as members of the battle staff reporting to the NCOC during actual or exercise alerts.¹¹ NORAD stated that the letter established this procedure during the period prior to revision of SM 55-5. The letter noted that Coca Color alert telephones had been installed in their offices and residences. SM 55-5 was rescinded, rather than being revised, and replaced by NORAD and CONAD Regulation 55-24, Coca Color Procedures, 30 June 1970.

(S) In the meantime, Change 4 to the NCOC Master Plan, dated 6 April 1970, directed that the ADC and ARADCOM commanders would be members of CINCNOAD/CINC-CONAD's Battle Staff. Change 4 stated that they or their deputies must be present in the NCMC at all times during DEFCON 3 or higher. Operating positions for the commander-in-chief and component commanders would be on the dais within the NCOC Command Post. Change 4 also stated that component resource data and logistic data, as well as component resource management facilities, had to be accommodated in the NCMC.

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NCOC BATTLE STAFF SUPPORT CENTER (BSSC)

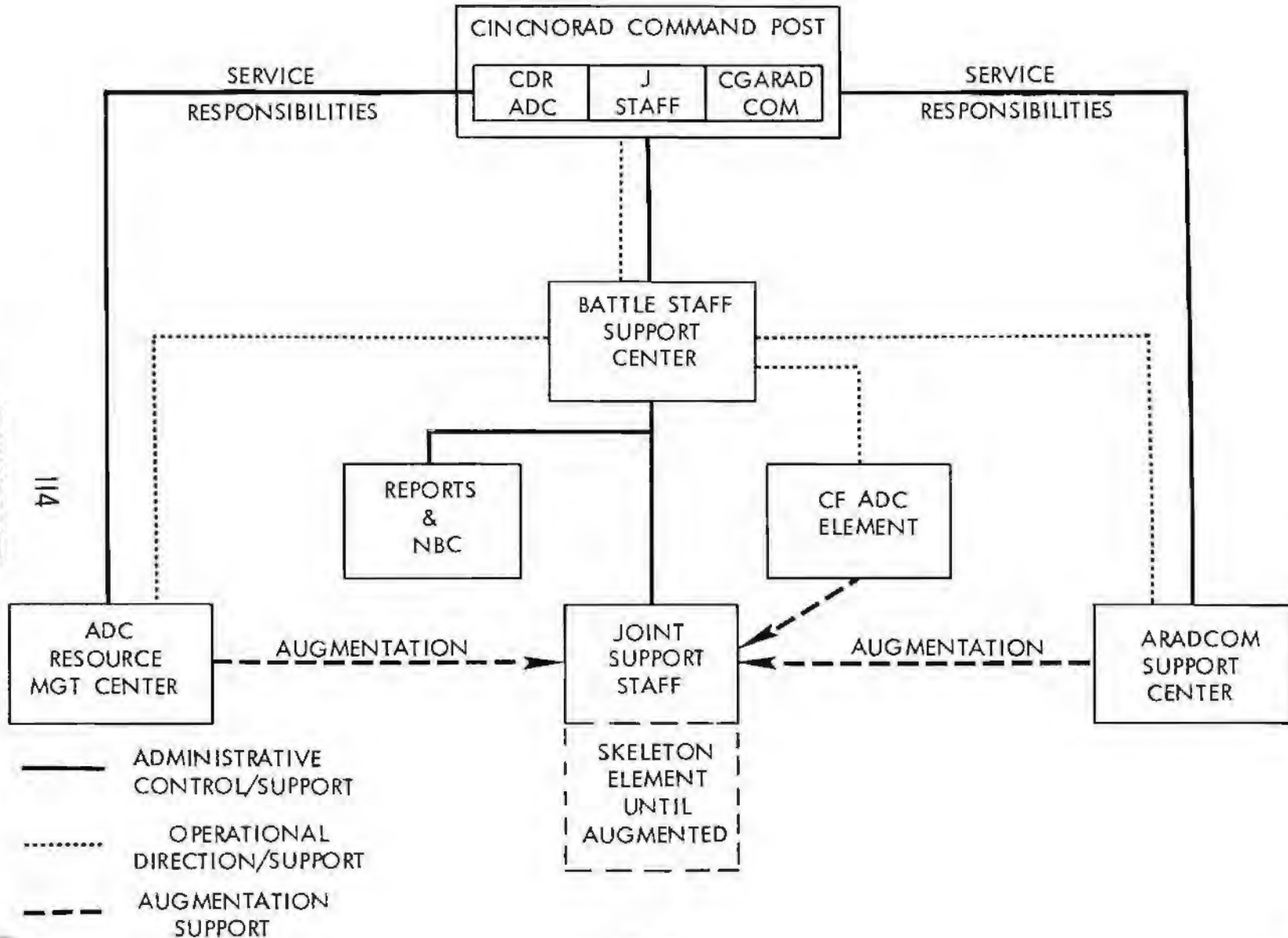
(S) Another recommendation of the Cheyenne Mountain Wartime Essential Functions Study (see page 112) was that a Battle Staff Support Center (BSSC) be established in the NCMC. As noted in the preceding section, the study group reported that its review showed that the component commanders with staffs were required to assist CINCNOAD in the accomplishment of his mission. The Battle Staff needed to be on the second level of the COC Command Post with primary support provided by the BSSC. The component commanders required support by staffs located in the NCMC.

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(S) The study report stated that it was necessary that the NORAD and component staffs work in consonance with one another. The report explained that:

There is layering and duplication between NORAD staff elements . . . and component commands to receive reports, process data, and post data base changes. Further, it is not possible to present an integrated, coherent display on status of forces because of this fragmentation. . . . The problem is best resolved by organizing a Battle Staff Support Center in the NCMC, as the location from which individual support actions of NORAD and its components are focused into an integrated coherent operation with common objectives.

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(U) A branch of the BSSC (Data and Reports Branch) was established on 8 January 1970 although the BSSC itself had not yet been implemented formally. It was implemented, however, for Exercise FAIR PLAY 70-1, held 23-27 February 1970. The date of the official establishment of the BSSC was 1 July 1970, the date of the NORAD/CONAD Joint Headquarters Table of Distribution which first listed the BSSC personnel authorizations. The Directorate of the BSSC was placed under the Assistant Deputy Chief of Staff for Combat Operations, J-3.

(U) As described by the revised Volume II, Operations, 1 September 1970, to the NCOC Master Plan,* the BSSC consisted of the Joint Support Staff Division and the Reports and NBC Division. During DEFCONS 5 and 4, the Joint Support Staff Division was a skeleton organization staffed on a minimum basis** to monitor and ensure the accuracy of the joint status of forces data and to monitor and

* (U) The requirement, responsibilities, and procedures for the BSSC were stated in NORAD Regulation 55-8, 25 September 1970.

** (U) The 1 July 1970 JTD listed one officer and one enlisted space for the Joint Support Staff Division.

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coordinate remedial actions on units below a C-2 operational status.¹² At DEFCON 3 and above, or when directed by CINCNORAD, the Joint Support Staff Division would be fully manned to perform coordinated force distribution and reconstitution planning and execution. The Reports and NBC Division was manned at all times to carry out its data base and reporting functions.¹³

(U) The NCOC Master Plan Volume II, cited above, stated that the BSSC was charged with the following responsibilities at all times:

a. Provides a single point of contact on questions relating to the status of NORAD forces.

b. Maintains, manages and ensures the accuracy of a common status of forces data base containing all data on status of forces, personnel and materiel resources. . . .

c. Controls and operates all NORAD reporting systems providing status of forces, NBC, and damage information.

d. Provides the National Command Authorities of the U.S. and Canada, plus other governmental agencies, NBC and CARDA data.

(U) ADC and ARADCOM were advised in September 1970 that when CINCNORAD approved the functional statements for the BSSC, he had directed that the BSSC, the ADC Resource Management Center (RMC), and the ARADCOM Support Center (ASC) be brought together to act jointly on matters within NORAD's purview.¹⁴ NORAD provided an operational concept for component command guidance. Within this framework for joint action, component commanders retained their prerogative to direct their support centers on unilateral service matters.

(U) The NORAD operational concept stipulated that similar operational elements of the BSSC, RMC and ASC would be consolidated in the same physical area. Room 2202 of the NCMC would house the Joint Support Staff, the RMC and the ASC, and provide for possible future CF ADC representation. Room 2202 was under the Command

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Post and easily accessible to it. Activities related to reporting systems, NBC and damage functions, and data base management were to be centralized in Room 2208. A central briefing location was to be provided in the Joint Support Staff area.

(U) Later, in November, NORAD, ADC and ARADCOM representatives met to discuss the arrangements for the BSSC. NORAD sent both component commands a letter confirming the discussion matters. NORAD agreed that the BSSC was still in the formulative stage, particularly with respect to the functional alignment.¹⁵ Room 2202 would provide enough space to house the essential joint functions and still allow both ADC and ARADCOM to maintain entities dedicated to their service matters.

(U) NORAD pointed out that establishing the facilities required and the move to Room 2202 would take several months. Therefore, as agreed in the above meeting, the three commands were to jointly develop an interim arrangement. Rooms 2303 and 2208 were used temporarily.

(U) NORAD informed CF ADC of the establishment of the BSSC in September 1970, stating that Exercise FAIR PLAY 70-3 had pointed up the need for closer liaison with CF ADC to resolve operational and support problems.¹⁶ Direct CF representation in the NCOC was considered most desirable. The best arrangement for accomplishing this was to set up a new element in the NCOC or the BSSC itself with the specific task of functioning as a CF ADC liaison staff. Accordingly, NORAD proposed to establish two officer positions within the BSSC to be manned on a 24 hour basis from DEFCON 3 or higher. These positions would be war-assignment tasks for designated Canadian officers from the NORAD Headquarters staff. CF ADC suggested a visit to NORAD Headquarters to discuss the matter and NORAD advised on 10 November that it was agreeable to such a visit.¹⁷ The meeting had not taken place by the end of CY 1970 and action had not been taken on CF ADC liaison representation.

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SECTION III - ALCOP AND NACP

NORAD/CONAD ALTERNATE COMMAND POSTS (ALCOPs)

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(S) As a means of meeting fund reductions required by Project 703, on 14 November 1969, the Western NORAD Region, with Headquarters at Richards-Gebaur AFB, Missouri, was discontinued (see CONAD Command History, 1969, pp. 14-22, for a discussion of the complete reconfiguration). This Region had served as ALCOP for both NORAD and CONAD. With its deactivation, NORAD and CONAD had to establish new ALCOPs. The 24th CONAD Region, Malmstrom AFB, Montana, was designated the CONAD ALCOP effective 11 March 1970.* NORAD designated the 22d NR as the first alternate to the NCOC effective 14 November 1969.

(S) NORAD had been trying since 1962 to establish its ALCOP in the 22nd NORAD Region hardened combat center at North Bay. At the request of the Secretary of Defense in 1966, NORAD prepared an ALCOP Basic Plan which the Secretary approved in June 1966. Canada did not approve the plan, however.

(S) On 4 September 1970, CINCNORAD approved a proposal of NORAD's DCS/Operations to withdraw the ALCOP Basic Plan from Canada and to designate the 24th NORAD Region as the primary NORAD ALCOP. NORAD advised the JCS and the Canadian Chief of Defence Staff in October 1970 that it wished to withdraw the ALCOP Basic Plan and to designate the 24th NORAD Region as the primary NORAD ALCOP.¹⁸ NORAD outlined for the JCS the background of the proposed ALCOP at North Bay. NORAD said that because of the uncertainty and delay in getting Canadian Government approval and the possible savings in designating the 24th Region as the ALCOP, the JCS was being asked to have the Basic Plan withdrawn.

* (U) For coverage of manpower for the CONAD ALCOP, see Chapter I.

(S) The JCS asked the Chief of the Defence Staff (CDS) in November 1970 to advise of the Canadian position on the NORAD proposal. The CDS replied on 4 January 1971 that the Canadian Government's position would be provided in the spring of 1971. Designation of the 24th NR as the primary NORAD ALCOP was withheld pending Canadian action and JCS approval. 19

NORAD/CONAD AIRBORNE COMMAND POST AND DATA PROCESSING CENTER (NACP)

(S) Background. CINCONAD submitted a requirement to the JCS in January 1969 for an airborne command post and data processing center. In support of this requirement, a NORAD Qualitative Requirement (NQR 2-69, 15 March 1969) for a NORAD/CONAD Airborne Command Post and Data Processing Center (NACP), was submitted to the JCS for review and validation. The NQR was also provided to the Chief of the Defence Staff for information and planning purposes. The JCS responded in June 1969 with a request for resubmission of the NQR along with a concept of employment and a more detailed description of the NACP and its role in the 1976 command and control environment. A NORAD Operational Employment Concept (NOEC) for the NACP was submitted to the JCS in September 1969 instead of a revised NQR. A JCS SM, dated 23 December 1969, validated the general concept for planning purposes. Validation of specific requirements was deferred pending further review. The JCS asked the Air Force to comment on the feasibility of using a single aircraft to fulfill jointly the NACP requirements of both CINCNORAD and CINCSAC.

(S) 1970 Actions. USAF answered on 1 February 1970 that the C-57747 class of aircraft was technically capable of satisfying the NORAD/SAC requirements. USAF pointed out that inclusion of airborne readout and data processing of Program 647 would require reduction of other minimum essential wartime functions. USAF also said that NORAD data processing requirements were beyond the current state-of-the-art.

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(S) The JCS asked for a reassessment of the requirements for the airborne command post and data processing center. In June 1970, NORAD sent an interim reply to the JCS with a revision to its NOEC.²⁰ NORAD reduced the computer processing speed requirement. Analysis had indicated that a reduced processing speed was possible by using dual processors. NORAD stated that the existing NACP data processing requirements could be satisfied by either of two off-the-shelf airborne processors when employed in pairs.

(S) The JCS reviewed NORAD's interim reply and in August requested clarification in a few areas. The JCS pointed out that validation action was deferred pending review of NORAD's total reassessment. NORAD's reply was to be submitted by 15 February 1971.

SECTION IV - COMMUNICATIONS

NCMC-ENT AFB CLOSED CIRCUIT TELEVISION (CCTV) LINK

(S) Background. NORAD submitted a requirement to the JCS in 1965 for a secure NCMC-Ent AFB television link for the exchange of intelligence and other information. The Secretary of Defense deferred a decision on it until receipt of technical approval from the National Security Agency and revalidation of the requirement from NORAD. A decision was again deferred in 1967 until an engineering plan and cost effectiveness study could be made and considered. D E

(S) The Secretary of Defense approved the TV link on a field test basis in January 1968 and tasked USAF to provide funding from resources currently available. USAF advised ADC that because of a shortage of FY 1968 funds, this program could be supported only if ADC could identify a source of funding. USAF recommended that if funds were not available, FY 1970 funding be programmed and start of the project be deferred until then. ADC answered that it had no funds not already identified with other priority projects. L L

(S) The JCS requested CINCONAD in August 1969 to re-evaluate the urgency and priority of the TV link in the light of current funding constraints. CINCONAD expanded the justification for the TV link from the original intelligence requirement to include a command and control function. CINCONAD stated that system redefinition would be completed in time to re-evaluate the requirement under the FY 1971 funding cycle and stressed the urgency of the requirement. However, budget limitations again prevented action and USAF indicated an inability to program funds prior to FY 1972. In view of the budget limitations, CINCONAD informed the JCS that there was little hope of fulfilling this operational requirement with current or near-term funds. CINCONAD stated that the requirement continued to be valid and would be submitted, with appropriate justification, for FY 1972. Therefore, action was deferred pending revalidation of the requirement. 21 A S S

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(X) Current Status. ADC requested CONAD in October 1970 to review the requirement document (ADC Required Operational Capability 14-68) for currency and validity. CONAD replied on 28 October that the requirement was still valid but the main justification for the TV link was to be its use primarily as a command and control element. CONAD stated that because of the physical separation of the NCMC and the Ent AFB complex, "a secure CCTV link is essential to effective execution of CINC-CONAD's operational responsibilities," and the requirement should remain until funded or requirements changed.²²

(U) CONAD learned in early 1971 that the requirement might be satisfied by use of equipment which had provided a secure TV link between Andrews AFB, Maryland, and the Pentagon.²³ This equipment had been removed from service.

RING AND SPOKE EXPANSION CANCELLED

(U) ADC studied ways during early 1968 for expansion of the NCMC Ring and Spoke System (the hardened portion of the NCMC Communications System) to support future requirements. It was estimated that three additional circuitry groups would satisfy the requirements and allow a reasonable expansion capability. Another detailed study was conducted, during August and September 1970, to develop a more accurate estimate of future needs. Based upon current utilization, projected requirements, and cost factors involved, NORAD directed ADC on 24 September to cancel plans for Ring and Spoke expansion because it was no longer required. ADC cancelled all plans for this expansion.²⁴

BOMB ALARM SYSTEM

(U) Background. The Bomb Alarm System (BAS) which became operational in September 1962, was designed to automatically report nuclear explosions to the NORAD COC and other key military and civilian agencies. The Secretary of Defense approved in November 1966 a USAF request to reconfigure the Bomb Alarm System to give

it an attack assessment (AA) capability. Western Union signed a contract in 1968 for reconfiguring the system. However, rising installation costs and budgetary constraints imposed by Project 703 resulted in an order to hold the AA program in abeyance as of 29 August 1969.²⁵

(S) The JCS requested in November 1969 that NORAD provide a statement of requirements for Attack Assessment/Bomb Alarm System information and recommendations for reducing the cost of the system if it were retained.²⁶ NORAD answered that the Bomb Alarm System was required to provide positive and instantaneous confirmation of nuclear attack on the North American continent to corroborate missile attack warnings until such time as Program 647 was operational.²⁷ NORAD explained further that:

The purpose of the Bomb Alarm System in its original form is still considered valid, i.e., to provide an automatic sensing system for the instantaneous detection and reporting of nuclear bursts in the immediate vicinity of probable target locations in CONUS, Alaska and Greenland.

NORAD stated that it desired to retain the BAS in a limited configuration if this could be done at reasonable cost. NORAD proposed abandonment of the Attack Assessment feature and retention of only those BAS sites (65) then in being.

(S) Discontinuance of Bomb Alarm System. The JCS advised CINCNORAD and the other agencies concerned in January 1970 that a decision had been made to cancel the Bomb Alarm System.²⁸ USAF discontinued the system on 20 February 1970 upon concurrence of the JCS and Secretary of Defense.²⁹

NORAD OPERATIONAL STATUS REPORTING SYSTEM PROPOSAL

(S) Background. The NORAD Nuclear Biological Chemical Warning and Reporting System (NBCWRS) became operational in January 1966. This system consisted of two manually-

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operated systems originally set up on an interim basis awaiting the development of automated systems. However, the follow-on systems ran into sensor technology and cost problems, but efforts continued on ways to improve and automate data reporting.

(S) The JCS directed CINCNORAD to make a study to find the best way for automatic reporting of NBC attack data. An outgrowth of this study was the development of a proposal by NORAD and ADC for an Operational Status Reporting (OPSTAR) System. It was to be a computer-controlled system for processing NBC information, operational status and other reports.³⁰

(S) Current Status. NORAD submitted a proposal for the OPSTAR System to the JCS in May 1970 for approval.³¹ The JCS advised on 20 July that the proposal was approved in principle but implementation could not be supported at this time because of funding considerations. The JCS recommended holding the proposal in abeyance until budgetary constraints were relaxed.³² The estimated cost of the OPSTAR System at this time was about \$20 million.

(S) ADC requested the Rome Air Development Center (RADC) in September 1970 to make a study of OPSTAR. RADC agreed to undertake a nine-month study at a cost to ADC of \$75,000. NORAD, ADC and RADC representatives met on 24 November to discuss the matter. RADC, which was already doing some limited research work on OPSTAR and related projects, stated it believed that the overall cost of the system would be less than half of the original estimate of \$20 million. RADC stated that it was prepared to build and test a prototype and then provide NORAD and ADC the information to contract for the OPSTAR System.³³ NORAD and ADC agreed to support the funds required. RADC was to begin the study in July 1971.³⁴

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CHAPTER VII

EVALUATION AND EXERCISES

SECTION I - NORAD/SAC JOINT TESTING AND TRAINING

TOP RUNG/SNOW TIME EXERCISES

(C) Past Exercises. NORAD and SAC began two series of joint exercises in 1963 called Top Rung and SNOW TIME.* These exercises were to provide combined strategic penetration/air defense operations training and to provide data for use in improving combat capabilities. From the very beginning, however, both commands agreed that these exercises were not to be considered as contests either between commands or units. Also, no connotation of "war gaming" was to be connected with these exercises.¹

(C) Twenty-two Top Rungs were held during the life of this series of exercises which were held quarterly for the first four years. The first quarterly exercise, Top Rung I, was held on 10 October 1963; the last quarterly exercise, Top Rung XVI, was held on 19 May 1967. During 1968 and 1969, only three Top Rungs

* (U) SNOW TIME is an acronym for SAC/NORAD Operational Wapons Tests Involving Military Electronics.

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were held each year and were identified by a new numbering system.* Top Rung 68-1-C was held on 8 September 1967 and was followed by 68-2-E and 68-3-W on 8 March and 9 May 1968, respectively. The FY 1969 series included 69-1-E, 7 August 1968; 69-2-C, 5 February 1969; and 69-3-W, 9 April 1969.² This latter exercise was the last in the Top Rung series. Top Rung was discontinued because it had become so similar to SNOW TIME that there was no reason for continuation.³

(U) SNOW TIME exercises began with SNOW TIME II on 25 October 1963. SNOW TIME I, which had been scheduled for September 1963, was cancelled because of bad weather. SNOW TIME IX in FY 1965 and SNOW TIME XVI in FY 1966 were also cancelled. The last of this series identified by Roman numerals was SNOW TIME XXI, held 9 June 1967. As noted above, a new numbering system was started in FY 1968 and six SNOW TIMES were held that year: 68-1-C, 68-2-C, 68-3-E, 68-4-E, 68-5-W, and 68-6-W/A. Only three exercises were scheduled for FY 1969: 69-1-E, 69-2-C and 69-3-W.

(U) FY 1970 Exercises. The annual operation order for SNOW TIME (371N-Yr) stated that SAC's forces were to include both mass and individual bomber penetrations, tactical maneuvers, high and low level subsonic and supersonic penetrations, and the use of various densities and types of ECM and confusion techniques. NORAD's objectives were to train the air defense system and to examine defensive equipment, tactics, and procedures in various battle situations representing probable Soviet attack patterns with the goal of improving air defense effectiveness.⁴

* (U) This numbering system applied to both Top Rung and SNOW TIME exercises and was based on the fiscal year, number of the particular exercise during that year, and the training area in which the exercise took place.

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(C) NORAD Operation Order 371N-70, "NORAD/SAC SNOW TIME Exercises," 1 July 1969, scheduled six exercises for FY 1970. The following table shows the exercise, the date conducted, and the NORAD regions involved (on 14 November 1969, all NORAD regions except the Alaskan were changed from geographical to numerical designations):⁵

<u>SNOW TIME</u>	<u>Date</u>	<u>Participating Regions</u>
70-1-E	12-13 Aug 1969	Northern, Eastern
70-2-E	28-29 Oct 1969	Northern, Eastern
70-3-C	2-3 Dec 1969	20th, 21st, 22nd, 23rd, 24th
70-4-C	10-11 Feb 1970	21st, 22nd, 23rd, 24th
70-5-W	CANCELLED*	25th, 26th
70-6-W/A	12-13 May 1970	25th, 26th, Alaskan

(S) The SNOW TIME reports showed that these exercises provided excellent training opportunity for region and BUIC battle staffs. In addition, data were collected on specific test objectives in each exercise. One of the test objectives in SNOW TIME 70-3-C and 70-4-C was to determine the effectiveness of passive tracking techniques.** Based on the data gathered during 70-3-C, NORAD's preliminary analysis showed that radar tracking and interceptor engagement capabilities were significantly improved by the use of passive tracking.⁶ This conclusion was further supported by data collected during 70-4-C.⁷

* (U) This exercise was to have been held on 31 March -1 April 1970. But, because of a "sick-out" by FAA Air Traffic Controllers, NORAD cancelled the exercise.

** (U) Passive tracking is a method of locating aircraft that are jamming radars by electronic countermeasures.

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(U) Beginning with SNOW TIME 70-6-W/A, commanders of the participating regions and key staff officers from NORAD Headquarters attended exercise debriefings for CINCNORAD. These debriefings allowed an exchange of information between the commanders and CINCNORAD and an opportunity to discuss exercise design and training achievements.⁸

(X) FY 1971 Exercises. NORAD Operation Order 371N-71, 30 June 1970, also provided for six SNOW TIMES during FY 1971. Of these exercises, the following were held during the period covered by this historical report:⁹

<u>SNOW TIME</u>	<u>Date</u>	<u>Participating Regions</u>
71-1-E	4-5 Aug 1970	20th, 21st, 22nd
71-2-E	29-30 Sep 1970	20th, 21st, 22nd
71-3-C	1-2 Dec 1970	22nd, 23rd, 24th

JOINT OPERATIONS TASK FORCE

(U) The SNOW TIME Exercise Plan, written by SAC and NORAD, was approved by USAF in June 1963. According to this plan, SAC and NORAD were jointly responsible for managing SNOW TIME. Two organizations were established to help with the management: the Joint Policy Committee (JPC) and the Joint Operations Task Force (JOTF). The JPC, made up of representatives from SAC, NORAD, ADC, ARADCOM, and the JOTF, was to provide overall policy guidance to the JOTF. The JOTF was made responsible for the design and conduct of specific SNOW TIME missions.¹⁰

(U) The JOTF was established on 1 July 1963. The Exercise Plan tasked SAC, ADC, and ARADCOM, to furnish the manpower to fill 31 spaces authorized for the JOTF staff. Of these spaces, SAC provided 20, which included a colonel as Director of the JOTF, ADC six spaces, and ARADCOM five. NORAD had no spaces on the JOTF staff

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at that time.¹¹ However, publication of a new Exercise Plan in January 1965 gave NORAD a liaison position. This plan added four spaces (one NORAD liaison and three ARADCOM) to the JOTF and brought the staff to the highest number that it was to reach -- 35 spaces.¹² A 1967 SAC/NORAD agreement for joint exercises authorized 34 spaces for the JOTF. A 1969 agreement reduced the JOTF authorization to 30 spaces. NORAD's representation increased to two spaces in 1967 and five spaces in 1969. ADC and ARADCOM provided five spaces each in 1969 and SAC the remaining 15.

(U) A problem faced by the JOTF was a shortage of personnel caused by the commands not filling all of their spaces. To correct this problem, ARADCOM recommended to NORAD in March 1969 that the JOTF be made a joint, independent organization with its own manning document. ARADCOM felt this type of organization would get a higher priority for personnel assignment. NORAD agreed but found that neither SAC nor ADC wanted to change the JOTF's organizational concept. Both SAC and ADC said they were concerned about losing control over the SNOW TIME program if the JOTF became independent. NORAD advised ARADCOM that no further action on the matter would be taken at that time.¹³

(U) A reduction in manpower for the JOTF also resulted from Project 703. ADC had to cut two positions and SAC had to withdraw nine spaces. This left 19 spaces for the JOTF. The Director said he could continue a SNOW TIME program with this reduced manning, but some planned improvements for earlier reporting and data reduction would suffer.¹⁴

(U) As a result of this reduction, NORAD proposed reorganizing the JOTF to give ADC three spaces, ARADCOM and NORAD five spaces each, and SAC six spaces. Agreement was reached on this proposal and the change was made effective 8 January 1970.¹⁵ All eight positions assigned to ADC and ARADCOM were later changed to NORAD positions and incorporated into the Headquarters NORAD Joint Table of Distribution, dated 1 July 1970.*

* (U) For additional details, see Chapter I.

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SECTION II - OPERATIONAL EVALUATIONS

REGION EVALUATIONS -- AMALGAM MUTE EXERCISES

(U) NORAD's policy was to hold an operational evaluation at least once every 18 months in each of its regions.¹⁶ The nickname "AMALGAM MUTE" was used to identify these evaluations. To properly evaluate the regions and their subordinate units, exercise conditions were to be as real as peacetime restrictions would permit. A faker bomber strike force, consisting of ECM-equipped aircraft from SAC, USAF ADC, and CF ADC, added to the realism by performing the probable tactics of a Soviet bomber force. Such things as nuclear detonations and missile attacks were simulated by scripted inputs.¹⁷

(U) The procedures for conducting and controlling these evaluations were set forth in NORAD Regulation 55-13. Seven major areas were listed for evaluation: Operations, NBC/Battle Damage, Intelligence, Communications-Electronics, Logistics, Personnel, and written examinations for key operational personnel. After the results were analyzed by CINCNORAD, he assigned ratings -- outstanding, satisfactory, marginal satisfactory, or unsatisfactory -- to the region and its units. Recommendations in the report of the evaluation were to be acted upon by the organization having responsibility, either the region or Headquarters NORAD. NORAD Regulation 55-13, 24 August 1970, made component commanders responsible for taking corrective action on recommendations within their jurisdiction.

(S) AMALGAM MUTES were held in five NORAD regions during 1970:¹⁸

<u>AMALGAM MUTE</u>	<u>Date</u>	<u>Regions</u>
70-2-E	2-6 Mar 1970	21st, 22nd
70-3-W	8-12 Jun 1970	26th
71-1-W	24-28 Aug 1970	24th, 25th

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Because of certain weaknesses noted during MUTE 70-2-E, NORAD made a re-evaluation of the 21st NORAD Region in July 1970 and found that the discrepancies had been corrected.¹⁹ MUTE 71-1-W was the first evaluation made under new rating criteria in NORAD Regulation 55-13, 24 August 1970. As a result of this evaluation, CINCNORAD rated the 25th NORAD Region as "Outstanding."²⁰

SPACE DEFENSE EVALUATIONS -- AMALGAM MATE EXERCISES

(U) NORAD and CONAD published on 31 October 1969 the first regulations covering procedures and objectives for conducting operational evaluations of space defense systems. NORAD Regulation 55-17 called for evaluations at least every 24 months of the Ballistic Missile Early Warning System (BMEWS), the Sea Launched Ballistic Missile Detection and Warning System (SLBM D&W), the Forward Scatter Over-The-Horizon Detection System (440L), and the Space Detection and Tracking System (SPADATS). CONAD Regulation 55-7, "Operational Evaluation of Program 437," called for evaluations at least every 18 months.

(S) AMALGAM MATE 70-1. NORAD/CONAD's first operational evaluation of the space defense systems was AMALGAM MATE 70-1, an exercise designed to evaluate SPADATS and CONAD Program 437. Active play of the exercise was from 28 April until 2 May 1970.²¹

(S) CONAD and NORAD declared that AMALGAM MATE 70-1 could not be considered a normal operational evaluation because performance standards had neither been developed fully nor published. For these reasons, this exercise was felt to be a "preliminary operational assessment." Nevertheless, numerous problem areas were found in the operation of both systems. Thirty-one recommendations concerned SPADATS, with Headquarters NORAD having action on 19, USAF ADC 10, and one each for CF ADC and the Navy Space Surveillance System (NAVSPASUR). For Program 437, there were 25 recommendations for corrective action. Of these, Headquarters CONAD was responsible for 15, USAF ADC eight, and NAVSPASUR two.²²

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(S) AMALGAM MATE 71-1-B. NORAD planned to hold an operational evaluation of BMEWS during October 1970 in conjunction with a Royal Air Force Strike Command evaluation of RAF Station Fylingdales, BMEWS Site III. The NORAD operation order, 5 August 1970, said the mission was to exercise BMEWS and evaluate its capability to do its operational tasks.²³

(S) This operational evaluation of BMEWS was held 7-8 October 1970.²⁴ After review of the results, CINC-NORAD directed that AMALGAM MATE 71-1-B not be designated an "operational evaluation," but rather an "operational audit." The audit report had 16 recommendations on discrepancies for Headquarters NORAD to correct and 21 for USAF ADC.²⁵

REGION PRE-EVALUATION TRAINING -- AMALGAM ARROW EXERCISES

(U) NORAD published Operation Order 372N-71, "Live Air Defense Exercises," on 1 April 1970. This order called for Headquarters NORAD to develop and conduct a series of multi-region exercises, nicknamed "AMALGAM ARROW," which would replace the single-region exercises that had formerly been designed and held by each region. With training as the primary goal, an AMALGAM ARROW would portray the same general exercise conditions (geographic area, region forces, strike force composition and tactics) of a NORAD operational evaluation. These training exercises were intended to be difficult and more comprehensive than operational evaluations and were to be held about six to ten weeks before evaluations. Planning called for at least four AMALGAM ARROWS per year.²⁶

(U) Two exercises were held and one was cancelled during 1970. AMALGAM ARROW 70-1, scheduled for 7-8 April in the 25th and 26th NORAD Regions, was cancelled because of a "sick-out" by FAA Air Traffic Controllers.²⁷ The following exercises were held as scheduled:²⁸

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<u>AMALGAM ARROW</u>	<u>Date</u>	<u>Primary/Participating Regions</u>
71-1	8-9 Jul 1970	24th, 25th/26th
71-2	7-8 Sep 1970	20th/21st

(U) It was felt that these exercises were excellent in preparing regions for NORAD operational evaluations. Region commanders were not required to make formal reports to NORAD on ARROW exercises, but they were to identify and correct operational deficiencies as required.²⁹

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SECTION III - COMMAND POST EXERCISES

AMALGAM FAIR PLAY EXERCISES

(S) Background. The current NORAD-wide command post exercise, AMALGAM FAIR PLAY, had its start with the run of Exercise Desk Top in October 1958. Exercise Desk Top was an experiment in training battle staffs at all command levels using a synthetic air defense problem.

(S) A total of nine Desk Tops were held between 1958 and 1967. After Desk Top IX, held in 1967, the name was changed to FAIR PLAY. The first exercise of this new series was FAIR PLAY 68.

(S) FAIR PLAY 70. FAIR PLAY 70 was designed to emphasize procedures and activities related to reconstitution, SAGE to BUIC transition, and ALCOP responsibilities. For the purpose of analysis, the major focus in the exercise was on logistics procedures and activities.³⁰ The exercise was held as follows:³¹

<u>FAIR PLAY 70</u>	<u>Date</u>	<u>Participated as CINC NORAD</u>
Part I	23-27 Feb 1970	Gen Seth J. McKee, USAF
Part II	20-22 Apr 1970	Gen Seth J. McKee, USAF
Part III	18-24 Jul 1970	Lt Gen E. M. Reyno, CF

(U) FAIR PLAY 71. The mission of FAIR PLAY 71 was to hold a NORAD-wide command post exercise "that enables NORAD commanders at each echelon to exercise their staffs, plans, orders, and procedures for the conduct of the aerospace defense of the North American continent." Part I was conducted 17-23 October 1970, with Lieutenant General Thomas K. McGehee, Commander, ADC, and Lieutenant General George V. Underwood, Jr., CG, ARADCOM, participating as Acting CINC NORAD.³²

(S) Part II of AMALGAM FAIR PLAY 71 was to be run concurrently with JCS Exercise HIGH HEELS 71 in January-February 1971.³³

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AMALGAM AMAZON EXERCISES

(U) A different kind of command post exercise was the AMAZON exercise. This was a synthetic exercise designed mainly to train general officers in the succession to command of NORAD and in the functions required of the Commander-in-Chief in his battle position at the NORAD Combat Operations Center (NCOC). Also, AMAZON provided training to senior command post officers in pre-hostility decision making. In addition to NORAD, other key participants included the Canadian Defence Staff, SAC, and the JCS.³⁴

(U) Four AMAZON exercises were held during the first seven months of 1970. They were as follows:³⁵

<u>AMAZON</u>	<u>Date</u>	<u>Participated as CINCNORAD</u>
INDIAN	17 Feb 1970	Maj Gen W. S. Harrell, USAF
CHIEF	17 Mar 1970	Gen Seth J. McKee, USAF
ARROW	19 May 1970	Maj Gen H. A. Hanes, USAF
CHIEF	14 Jul 1970	Lt Gen E. M. Reyno, CF

(U) Although SAC had been using its full battle staff in AMAZON exercises for some time, NORAD used its full battle staff for the first time during AMAZON CHIEF on 14 July 1970. This exercise pointed out the need to change the concept and objectives to ones that would be more in line with the training needs of CINCNORAD, the NORAD battle staff, the NCOC, and the external participants. Feeling that dynamic play in AMAZON exercises was invaluable, General McKee directed that play of future exercises emphasize operational and decision-making relationships among the participants. CINCNORAD also directed reduction from eight to six AMAZON exercises per year.³⁶

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(U) These exercises were re-designated "AMALGAM AMAZON" and numbered according to the fiscal year. The first of the new series, AMALGAM AMAZON 71-2, was scheduled for 22 September, but NORAD cancelled its play in this exercise because the JCS were unable to participate. However, SAC ran its part as scheduled.³⁷

~~(S)~~ The next exercise, AMALGAM AMAZON 71-3, held on 24 November, was ended prematurely by General McKee because of problems with the Automatic Secure Voice Communications (AUTOSEVOCOM) system. CINCNORAD informed the participants that the exercise was cut short because of "my inability to gain timely, secure voice communications with key participants. The AUTOSEVOCOM system at that time would not support that prompt, secure coordination which was essential to play of this uniquely designed exercise. . . ." The NORAD staff conducted a test call program, which started on 25 November and continued through December 1970, to collect data on AUTOSEVOCOM so the problems could be identified as soon as possible.³⁸

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19. NOPS, Historical Report, July-August 1970 (959.3).
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APPENDIX

SUMMARY OF NORAD FORCES AND PERSONNEL

(As of 31 December 1970)*

~~(S)~~ WEAPONS

Deletions

Regular Interceptor Force:

18 Squadrons, 318 Aircraft

Type Squadrons:	<u>F-4</u>	<u>F-101</u>	<u>F-106</u>	<u>CF-101</u>
Total:	<u>1</u>	<u>3</u>	<u>11</u>	<u>3</u>

ADC/ANG Interceptor Force:

15 Squadrons, 270 Aircraft

Type Squadrons:	<u>F-101</u>	<u>F-102A</u>
Total:	<u>3</u>	<u>12</u>

Seven Bomarc Squadrons, 196 Missiles/Launchers

44 RA Nike Hercules Fire Units, 38 ARNG Nike Hercules Fire Units, 1,338 Missiles/810 Launchers.

Eight RA Hawk Batteries,** 288 Missiles/48 Launchers.

* (U) Source: NORAD Forces and Program Change Summary (U), 1 December 1970 and 1 February 1971.

** (U) Each Battery consisted of two Fire Units.

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~~(S)~~ SURVEILLANCE AND WARNING

DEW Line:
 Continental Segment: 28 Stations
 Greenland Segment: 4 Stations
G-I-UK Barrier: 2 Iceland-based radars (under operational control of CINCLANT).

BMEWS: 3 Sites

OTH Radar System:
 Transmitter Sites: 4 Sites
 Receiver Sites: 5 Sites

SLBM Detection and Warning System 7 Stations

Long Range Radars: 101 (Includes 2 FAA radars)

AEW&C Stations: 1 Southern Florida (manned randomly by EC-121Q aircraft)
5 West Coast (manned randomly by EC-121D aircraft)
4 East Coast (no aircraft available for peacetime station manning)

NORAD Space Defense Center (SDC)

Space Detection and Tracking System (SPADATS)
US Naval Space Surveillance System (NAVSPASUR)
USAF SPACETRACK System
CF ADC Baker-Nunn Camera

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Nuclear Biological Chemical Warning and Reporting System (NBCWRS)

NORAD Forward Automated Reporting System (NFARS)

NORAD Automated Forward Tell Output to Canada (NAFTOC)

NORAD Attack Warning System (NAWS)

Civil Defense Warning Systems

(S) COMMAND AND CONTROL

Combat Operations Center: 1
NORAD Region Control Centers: 8
NORAD Control Centers: 19
SAM Fire Coordination Centers: 10

(S) NORAD/CONAD MANPOWER

	ASSIGNED	AUTHORIZED
NORAD Headquarters:	1,009	1,012
NORAD Regions, except Alaskan:	662	699
Alaskan NORAD Region:*	2,687	2,735
SPASUR:	121	130
Component Forces (Regular):	75,844	78,582
National Guard:	17,867	20,173
M-Day Mobilization:	754	4,766
TOTAL:	98,944	108,097

* (S) These figures represent assigned personnel in the dual role capacity of supporting CINCNORAD and CINCAL functions.

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GLOSSARY

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GLOSSARY OF ABBREVIATIONS

AA	Attack Assessment
AAC	Alaskan Air Command
AADCP	Army Air Defense Command Post
AB	Air Base
ABM	Anti-Ballistic Missile
ABMIS	Airborne Ballistic Missile Intercept System
ABNCP/DPC	Airborne Command Post and Data Processing Center
AC&W	Aircraft Control and Warning
AD	Air Division
ADA	Air Defense Area; Air Defense Artillery
ADC	Aerospace Defense Command
ADC-CC	Aerospace Defense Command Computer Center
ADIZ	Air Defense Identification Zone
ADMS	Air Defense Missile Squadron
ADR	Automatic Digital Relay
AEW&C	Airborne Early Warning and Control
AFB	Air Force Base
AFR	Air Force Regulation
AFS	Air Force Station
AFSC	Air Force Systems Command
ALCOM	Alaskan Command
ALCOP	Alternate Command Post
ANG	Air National Guard
ANMCC	Alternate National Military Command Center
ANR	Alaskan NORAD Region
ARADCOM	Army Air Defense Command
ARNG	Army National Guard
ARPA	Advanced Research Projects Agency
ARSR	Air Route Surveillance Radar
AS	Air Station
ASW	Anti-Submarine Warfare
ASC	ARADCOM Support Center
AUTOSEVOCOM	Automatic Secure Voice Communications
AUTOVON	Automatic Voice Network
AWACS	Airborne Warning and Control System

BAS	Bomb Alarm System
BMD	Ballistic Missile Defense
BMDC	Ballistic Missile Defense Center
BMEWS	Ballistic Missile Early Warning System
BSSC	Battle Staff Support Center
BUIC	Back-Up Interceptor Control
CADIZ	Canadian Air Defence Identification Zone
CANFORCEHED	Canadian Forces Headquarters
CANUS	Canada-United States Intelligence Estimate
CANUSAD	Canada-United States Cooperative Studies on Aerospace Defense
CC	Combat Center; Control Center
CCOC	CONAD Combat Operations Center
CCTV	Closed Circuit Television
CDS	Chief of Defence Staff (Canada)
CEL	Combat Evaluation Launch
CF	Canadian Forces
CFB	Canadian Forces Base
CF ADC	Canadian Forces Air Defence Command
CF HQ	Canadian Forces Headquarters
CIM	Coffin (Horizontally Stored) Interceptor Missile
CINC	Commander in Chief
CINCAL	Commander in Chief, Alaska
CINCLANT	Commander in Chief, Atlantic
CINCNORAD	Commander in Chief, North American Air Defense Command
CINCONAD	Commander in Chief, Continental Air Defense Command
CINCSAC	Commander in Chief, Strategic Air Command
CINCSO	Commander in Chief, United States Southern Command
CINCSTRIKE	Commander in Chief, United States Strike Command
CMC	Cheyenne Mountain Complex
CNR	Central NORAD Region
COC	Combat Operations Center

COEC	CONAD Operational Employment Concept
CONAD	Continental Air Defense Command
CONUS	Continental United States
CP	Command Post
CSAF	Chief of Staff, United States Air Force
CQR	CONAD Qualitative Requirement
CR	CONAD Region
CY	Calendar Year
DA	Department of the Army
DCA	Defense Communications Agency
DCP	Development Concept Paper
DCS	Deputy Chief of Staff; Defense Communications System
DEFCON	Defense Readiness Condition
DEW	Distant Early Warning
DIA	Defense Intelligence Agency
DOB	Dispersed Operating Base
DOD	Department of Defense
DOT	Department of Transportation (U.S.); Department of Transport (Canada)
DSP	Defense Support Program
D&W	Detection and Warning
EAM	Emergency Action Message
EAP	Emergency Action Procedures
ECCM	Electronic Counter-Countermeasures
ECM	Electronic Countermeasures
ENR	Eastern NORAD Region
EOC	Early Operational Capability
ERD	Equipment Readiness Date
ESD	Electronic Systems Division
ESS	Electronic Solid State
ETR	Eastern Test Range
FAA	Federal Aviation Agency
FCC	Fire Coordination Center
FD	Frequency Diversity
FIS	Fighter Interceptor Squadron

FOBS	Fractional Orbital Bombardment System
FOC	Full Operational Capability
FY	Fiscal Year
GE	General Electric
GFE	Government-Furnished Equipment
G-I-UK	Greenland-Iceland-United Kingdom
IAP	International Airport
IAW	In Accordance With
IC	Interim Capability
ICBM	Intercontinental Ballistic Missile
IDHS	Intelligence Data Handling System
IMI	Improved Manned Interceptor
IOC	Initial Operational Capability
JCC	Joint Control Center
JCS	Joint Chiefs of Staff
JFM	Joint Force Memorandum
JOTF	Joint Operations Task Force
JPC	Joint Policy Committee
JSIPS	Joint Continental Defense Systems Integration Planning Staff
JTD	Joint Table of Distribution
LDS	Launch Detection System
LE	Launch Emplacement
LRR	Long Range Radar
MCC	Canada-United States Military Cooperation Committee
MCCC	Manual CONAD Control Center
MDC	Manual Direction Center; Missile Direction Center
MCP	Military Construction Program
MEECN	Minimum Essential Emergency Communications Net
MNCC	Manual NORAD Control Center

MOSS	Modification of SLBM Software
MSR	Missile Site Radar
NACP	NORAD/CONAD Airborne Command Post and Data Processing Center
NADOP	North American Aerospace Defense Objectives Plan
NAVSPASUR	Naval Space Surveillance
NAWS	NORAD Attack Warning System
NBC	Nuclear, Biological, Chemical
NBCWRS	Nuclear, Biological, Chemical Warning and Reporting System
NCA	National Command Authorities
NCMC	NORAD Cheyenne Mountain Complex
NCOC	NORAD Combat Operations Center
NCS	NORAD Computer System
NEACP	National Emergency Airborne Command Post
NGB	National Guard Bureau
NMCC	National Military Command Center
NMCS	National Military Command System
NNR	Northern NORAD Region
NOEC	NORAD Operational Employment Concept
NORAD	North American Air Defense Command
NORIP	NORAD Intelligence for Planning
NSA	National Security Agency
NQR	NORAD Qualitative Requirement
NR	NORAD Region
NUDET	Nuclear Detonation
NXPO	Nike X Project Office
OJT	On-the-Job Training
OMB	Office of Management and Budget
OPSTAR	Operational Status Reporting System
OPLAN	Operation Plan
OPORD	Operation Order
ORI	Operational Readiness Inspection
OSD	Office of the Secretary of Defense
OTHB	Over-The-Horizon Backscatter
OTHF	Over-The-Horizon Forward Scatter (440L)

PACAF	Pacific Air Forces
PAR	Perimeter Acquisition Radar
PBD	Program Budget Decision
PBX	Private Branch Exchange
PCD	Program Change Decision
PCS	Permanent Change of Station
PJBD	Permanent Joint Board on Defense Canada-United States
PM	Policy Memorandum
RA	Regular Army
RADC	Rome Air Development Center
RAF	Royal Air Force
RCC	Region Control Center
R&D	Research and Development
RDT&E	Research, Development, Testing and Evaluation
RMC	Resource Management Center
ROC	Required Operational Capability
ROD	Required Operational Date
ROK	Republic of Korea
ROKAF	Republic of Korea Air Force
SABMIS	Sea Based Ballistic Missile Intercept System
SAC	Strategic Air Command
SAFSCOM	Safeguard System Command
SAFSO	Safeguard System Office
SAGE	Semi-Automatic Ground Environment
SATCON	Satellite Readiness Condition
SCAN	Switched Circuit Automatic Network
SCC	Space Computational Center
SCCF	Satellite Communications Control Facility
SDC	Space Defense Center
SDP	Special Defense Program
SIOP	Single Integrated Operational Plan
SIS	Satellite Intercept System
SLBM	Sea Launched Ballistic Missile
SLBM D&W	Sea Launched Ballistic Missile Detection and Warning (474N)

SM	Staff Memorandum
SMAMA	Sacramento Air Materiel Area
SMD	System Management Directive
SNR	Southern NORAD Region
SPADATS	Space Detection and Tracking System
SRE	System Readiness Exercise
STOP	Strategic Orbit Point
SSO	Special Security Office
TDP	Technical Development Plan
TDY	Temporary Duty
TFS	Tactical Fighter Squadron
TS	Transmitter Site
TTR	Target Tracking Radar
UCP	Unified Command Plan
UE	Unit Equipment
UHF	Ultra High Frequency
USAF	United States Air Force
USARAL	United States Army Alaska
USCINCSO	Commander in Chief, United States Southern Command
USSOUTHCOM	United States Southern Command
USSR	Union of Soviet Socialist Republics
VAS	Voice Alert System
VHF	Very High Frequency
VLF	Very Low Frequency
WNR	Western NORAD Region



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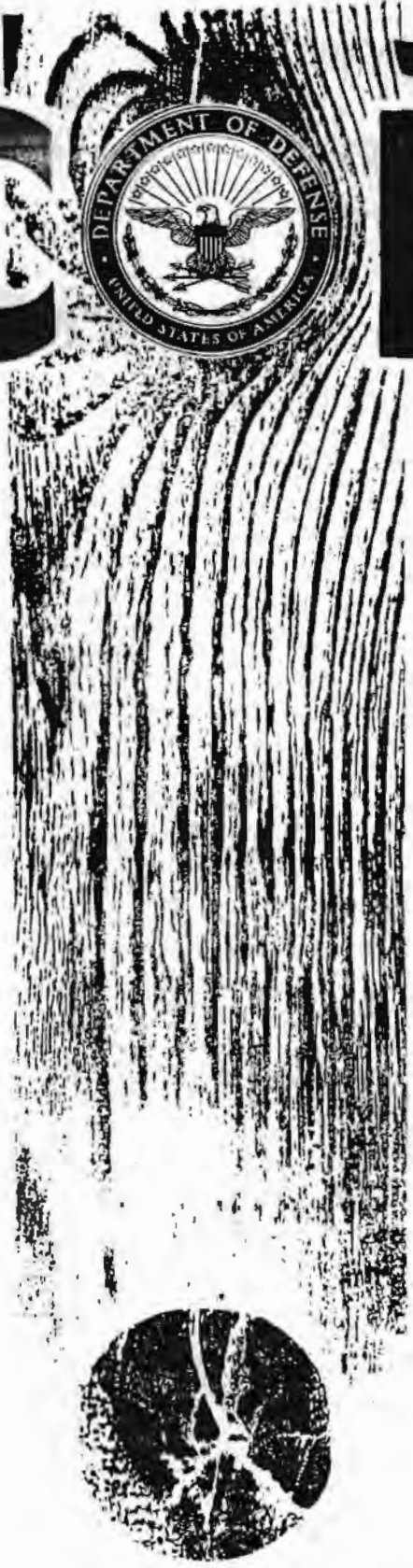
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1971

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NORTH AMERICAN AEROSPACE DEFENSE COMMAND



17 MAR 1999

MEMORANDUM FOR NORAD/USSPACECOM/HO

FROM: N/J3V

SUBJECT: Declassification of CONAD Histories 1970 and 1971

1. The following information for CONAD History for 1970 should remain classified. All other information is unclassified.

a. Page 7, paragraph 2. (1) on the left side of the page. Reason 1.5 (a, b), recommend this information be exempt from declassification for reason X4. X6.

b. Pages 76 to 79, paragraphs 1 and 2, remain classified reason 1.5 (d).

c. Page 81, paragraph 3 remains classified by reason 1.5 (c).

d. Pages 83 to page 86, last paragraph. USSPACECOM and AFSPACE own these systems and they should review this section.

e. Pages 91 to 98, Ballistic Missile Defense Organization (BMDO) or USSPACECOM/J5B should review this section.

f. Pages 99 to 102, USSPACECOM should review.

2. The following information for CONAD History for 1971 should remain classified. All other information is unclassified.

a. Pages 74 and 75, "Deployment Bases in Canada." Reason 1.5 (a), recommend this information be exempt from declassification for reason X4.

b. Pages 111 and 112, paragraphs 1 to 4, USSPACECOM or AFSPACE should review this section.

c. Page 115, polar map remains classified for reason 1.5 (d).

d. Pages 117 to 120, remain classified for reason 1.5 (d).

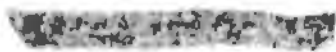
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THIS CORRESPONDENCE MAY BE
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- e. Page 121, paragraph 1 remains classified for reason 1.5 (a).
 - f. Page 121, paragraphs 2 to page 124, the last line remains classified for reason 1.5 (b and d).
 - g. Pages 125 and 126 remain classified for reason 1.5 (b).
 - h. Pages 127 to 134 remain classified for reason 1.5 (f).
 - i. Page 135, USSPACEOM should review.
 - j. Page 137, recommend USSPACECOM determine the classification of this page.
 - k. Page 153, "Change in the NORAD Attack Warning System," for reason 1.5 (a).
3. Point of contact is Lt Col Sneath, N/J3OOC, DSN 692-5471 or (719) 554-5471.

RFS

R. F. SMITH
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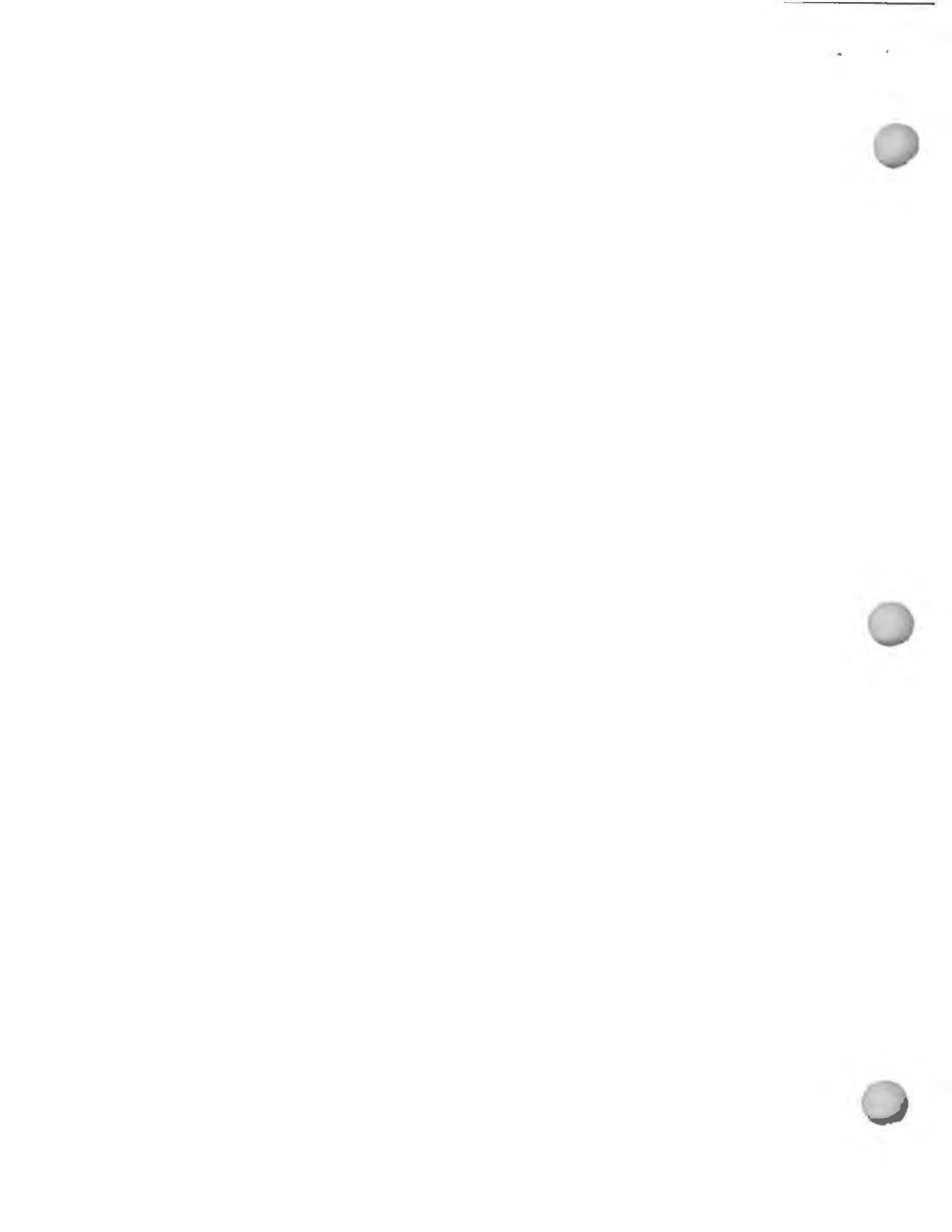
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CONTINENTAL AIR DEFENSE COMMAND

COMMAND HISTORY (U) 1971

1 JULY 1972

COMMAND HISTORY DIVISION
SECRETARY, JOINT STAFF
HEADQUARTERS CONAD

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CINCAL	1	CHCR	1
CINCEUR	1	CAPM	1
CINCLANT	1	CINT	1
CINCPAC	1	COPS	1
CINCPAC	1	COCO	1
CINCPAC	1	CLOG	1
CINCPAC	1	CPAP	1
CINCPAC	1	CPPP	1
CINCPAC	1	CPRO	1
CINCPAC	1	CPCP	1
CINCPAC	1	CELC	1
CINCPAC	1	CNPA	1
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ARADCOM	2		
USAF ADC	1		
CONAD Regions	1 each		
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	56		



GENERAL SETH J. McKEE, COMMANDER-IN-CHIEF, NORTH AMERICAN
AIR DEFENSE COMMAND/CONTINENTAL AIR DEFENSE COMMAND

PREFACE

The Continental Air Defense Command (CONAD) Command History for 1971 was prepared as required by the Joint Chiefs of Staff in SM 247-59, 5 March 1959 and SM 665-69, 3 October 1969. These memorandums require that commanders of unified and specified commands submit annually a historical report covering the calendar year.

The Command History covers both CONAD and North American Air Defense Command (NORAD) activities because of the integrated nature of the missions, responsibilities and organization of these commands. Joint Chiefs of Staff SM 922-59, 16 September 1959, provides that CONAD historical reports may cover both CONAD and NORAD activities.

1 July 1972

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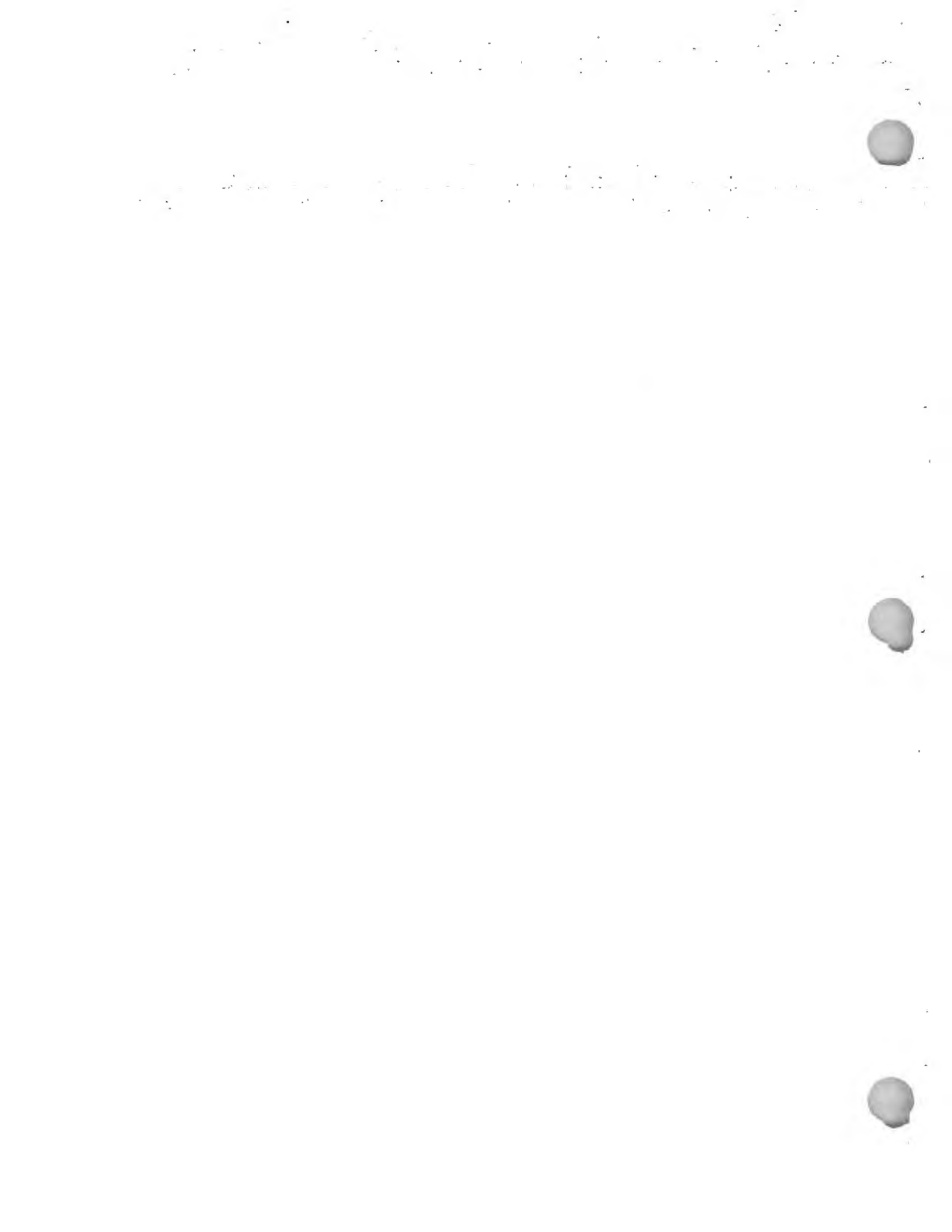
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CHAPTER I

MANNING AND ORGANIZATION

SECTION I - NORAD/CONAD MANNING

NORAD/CONAD JOINT TABLE OF DISTRIBUTION (JTD) AUTHORIZATIONS

(U) The total authorized U.S. and Canadian Forces (CF) personnel strength for Headquarters (Hq) NORAD/CONAD and the regions was 1,711 as of 31 December 1970. There was a net reduction of 39 JTD authorized spaces resulting in a headquarters and region total of 1,672 at the end of CY 1971 (see table next page and headquarters and region manning sections).¹

HEADQUARTERS MANNING

(U) The 31 December 1970 Hq NORAD/CONAD authorized strength was 1,012, consisting of 978 U.S. and 34 CF spaces. The Annual Manpower Submission for FY 1972, which included proposed joint tables of distribution for the headquarters and the regions, proposed 952 U.S. spaces for the headquarters.² This decrease of 26 U.S. spaces would result from the transfer of 27 spaces from

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1. Total 1971 NORAD/CONAD manpower is shown on page 28.
 2. Ltr, Hq NORAD to JCS, "NORAD/CONAD Annual Manpower Submission (U)," 20 January 1971 (3 X 4 - Command History archive file numbers).

NORAD/CONAD HEADQUARTERS AND REGION

AUTHORIZED MANPOWER SPACES

	<u>31 December 1970</u>	<u>31 December 1971</u>
Headquarters	1,012 (34 CF)	986 (34 CF)
Regions	699 (378 CF): ¹	686 (358 CF): ¹
20th	54	53
21st	48 (12 CF)	47 (12 CF)
22d	308 (230 CF)	269 (210 CF)
23d	86 (46 CF)	86 (46 CF)
24th	78 (46 CF)	107 (46 CF)
25th	81 (44 CF)	81 (44 CF)
26th	<u>44</u>	<u>43</u>
Totals	1,711 (412 CF)	1,672 (392 CF)

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1. The Alaskan Region is not included because personnel were assigned to perform the dual role of supporting Commander-in-Chief, Alaska, and CINCNORAD functions and were not included in the NORAD/CONAD JTD authorizations.

the headquarters to the 24th Region for the CONAD Alternate Command Post (ALCOP) and the addition of one civilian space to the headquarters for DCS/Intelligence.¹

(U) The JCS approved the joint tables of distribution in the manpower submission to become effective 1 July 1971.² The 1 July 1971 Headquarters JTD listed 952 U.S. and 34 CF spaces, for a total of 986. This remained the authorized strength at the end of CY 1971.

REGION MANNING SUMMARY

(U) The 31 December 1970 NORAD/CONAD region JTD authorizations totalled 699, consisting of 321 U.S. spaces and 378 CF spaces. The FY 1972 Annual Manpower Submission (providing for the headquarters and the regions) requested 347 U.S. spaces for the regions. The increase of 26 U.S. spaces would result from the transfer of 27 spaces from the headquarters to the 24th Region for the CONAD ALCOP and deletion of one space from the 21st Region (page 6).³ The JCS approved the region manning to become effective 1 July 1971.

(U) The 1 July 1971 Region JTD showed 706 spaces for the regions, an increase of seven spaces over the end of CY 1970 total. The total of 706 consisted of 347 U.S. spaces (an increase of 26 as explained above) and 359 CF spaces (a decrease of 19 spaces). Nineteen CF

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1. (U) The additional civilian authorization would not change the total headquarters civilian authorizations (233) because one civilian space (from DCS/Plans and Programs) was included among the 27 spaces to be realigned to the 24th Region. The command civilian authorization total would increase from 264 to 265.
 2. Msg, JCS to CINCNORAD, 7704, 011728Z April 1971 (3 X 4).
 3. (U) Hq CONAD transferred 27 spaces and the 20th and 26th Regions each transferred one space to the 24th Region to provide a total of 29 spaces required for use in manning the ALCOP (CONAD Command History, 1970, pp. 8-10).

spaces were dropped from the 22d NORAD Region (NR) authorization as a result of dual hating.

(U) Twenty additional spaces (19 USAF and 1 CF) were deleted from the 22d NR authorization effective 1 October 1971 (22d NR JTD Amendment 2), following CF assumption of manning of the Goose Bay Manual NORAD Control Center. The resulting total region authorization was 686. This remained the total spaces authorized at the end of CY 1971.

DELETION OF REGION JTD AUTHORIZATIONS

(U) 22d NR. Deletion of spaces from the 22d NR JTD effective 1 July 1971 and 1 October 1971 involved actions concerning mainly the Goose Bay Manual NORAD Control Center (MNCC). The MNCC was established in 1970 following discontinuance of the 37th Air Division, Goose AB, Labrador, by designating the USAF ADC radar station at Melville AS (C-24) as the Melville MNCC. The MNCC was redesignated Goose Bay MNCC and the station redesignated CF Station Goose Bay on 1 September 1971.¹

(U) The MNCC was established as a co-manned NORAD element with 38 spaces, 19 USAF and 19 CF. The 38 spaces were added to the 22d NR JTD effective 17 April 1970 (22d NR JTD, Change 3, 25 May 1970). However, at CF Hq request, 18 of the 19 CF spaces were dual hatted (CF Air Defence Command to NORAD) and deleted from the 22d NR authorization effective 1 July 1971.² The MNCC commander, CF 06, remained on the 22d NR authorization. Also at this time, one additional region space was dual hatted and deleted from the region authorization at CF Hq request.³ Thus, the region authorizations were reduced by 19 spaces effective 1 July 1971.

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1. 22d NR Special Order G-30, 4 November 1971 (4).
 2. Interview, Mr. L. H. Buss, Command Historian, with Major J. R. Smith, NAMO, 2 December 1971.
 3. Ibid.

(U) Hq USAF proposed in December 1970 to deactivate radar station C-24 for economy reasons. CF Hq proposed operation and manning of the station on a cost-sharing basis with the U.S.¹ An agreement between the U.S. and Canada was concluded and CF Air Defence Command (ADC) assumed responsibility on 1 July 1971 for the radar and the MNCC.

(U) USAF Hq immediately withdrew the 19 U.S. spaces that had been authorized the MNCC. These 19 spaces plus the commander of the MNCC (CF 06) were deleted from the region authorization effective 1 October 1971 (22d NR JTD, Amendment 2). Thus, in all, 39 spaces were deleted from the 22d NR authorization (19 on 1 July and 20 on 1 October).

(U) Hq NORAD Request for MNCC USAF Spaces. Before being advised that Hq USAF had withdrawn the 19 U.S. spaces, Hq NORAD proposed to the JCS that six of the spaces be reallocated within the command, one to each Continental U.S. (CONUS) region, and the other 13 spaces be returned to the Air Force.² Hq NORAD wanted six USAF E-7 Exercise Simulation Supervisors. Because the 19 spaces had already been withdrawn, Hq NORAD withdrew its request on 16 August for realignment of the six spaces.³

(U) Hq NORAD then requested that the JCS increase the manpower authorization for each of the six CONUS regions by one USAF E-7 position.⁴ The JCS did not approve, however, explaining that budgetary and manpower

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1. See Chapter III for further details.
 2. Ltr, Hq NORAD to JCS, "Melville Manual NORAD Control Center Manpower Authorizations (U)," 6 July 1971 (4).
 3. Msg, Hq NORAD to JCS, NAPM, 161805Z August 1971 (4); Interview, Mr. Buss with Major J. R. Smith, NAPM, 18 August 1971.
 4. Ltr, Hq NORAD to JCS, "Additional Manpower for the NORAD Regions (U)," 18 August 1971 (4).

constraints precluded an increase.¹ The JCS stated that the request was valid and that the six spaces should be provided from Hq NORAD/CONAD or the regions. No further action had been taken by the end of CY 1971.

(U) 21st NR. The 21st NR had an overage of one U.S. Army (USA) Operations Staff Officer. Hq NORAD advised that one of the two USA Operations Staff Officer positions allocated the region would be deleted effective 1 July 1971.² The region recommended, however, that the single NORAD authorization in the Region Public Affairs office, a USA 05, be deleted instead of either of the operations officers.³ The other position in the Public Affairs office, the Director (USAF 05), was dual hatted, ADC to NORAD, and not on the region authorization.

(U) Hq NORAD agreed, advising that it would withdraw the region authorization in Public Affairs, but the Public Affairs function was to be retained.⁴ The dual hatted Director was to assume the region functional responsibilities. The 21st NR USA 05 Public Affairs JTD authorization was deleted effective 1 July 1971.

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1. Msg, JCS to CINCNORAD, 5267, 202129Z September 1971 (4).
 2. Msg, Hq NORAD to 21 NR, NAMO, 192145Z February 1971 (4).
 3. DF, DCS/Personnel to C/S, "Deletion of Manpower Authorizations and Review of Region Public Affairs Function," 22 March 1971 (4).
 4. Msg, Hq NORAD to 21 NR, NAMO, 262057Z March 1971 (4); (U) Because of the 21st NR response, Hq NORAD queried each CONUS region on the requirement for keeping the NORAD authorization in Public Affairs. Four regions recommended retention; two (20th and 21st) recommended deletion. Hq NORAD replied that it contemplated no action at the time, but in the event of a manpower reduction, the regions would again be queried on the matter.

PLANNED REDISTRIBUTION OF REGION CONTROL CENTER CF AUTHORIZATIONS

(U) The boundaries of the four northern border regions, the 21st, 23d, 24th, and 25th, included Canadian territory (see map, page 26). The 21st NR boundary included the least amount of Canadian territory and when the current regions were established in November 1969, no CF personnel were allocated for the 21st NR Control Center.¹ The other three border regions each had 28 CF personnel authorized for their control centers.

(U) Major General W. K. Carr, CF, who assumed the position of Hq NORAD DCS/Operations in August 1971, examined the region CF authorizations and recommended shifting some CF personnel from the 23d, 24th, and 25th Regions to the 21st Region.² Shortly after this recommendation, the 21st Region Commander, Major General George V. Williams, USAF, (see chart page 27) recommended that 23 CF spaces be authorized the 21st NR by reassigning spaces from the other three border regions.³ General Williams pointed out that while the 21st had only one CF ADC unit (radar site C-102, Barrington, Nova Scotia) under its operational control, the Canadian airspace within the region encompassed a major area of Canada's industrial heartland and several of its population centers. The 21st Region was having problems, he stated, because of personnel rotation and the demands of overseas requirements which resulted in a lack of depth of experience. CF personnel would provide stability and experience.

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1. (U) The 21st NR had a total of 12 CF personnel assigned, the 23d and 24th NRs each had 46, and the 25th NR had 44.
 2. NAPM Historical Report, September-October 1971 (959.1).
 3. Ltr, 21st NR to CINCNORAD, "Readjustment of CF Personnel - NORAD Region," 13 October 1971 (4).

(U) Hq NORAD evaluated the situation and determined that the 21st Region should be authorized an additional 19 CF spaces. The 23d, 24th, and 25th Region Control Centers, it was planned, would be reduced by seven CF spaces each, for a total of 21.¹ Eighteen of these spaces would be allocated to the 21st NR Control Center (three officers and 15 enlisted spaces) and three enlisted spaces would be allocated to Hq NORAD for the Combat Operations Center. The 21st would be allocated one more CF space for its North Truro BUIC NORAD Control Center (BNCC) by transferring one space from the 23d Region's Calumet BNCC.

(U) The four regions involved were informed of this realignment on 4 November and asked for their comments.² The 23d NR replied that it viewed the realignment with deep regret; the 24th NR answered that the shift would have an adverse effect on its capability; the 25th stated that it supported any realignment that would enhance NORAD's overall effectiveness but would be sorry to lose such competent, dedicated personnel; and the 21st NR said it was gratified and while the number of spaces to be allocated did not meet the original request, it would solve the region's problems to a considerable degree.

(U) Prior to presentation of the proposal to CF Hq, the plan to transfer one CF space from the Calumet BNCC to the North Truro BNCC was dropped as undesirable for the 23d Region. The proposed realignment of 21 CF spaces (18 to the 21st NR and 3 to Hq NORAD) was submitted to the Chief of the Defence Staff (CDS) on 8 December to be accomplished during normal rotation in the summer of

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1. (U) The Control Center CF authorizations in the 23d, 24th, and 25th Regions would be reduced from seven officers and 21 enlisted spaces to six officers and 15 enlisted spaces.
 2. Ltr, Hq NORAD to 21st, 23d, 24th and 25th Rgns, "Canadian Forces Manpower Resources in CONUS," 4 November 1971 (4).

1972 insofar as practicable.¹ CF Hq approved the recommended redistribution on 10 January 1972.²

REGION SENIOR DIRECTOR AUTHORIZATIONS

(U) On 26 October 1971, a Cuban Russian-built AN-24 aircraft made an unauthorized flight from Havana to New Orleans, Louisiana. The Cubans came to attend a conference of the International Society of Sugar Cane Technologists despite the fact that the State Department had refused to issue visas to the Cubans. Because of the nature of the situation (see Chapter IX), hearings were held by the Investigating Subcommittee of the House Armed Services Committee. General Seth J. McKee, CINCNORAD, testified on the matter on 9 November 1971.

(U) One of the questions raised by sub-committee-member Representative Otis G. Pike (D.-New York) was why a captain was serving as senior director at the responsible region control center (20th NR, Ft. Lee, Virginia) at the time of the incident. Hq NORAD provided information to the JCS on the manning situation on 16 November to fully answer the question. Hq NORAD explained that the ADC unit manning document authorized field grade positions for duty as senior director.³ This position required an officer with the AFSC⁴ of 1716, Weapons Director Staff Officer, trained and operationally ready. Qualified field grade officers had not been available for this duty until the recent program for retraining rated officers because of Southeast Asia

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1. Ltr, Hq NORAD to CDS, "Canadian Forces Manpower in CONUS," 8 December 1971 (4).
 2. Msg, CANFORCEHED to CINCNORAD, DCG, 101720Z January 1972 (4).
 3. Msg, Hq NORAD to OJCS, NOOP, 161725Z November 1971 (52 X 4).
 4. AFSC - Air Force Specialty Code.

commitments. Because of the rated officer program, the region control center was being staffed with enough field grade officers to fill the authorized positions. Upon completion of training requirements, the control center would have a field grade officer for each crew on duty. A major was assigned to the crew on duty at the time of the incident, but he was in a training status and therefore not serving as senior director.

(U) Hq NORAD advised ADC on 16 November that manpower authorizations for senior directors in the region control centers was a subject of discussion at the recent NORAD Commanders Conference and that CINCNORAD desired that the authorizations for all centers be reviewed.¹ ADC was directed to provide the number and grades of senior directors authorized and its manning rationale. ADC replied that in the AFSC 1716 (Weapons Director Staff Officer) field, one colonel, three lieutenant colonels and seven majors were authorized each region control center.² Each center was authorized 20 captains (1744 Weapons Controllers). When field grade officers were assigned who were not currently qualified or if a vacancy existed in the AFSC 1716 field, an experienced Weapons Controller, AFSC 1744B, determined to be operationally qualified, was authorized to act as Senior Director. There were no directives which specifically required the Region/Air Division Commander to use his authorizations in a prescribed manner. He managed his resources as he deemed appropriate and selected those personnel whom he felt best qualified for the critical positions.

(U) The upshot was that CINCNORAD provided instructions to ADC on Senior Director manning:³

1. Ltr, Hq NORAD to ADC, "Senior Director Authorizations," 16 November 1971 (52 X 4).
2. DF, NAMO to NHCS, NHCR, "Senior Director Authorizations," 3 December 1971 (52 X 4).
3. Ltr, CINCNORAD to ADC, "Senior Director Authorizations (Region Control Centers)," 15 December 1971 (52 X 4).

. . . it appears both appropriate and necessary that the positions of Senior Directors be explicitly designated as field grade positions rather than permitting that element of crew composition to be solved by individual Division Commanders as a matter of management prerogative as now practiced.

It is desired that, in addition, you provide maximum effort toward the continuous assignment of field grade officers for the Senior Director positions; however, your manning and training problems are fully recognized and the temporary placement of a qualified Captain in the position of Senior Director may occasionally be required. Such use of a Captain should be the rare exception, then only for as long as absolutely essential, and this headquarters advised in each instance.

(U) ADC replied that effective 1 January 1972 it would be ADC policy that all Senior Directors of Region Control Centers would be field grade officers.¹

CIVILIAN MANNING

(U) Status. U.S. civilian authorizations totalled 264 (233 in the headquarters and 31 in the regions) as of 31 December 1970. One civilian space was added to the headquarters and one civilian space transferred from the headquarters to the 24th Region 1 July 1971, resulting in an overall total of 265 (233 in the headquarters and 32 in the regions). This remained the total at the end of CY 1971.²

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1. Ltr, ADC to Hq NORAD, "Senior Director Authorizations, Region Control Centers," 27 December 1971 (52 X 4).
 2. (U) There were also six Canadian civilians, one in the headquarters and five in the regions.

(U) U.S. Civilian Man-Year Authorizations. Hq USAF applied civilian man-year ceilings beginning in FY 1970. For FY 1971, the man-year authorization was 257, which the command never exceeded although 264 spaces were authorized. For FY 1972, the ceiling was tentatively set at 264 in February 1971.¹ The man-year authorization was raised to 265, however, in October 1971.² To assure that the man-year ceiling was not exceeded, on 22 October, the headquarters and regions were advised by Hq NORAD DCS/Personnel that requests for temporary civilian employment (overhire) would not be approved.³ The command did not exceed the man-year ceiling.

(U) Civilian Personnel Hiring Restrictions. Hq USAF advised by message on 27 October 1971 that effective with receipt of its message until further notice all civilian hiring would be limited to one for four losses, i.e., separations from the Air Force.⁴ The USAF message explained that "to conserve direct-hire civilian manpower and dollar resources, within budget availability as requested from Congress, it is imperative that employment restrictions be imposed immediately." An exception could be made if a firm commitment had been made prior to receipt of the message. Headquarters CONAD DCS/Personnel advised the headquarters and regions of this restriction.⁵ Requests

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1. Msg, Hq Comd, USAF, to 1151st USAF SPACTY Sq, 222128Z February 1971 (3).
 2. NAPM Historical Report, September-October 1971 (959.1).
 3. Ibid.; Ltr, Hq NORAD to Rgns, "Temporary Overhire of Civilian Personnel," 22 October 1971 (4).
 4. Msg, Hq Comd, USAF to 1151 USAF SPACTY Sq, et al., 271713Z October 1971 (3).
 5. Ltr, Hq CONAD to Rgns, "Civilian Personnel Hiring," 4 November 1971 (3 X 4); DF, CAMO to Staff, "Civilian Personnel Hiring," 4 November 1971 (3).

to fill vacancies created by separation losses would be held by the Director of Manpower and Organization, DCS/Personnel, until the necessary vacancies had occurred and then a decision made based on a priority need.

(U) Civilian Grade Reduction. The President, through the Office of Management and Budget (OMB), directed the executive departments and agencies to implement actions to control General Schedule (GS) civilian grade escalation and reduce average grade level.¹ An OMB bulletin pointed out that the average grade level of classified employees had risen from 7.4 in 1968 to 7.9 in 1970. The total number of employees had fallen by nearly 12,000 between 1969 and 1970, but the number of employees in grades GS-11 through GS-15 had risen by 14,600. The Secretary of Defense directed the Air Force to reduce average GS civilian grades by at least 0.1 in FY 1972 and another 0.1 in FY 1973.

(U) Hq CONAD was advised of the average grade reduction requirement by Hq Command USAF through the 1151st USAF Special Activity Squadron, the organization to which all Hq CONAD and region USAF civilian personnel were assigned.² Hq Command stated that the base period from which average grades had to be reduced was 30 June 1971. The GS average grade for the 1151st Squadron was 7.7769 as of that date.

(U) Hq CONAD DCS/Personnel advised the headquarters staff and the regions on 23 November of the requirement to reduce the average grade of GS employees.³ The average grade (for the headquarters and regions) was 7.8729 as of 1 November. The headquarters staff and the regions

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1. OMB Bulletin No. 72-4, 5 August 1971 (3).
 2. Ltr, Hq Comd to Special Activity Units, "Civilian Personnel Cost Management," 18 October 1971 (3 X 4).
 3. DF, CAMO to Staff, "Civilian Personnel Cost Management," 23 November 1971 (3); Ltr, Hq CONAD to Rgns, "Civilian Personnel Cost Management," 23 November 1971 (4).

were to provide grade averages to the Director of Manpower and Organization, DCS/Personnel, starting with a 31 December 1971 report. The overall average grade had risen slightly by 31 December to 7.9000.¹

JOINT PROJECTED MANPOWER REQUIREMENTS

(U) The NORAD/CONAD Joint Projected Manpower Requirements (JPMR) for FY 1973-1976 was included as an attachment to the FY 1972 Annual Manpower Submission forwarded to the JCS on 20 January 1971. The JPMR stated that the major portion of any manpower required would be satisfied through internal realignments; however, nine additional spaces would be required for the CONAD Intelligence and Indications Center (CIIC) Alert Teams beginning in FY 1973.

(U) The JCS accepted the JPMR for planning and programming purposes with the understanding that CINCNORAD/CINCONAD might have to furnish compensatory spaces for the nine-space increase.²

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1. (U) The slight increase in average grade resulted from the loss between 1 November and 31 December of three civilian employees from Hq CONAD whose grades were below GS-7. Grade average was determined by dividing the total number of grade points of the civilians assigned the headquarters and regions (i.e., the total number of GS-15s plus the total number of GS-14s, etc.) by the total number of GS civilians assigned. The loss of three lower grade civilians increased the total number of grade points in relation to the total number of GS civilians assigned. The total grade points as of 1 November was 2,031 and the number of GS civilians assigned was 258. Division of 2,031 by 258 produces the grade average of 7.8729. As of 31 December, the total grade points was 2,017 and the total number of GS civilians assigned was 255. This results in a grade average of 7.9000. (Interview, Mr. Buss with Capt John F. Carey, Jr., and SFC G. M. Carne, NAMO, 13 March 1972.)
 2. Msg, JCS to CINCNORAD, 7704, 011728Z April 1971 (3 X 4).

(U) Hq NORAD informed the JCS in its next Annual Manpower Submission (FY 1973-1977), 23 December 1971, that through DCS/Intelligence internal realignment effective 5 November, five spaces of the nine-space requirement had been satisfied.¹ Four additional spaces (USAF 04s) were requested for FY 1974.

ANNUAL MANPOWER SUBMISSION (FY 1973-1977)

(U) Hq NORAD forwarded the Annual Manpower Submission for FY 1973-1977 to the JCS on 23 December 1971. No additional manpower spaces were requested for the headquarters or the regions for FY 1973. Four additional USAF 04 spaces were requested for FY 1974, as noted in the preceding section. The JCS had not replied by the end of CY 1971.

SECTION II - CHANGES IN THE HEADQUARTERS STAFF

MOBILIZATION ASSISTANT TO THE CHIEF OF STAFF

(U) Hq NORAD requested the JCS and Hq USAF to amend the mobilization authorizations to include a USAF Reserve Officer position (USAF 06) as Mobilization Assistant to the Chief of Staff.² Hq NORAD explained that certain command functions required augmentation during periods of increased defense readiness conditions and greater flexibility was needed to allow for timely realignment of active duty personnel to key positions.

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1. Ltr, Hq NORAD to JCS, "NORAD/CONAD Annual Manpower Submission (FYs 73-77)," 23 December 1971 (3 X 4).
 2. Ltr, Hq NORAD to USAF, "Mobilization Day Authorization (U)," 24 February 1971 (3); Msg, CINCNORAD to JCS, NAMO, 042242Z March 1971 (3).

The new mobilization position would permit this personnel management flexibility. The JCS approved the requirement.¹ The 1 July 1971 Hq JTD listed the new position.²

REALIGNMENT OF CF POSITIONS

(U) CF positions within Hq NORAD were reviewed early in 1971 by senior Hq NORAD CF officers to determine the effectiveness of their utilization.³ Each CF officer was interviewed to determine whether the individual felt his position was being usefully employed, retention of the position for a Canadian officer was desirable, and there was optimum allocation of CF officers. The review was completed and coordinated by the end of March. The recommended changes, submitted to CF Hq on 19 April, were informally approved and were incorporated into the Hq JTD of 1 July 1971.⁴ No positions were added or lost from the headquarters. The changes included the deletion of one position from DCS/Plans and Programs and one from DCS/Communications and Electronics, the addition of these two positions to DCS/Operations, the upgrading of four positions and the downgrading of one position, as follows:

1. Deletion of the lieutenant colonel position in DCS/Plans and Programs, Directorate of Plans and Policy.

-
1. Msg, JCS to CINCNORAD, 7704, 011728Z April 1971 (3 X 4).
 2. (U) The total Hq NORAD officer Mobilization Authorizations remained eight because an Air Force 05 allocated to the Directorate of the Battle Staff Support Center was deleted effective 1 July 1971.
 3. NOPS, Memo for Brig Gen N. L. Magnusson, "Review of CF Positions on the Hq NORAD JTD," 20 January 1971 (3).
 4. Msg, Hq NORAD to CANFORCEHED, NAMO, 192315Z April 1971 (3); M/R, to NOCO (Brig Gen Magnusson), from J-1, "Revision of CF Authorizations on the Hq NORAD JTD (U)," 25 May 1971 (3); Interview, Mr. Buss with Major J. R. Smith, NAMO, 23 August 1971.

2. Deletion of the major position in DCS/Communications and Electronics, Directorate of Electronics.

3. Addition of a lieutenant colonel position in DCS/Operations, Directorate of Command and Control.

4. Addition of a major position in DCS/Operations, Directorate of Operations and Training.

5. Upgrade of the major position to lieutenant colonel in DCS/Operations, Directorate/Battle Staff Support Center.

6. Upgrade of the major position to lieutenant colonel in the Directorate of Public Affairs (Assistant for Canadian Affairs).

7. Upgrade of the captain position to major in the Directorate of Public Affairs (Presentation Division).

8. Upgrade of the captain position to major in DCS/Operations, Directorate/Battle Staff Support Center.

9. Downgrade of the lieutenant colonel position to major in DCS/Operations, Directorate of Command and Control.

DCS/INTELLIGENCE (J-2) REORGANIZATION

(U) DCS/Intelligence realigned ten positions to the Current Intelligence and Indications Center (CIIC) from other J-2 sections effective 5 November 1971 (JTD Amendment 5) to provide personnel for the CIIC in the quality and quantity required to insure around-the-clock intelligence support. Five O5 positions were realigned for managing CIIC alert teams on a 24-hour basis and five enlisted spaces were realigned to serve as 425L operators.¹

1. Interview, Mr. Buss with Capt J. F. Carey, Jr., NAMO, 13 March 1972.

(U) In addition, four high grade civilian technical advisors to the Director of Threat Assessment were realigned within this directorate to managerial and technical positions. This was done to allow for the most efficient use of these civilians.

(U) There were no changes in key positions or changes in grades or total authorizations.

UPGRADE OF DCS/INTELLIGENCE POSITION

(U) Hq NORAD requested that the DCS/Intelligence position be upgraded from USAF brigadier general to major general.¹ Hq NORAD justified the upgrading because of the increased importance of Hq NORAD intelligence functions and responsibilities and the greatly increased influence on staff planning and operations at local and national levels.

(U) The JCS approved the upgrading on 12 June 1971.² The change was issued in Change 4, 14 June 1971, to the Hq JTD of 1 July 1970. The new grade was shown in the 1 July 1971 Hq JTD.

DCS/OPERATIONS (J-3) REORGANIZATION

(U) Hq NORAD proposed reorganization of the upper echelons of DCS/Operations (J-3) to the JCS to provide for better management of the NORAD Combat Operations Center (NCOC), which came under J-3, and for better handling of CONAD matters.³ The JCS approved the reorganization on 18 October 1971.⁴ Amendment 4, 18 October 1971, to the Hq JTD established the changes.

-
1. NAPM Historical Report, May-June 1971 (959.1).
 2. Msg, JCS to CINCNORAD, JCS 7845, 120052Z June 1971 (3).
 3. Ltr, Hq NORAD to JCS, "JTD Reorganization (DCS/Operations)," 10 September 1971 (3).
 4. Msg, JCS to CINCONAD/CINCNORAD, 1884, 181713Z October 1971 (3).

(U) Prior to reorganization, J-3 had a Vice Deputy (USA 07) and two Assistant Deputy Chiefs of Staff (see chart, page 20), both Air Force positions. The assistant deputies were the Assistant DCS/Combat Operations (USAF 08) and the Assistant DCS/Operations (USAF 07).

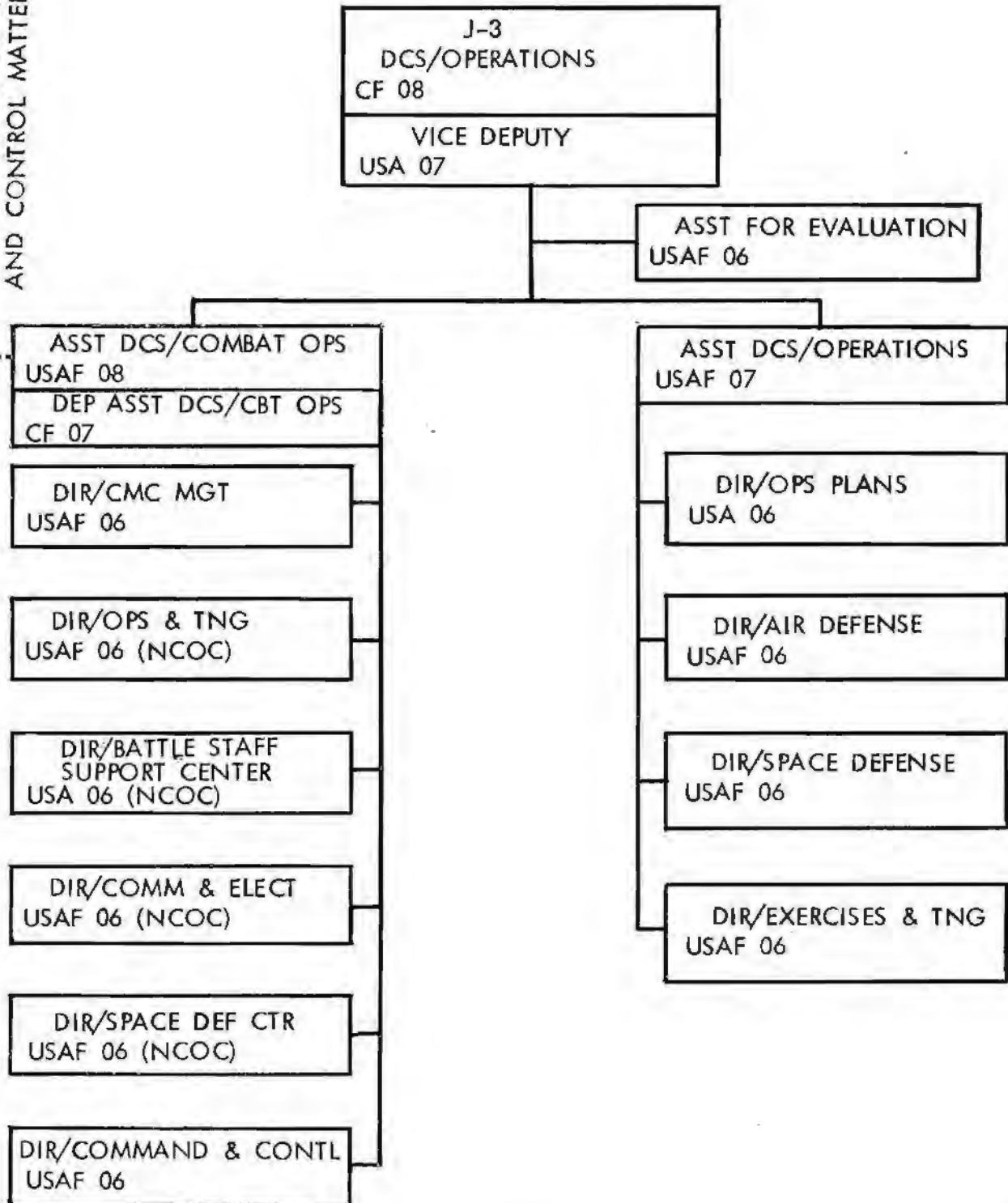
(U) The reorganization eliminated the Vice Deputy position and changed the designation of the two Assistant Deputy positions to Vice Deputies (see chart, page 21). The Assistant DCS/Combat Operations was redesignated Vice DCS/Operations for Combat Operations.¹ This position remained a USAF 08. The Assistant DCS/Operations was retitled Vice DCS/Operations for Operations. This position was changed from USAF 07 to USA 07. An Assistant DCS/Operations for Operations position (USAF 07) was established under this vice deputy. The Assistant for Evaluation position, separate from either assistant deputy under the previous organization, was also placed under this vice deputy. There were no changes in J-3 below this level.

(U) Hq NORAD explained, in its submission to the JCS, that the change would provide co-equal status for the two vice deputies, "taking into account the precept of equitable service representation in positions of influence."² Each vice deputy was responsible for NORAD and CONAD functions within his organizational area. The senior one would be named Acting DCS/Operations for NORAD in the absence of the DCS/Operations. Both vice deputies were designated DCS/Operations for CONAD matters within their areas of responsibility.³ In the absence of one vice deputy, the other would act in his stead for CONAD matters.

-
1. (U) The Deputy Assistant DCS/Combat Operations (CF 07) was retitled Deputy Vice DCS/Operations for Combat Operations.
 2. Ltr, Hq NORAD to JCS, "JTD Reorganization (DCS/Operations)," 10 September 1971 (3).
 3. Change 6, Joint Organization and Functions Book, dated 1 July 1970, 18 October 1971 (3).

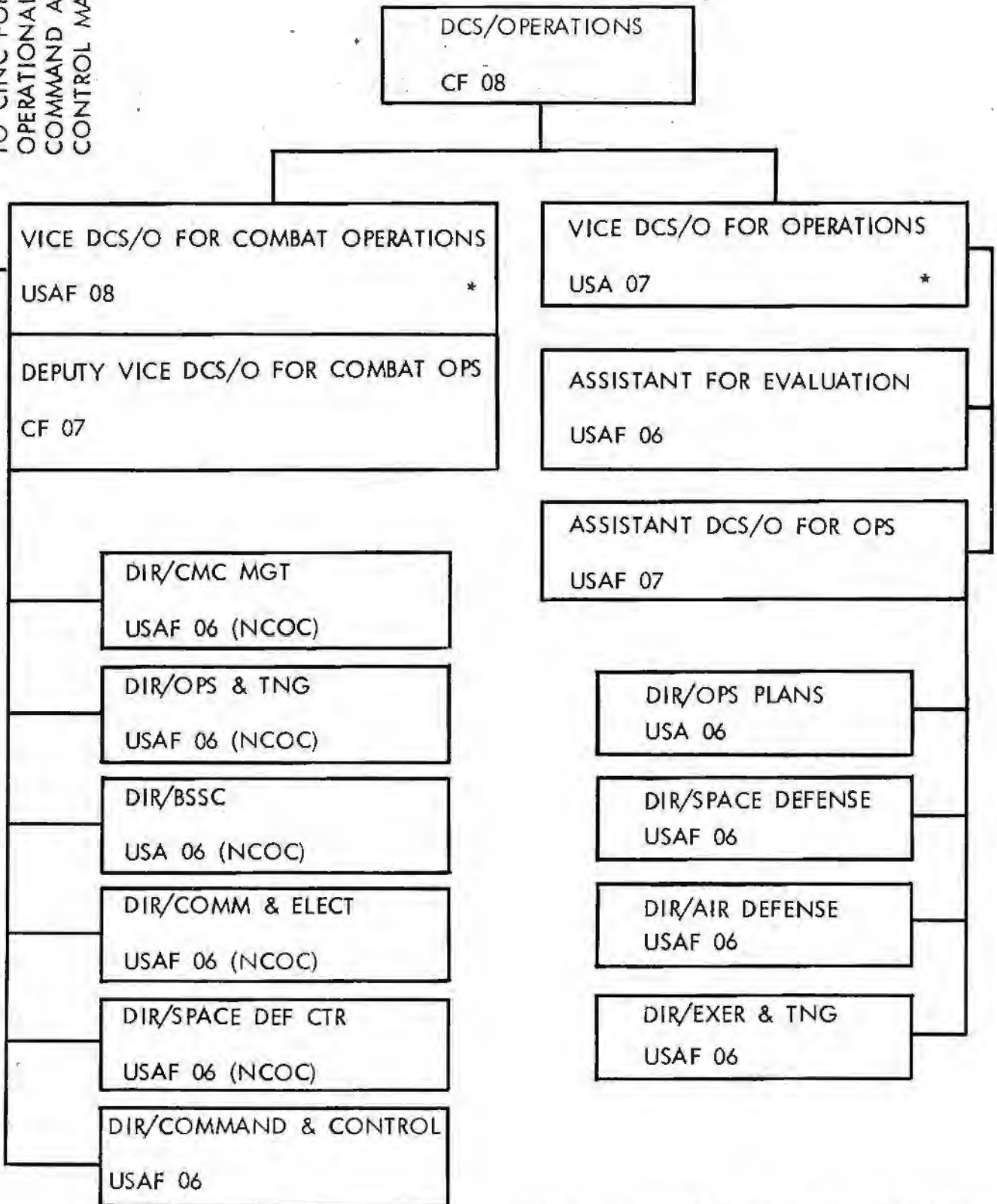
DCS/OPERATIONS ORGANIZATION PRIOR TO REORGANIZATION

TO CINC FOR OPERATIONAL COMMAND
AND CONTROL MATTERS



DCS/OPERATIONS ORGANIZATION
EFFECTIVE 18 OCTOBER 1971

TO CINCPAC FOR
OPERATIONAL
COMMAND AND
CONTROL MATTERS



*ADDITIONALLY DESIGNATED DCS/OPS FOR CONAD.

CONVERSION OF COMMUNICATIONS AND ELECTRONICS (C&E) AFSCs

(U) The JCS requested in December 1970 that all USAF Communications and Electronics (30XX) field grade positions be reviewed for the possibility of eliminating positions, combining positions, using a substitute skill, or substituting company grade.¹ The reason was a C&E personnel shortage. Hq NORAD replied that it intended to convert three USAF 05s, AFSC 3076 (Electronics Systems Officer), to less critical AFSCs in other fields.² Hq NORAD realigned the spaces in the 1 July 1971 Hq JTD from the DCS/Operations, Directorate of Communications and Electronics, to other offices and AFSCs within DCS/Operations. Two 05 spaces replaced 04s in the Directorate/Battle Staff Support Center and one 05 space was added to the Directorate of Command and Control.³

UPGRADE OF DIRECTOR OF CIVIL ENGINEERING, J-4

(U) Prior to 1966, the Director of Civil Engineering, DCS/Logistics (J-4) was a USA 06 position. The grade was reduced to 05 following a JCS Manpower Survey recommendation that there was no longer a requirement for an 06 because the NORAD Cheyenne Mountain Complex (NCOM) construction was completed. Hq NORAD included in its FY 1972 Annual Manpower Submission (20 January 1971) a request to raise the grade to 06 because of the NCOM expansion project (see Chapter VII) and the requirement for this position to monitor Safeguard deployment and to work with USAF ADC and ARADCOM Directors of Civil Engineering, both colonels.⁴ The JCS approved the upgrading. The grade was listed as USA 06 in the 1 July 1971 Hq JTD.

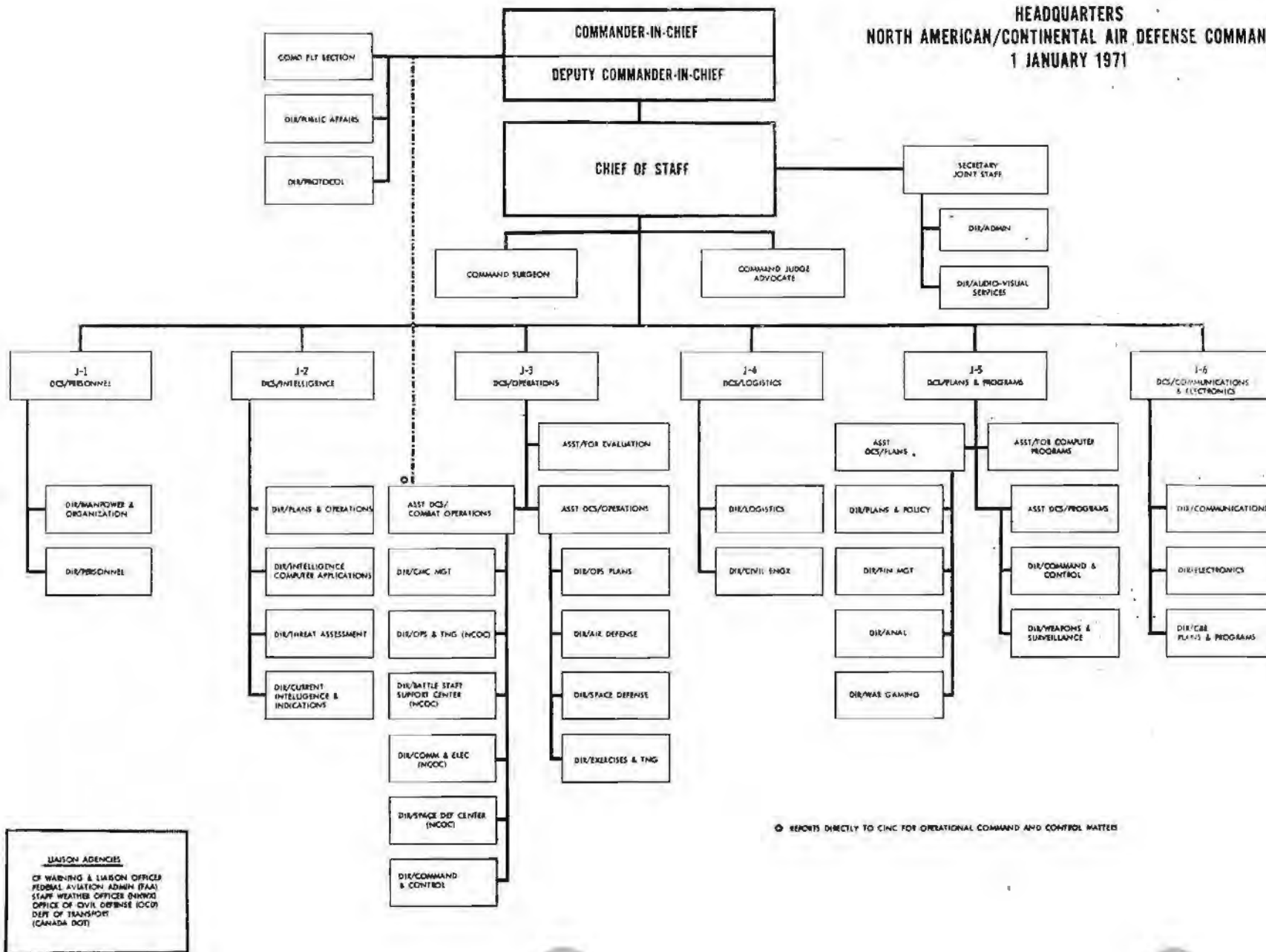
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1. NAPM Historical Report, January-February 1971 (959.1).
 2. Msg, Hq NORAD to JCS, NAMO 291630Z January 1971 (3).
 3. (U) Both 04 positions were downgraded and used within DCS/Operations.
 4. Ltr, Hq NORAD to JCS, "NORAD/CONAD Annual Manpower Submission (U)," 20 January 1971 (3 X 4).

ASSISTANT FOR COMPUTER PROGRAMS, DCS/PLANS AND PROGRAMS,
REORGANIZATION

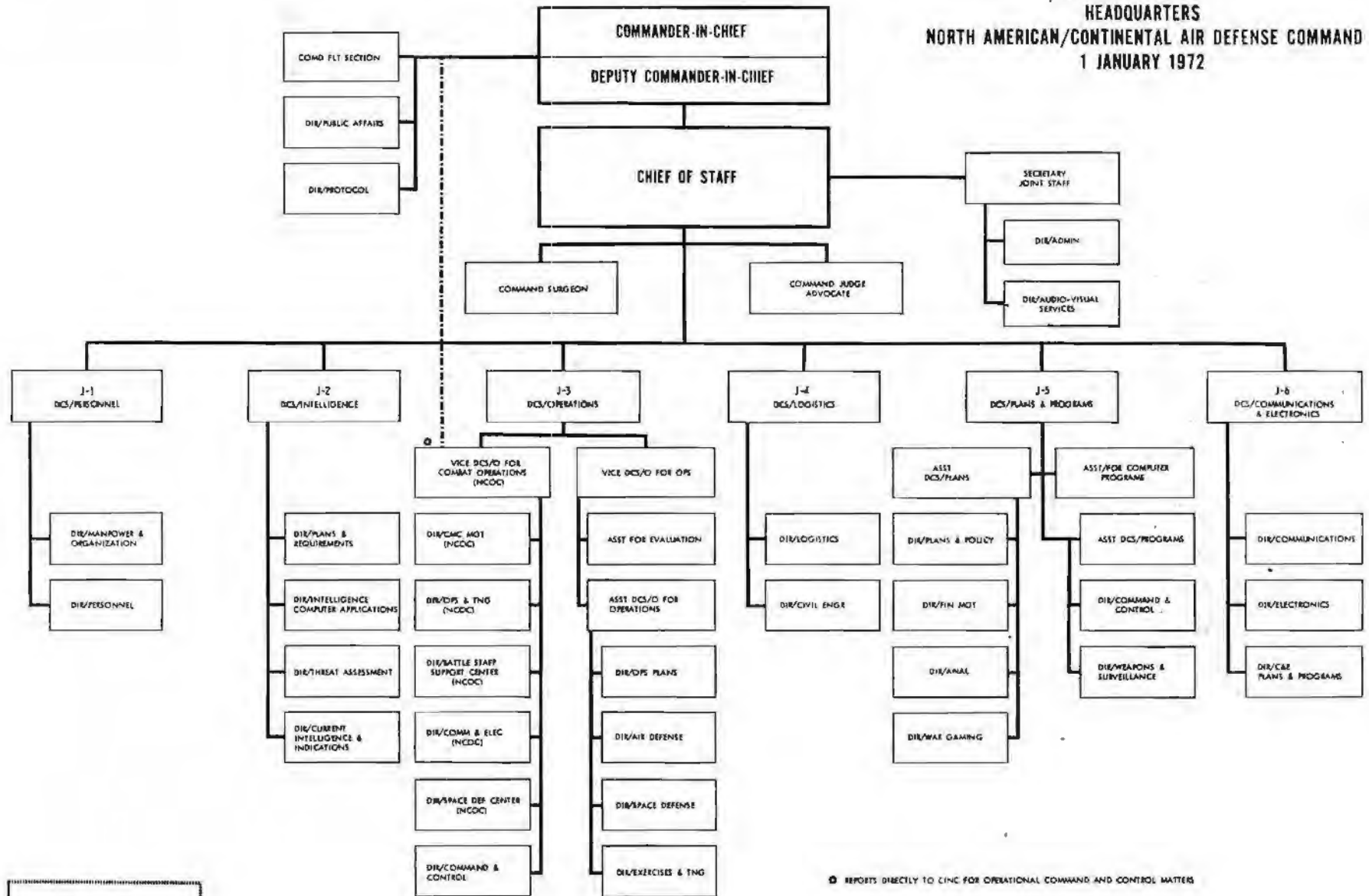
(U) As part of the Program 427M expansion and improvement of the NORAD Combat Operations Center (see Chapter VII), the existing NORAD Combat Operations System was to be replaced with a new system termed the NORAD Computer System (NCS). Development of the NCS was to be accomplished by the Assistant for Computer Programs. This would require the use of a majority of Computer Programs personnel through the 1975 time period.

(U) To provide for accomplishing this task, 39 positions were shifted from the Maintenance and Modification Division (reducing it from 80 to 41 positions) to the Advanced Systems Division (increasing it from 34 to 73 positions) effective 15 December 1971 (JTD Change 6). The Maintenance and Modification Division had four branches prior to the change. The Control Branch was deleted and the other three branches reduced. The five existing branches of the Advanced Systems Division were enlarged. A sixth branch (Requirements) and a Configuration Control Board were established in this division.

HEADQUARTERS
NORTH AMERICAN/CONTINENTAL AIR DEFENSE COMMAND
1 JANUARY 1971



HEADQUARTERS
 NORTH AMERICAN/CONTINENTAL AIR DEFENSE COMMAND
 1 JANUARY 1972



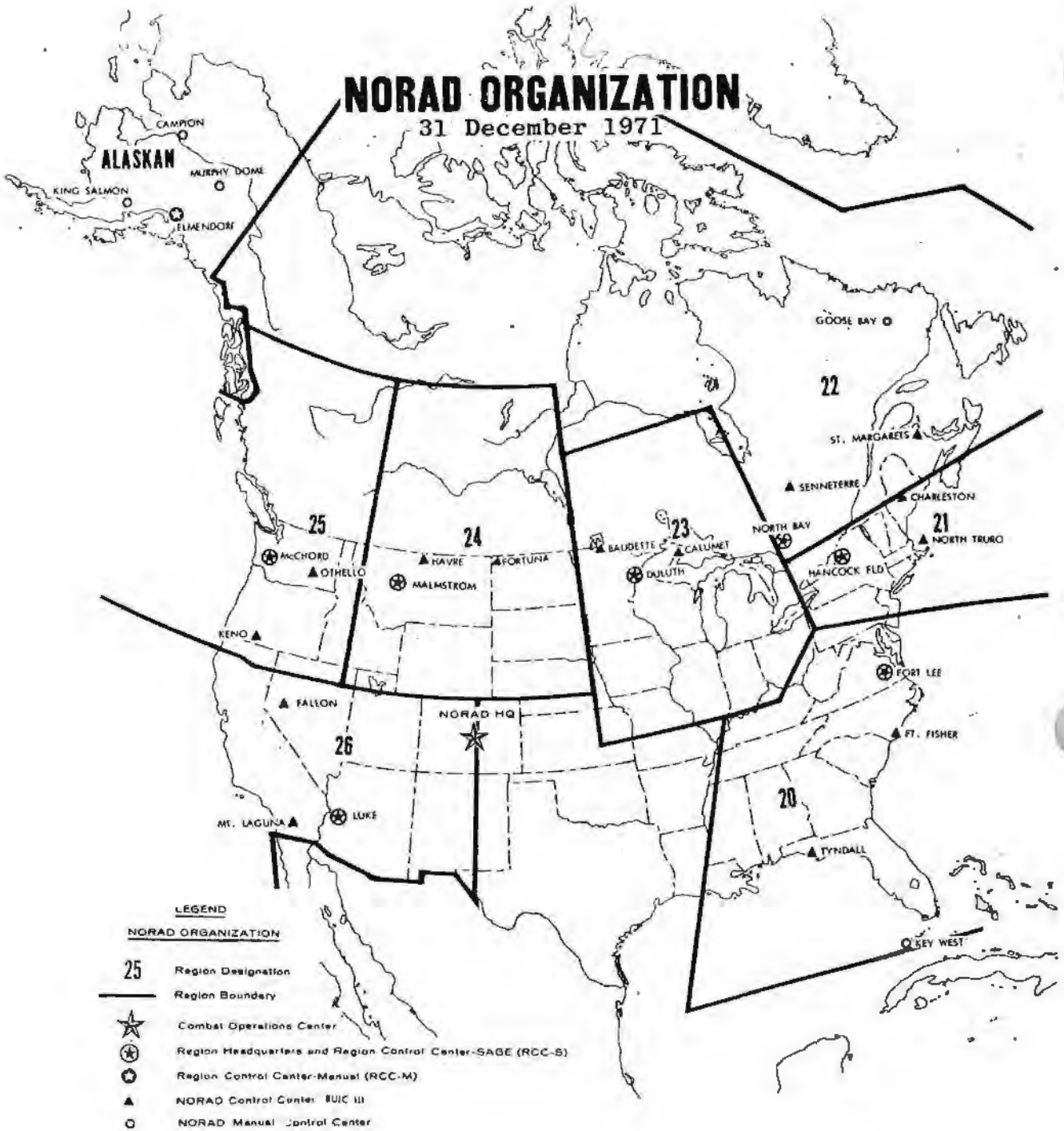
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LIAISON AGENCIES
 CF WARNING & LIAISON OFFICE
 FEDERAL AVIATION ADMIN (FAA)
 STAFF WEATHER OFFICE (SNO)
 OFFICE OF CIVIL DEFENSE (OCD)
 DEPT OF TRANSPORT
 (CANADA DOT)

① REPORTS DIRECTLY TO CINC FOR OPERATIONAL COMMAND AND CONTROL MATTERS

NORAD ORGANIZATION

31 December 1971



LEGEND

NORAD ORGANIZATION

- 25 Region Designation
- Region Boundary
- ★ Combat Operations Center
- ⊛ Region Headquarters and Region Control Center-SAGE (RCC-S)
- ⊙ Region Control Center-Manual (RCC-M)
- ▲ NORAD Control Center BUIC III
- NORAD Manual Control Center

NORAD COMMANDERS

31 December 1971

HEADQUARTERS NORAD

Gen Seth J. McKee USAF

US ARADCOM

Ent AFB, Colo.

Lt Gen R. T. Cassidy USA

USAF ADC

Ent AFB, Colo.

Lt Gen T. K. McGehee USAF

CF ADC

CFB North Bay, Ont.

Maj Gen N. L. Magnusson CF

ALASKAN NORAD REGION

Elmendorf AFB, Alaska

Lt Gen R. G. Ruegg USAF

20TH NORAD REGION

Fort Lee AFS, Va.

Maj Gen J. K. Gamble USAF

21ST NORAD REGION

Hancock Fld, N.Y.

Maj Gen G. V. Williams USAF

22ND NORAD REGION

CFB North Bay, Ont.

Maj Gen N. L. Magnusson CF

23RD NORAD REGION

Duluth IAP, Minn.

Maj Gen T. H. Barfield USA

24TH NORAD REGION

Malmstrom AFB, Mont.

Maj Gen W. S. Harrell USAF

25TH NORAD REGION

McChord AFB, Wash.

Maj Gen A. M. Burke USAF

26TH NORAD REGION

Luke AFB, Ariz.

Brig Gen J. E. Paschall USAF

NORAD/CONAD MANPOWER AUTHORIZATIONS ¹

	END FY 1970	END FY 1971	END FY 1972 ²
CONAD Hq and Rgns	1,308	1,299	1,280
ADC Regular	60,099	47,157	45,389
ADC Nat'l Guard	16,193	17,104	15,800
ADC Total	76,292	64,261	61,189
ARADCOM Regular	11,750	11,604	8,320
ARADCOM Nat'l Guard	3,820	3,821	2,713
ARADCOM Total	15,570	15,425	11,033
NAVSPASUR	130	130	120
Alaskan Region	3,057	2,136	2,085
CONAD Total	96,358	83,251	75,707
CF - NORAD Hq and Rgns	412	393 ³	392
CF ADC	13,874	13,781	12,325
NORAD Total	110,643	97,425	88,424

1. SOURCE: Hq NORAD, Directorate/Manpower and Organization, DCS/Personnel, on 1 March 1972.

2. Projected estimate.

3. Figure is as of 1 July 1971.

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CHAPTER II

GENERAL PLANS AND POLICY

CONUS AIR DEFENSE DEPLOYMENT PLAN FY 1972-1981

PURPOSE

(U) Deputy Secretary of Defense David Packard issued a memorandum to the Secretaries of the Air Force and Army and the Chairman of the JCS on 20 April 1971 specifying objectives for CONUS air defense forces. He requested the JCS to submit a CONUS air defense deployment plan for FY 1972-1981 to satisfy the objectives. The JCS directed CINCONAD to submit information, for use in preparing the JCS plan, on changes in deployment of the pre-modernized (current) air defense forces to satisfy the objectives and end (FY 1981) force levels and deployments of a modernized air defense force to satisfy the objectives.²

1. (U) The FY 72-81 Air Defense Deployment Plan, NADOP 74-81, and the Canadian White Paper are covered in this chapter separately so that the overall requirements and policy in these documents can be presented together and viewed as a whole. Reference is made in subsequent chapters to the plans and policy in this chapter.
2. Msg, JCS to CINCONAD, 5022, 011708Z May 1971 (657).

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CONUS AIR DEFENSE OBJECTIVES

(S) The Deputy Secretary of Defense memo stated that CONUS air defense should:

1. Contribute to maintaining realistic deterrence against Soviet attack by:
 - a. defending strategic retaliatory forces;
 - b. defending the National Command Authorities and key U.S. command and control centers; and
 - c. defending ballistic missile defenses, when deployed, against air supported threats.
2. Restrict the unauthorized overflight of U.S. airspace.
3. Limit damage from deliberate or unauthorized small air attacks.
4. Deter Soviet air attacks by defending key military and urban/industrial targets with inherent capability of air defense forces required for the above objectives.

The Deputy Secretary of Defense stated that he had decided that there should be no further reductions in the capabilities of the present air defense system and that a modernized air defense force should continue to be developed.

CINCONAD PLAN

(S) Pre-Modernized Force. CINCONAD's input requested by the JCS, dated 26 May 1971, explained that the pre-modernized air defense forces had been aligned to cover critical areas plus the northern and coastal approaches to the CONUS:¹

1. Ltr, CINCONAD to JCS, "CONUS Air Defense Deployment Plan FY 72-81 (Reference JCS Message 011708Z May 1971)(U)," w/6 attachments, 26 May 1971 (657).

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They provide a credible though limited air defense that only partially satisfies the stated objectives. The continuous decrease in numbers and the technical obsolescence of the systems result in lack of defense-in-depth, nonsurvivability of command and control, and limited capability to detect and destroy targets at low altitude. But even with these deficiencies, the present system contributes to the U.S. deterrent posture; reduces the number of high value targets at risk, denies the enemy free access to our airspace and would cause an enemy to use other than optimum penetration tactics.

CINCONAD stated that the existing deployment of the pre-modernized air defense force was considered the best use of available resources. Major redeployment would be costly and would not appreciably increase capability along the most likely threat routes to the CONUS. However, two changes were recommended in air defense missile deployment. Current Hercules deployment partially met all four objectives, it was stated. But the Minuteman Fields and the ballistic missile defense force (when deployed) would receive little protection from Hercules. Therefore, for the four-site Safeguard (see Chapter VI), deployment of 15 to 16 additional Hercules batteries was proposed, as follows:

<u>Site</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>Totals</u>
Grand Forks	4			4
Malmstrom	4			4
Whiteman		4		4
Washington, D.C./Warren ¹			3/4	3/4
				<u>15/16</u>

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1. ~~(S)~~ If the Washington, D.C. option was chosen, three batteries would be required; Warren would require four.

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Secondly, the CINCONAD plan proposed a redistribution of current BOMARC assets to provide quick reaction area defense of ballistic missile defense sites as a possible means to meet that air defense objective. BOMARC equipment in storage could support one additional site (such as at Glasgow AFB, Montana), it was pointed out.

(S) Modernized Force. A modernized air defense force was recommended to be obtained as rapidly as possible. CINCONAD stated that "the pre-modernized forces only partially satisfy the air defense objectives and the one way that CINCONAD can eventually meet these objectives is through modernization."

(S) Weapons. CINCONAD recommended the following end force (FY 1981) levels:

1. Twenty-one manned interceptor squadrons -- 11 Improved Manned Interceptor (IMI) squadrons and 10 F-106 squadrons.

2. Five additional squadrons (Air National Guard).

3. Five Improved BOMARC/Interceptor Missile Squadrons.

4. Nineteen advanced Surface-to-Air (SAM-D) batteries.¹

(S) Surveillance System. CINCONAD recommended that the modernized surveillance system consist of the following for the end force level:

1. Seventy-nine long range radars (44 U.S., 24 Canadian, 9 Alaskan, and 2 Iceland).

2. Three Over-the-Horizon Backscatter (OTHB) radars.

-
1. (S) The end force level (which extended beyond FY 1981) would be 21 SAM-D batteries if the four-site Safeguard with Washington D.C. was deployed, 22 if the Warren option was deployed. Twenty-seven SAM-D batteries would be required for 12 Safeguard sites.

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3. Forty-six Airborne Warning and Control System (AWACS) aircraft.

AWACS would provide a highly flexible and survivable surveillance and command and control capability. AWACS aircraft could operate from any jet-capable airfield and receive air defense data on route to stations. AWACS aircraft would have one Main Operating Base; Kinchloe AFB, Michigan, but it was proposed to rotate the aircraft through 48 deployment bases in areas of minimum enemy targeting.

(S) Twenty stations were proposed to be manned by AWACS aircraft: eight stations providing early warning coverage across northern Canada, Alaska, and outward from the Canadian and U.S. coasts (termed the perimeter line); six stations behind this line across Canada and off both coasts (termed the midline (backup)); and six stations covering the U.S.-Canadian border area and the U.S. East and West Coastal areas for the Region Control Center (RCC) function. Thirty-four aircraft would be required to man these twenty stations and an additional 12 aircraft would be required for operational overhead, as follows:

	<u>Stations</u>	<u>Aircraft</u>
Perimeter Patrol Line	8	16
Midline Stations	6	12
Over-CONUS RCC	6	6
Operational Overhead		<u>12</u>
Total	<u>20</u>	<u>46</u>

(S) Command and Control. The modernized command and control system was recommended to have the following end force level:

1. Eight AWACS RCCs. The AWACS RCC would provide a survivable, flexible facility with all the functions of a ground-based RCC. Eight AWACS RCC deployment bases were proposed, six in the CONUS (Luke AFB, McChord AFB, Malmstrom AFB, Duluth IAP, Hancock Field, and Byrd Field), one at North Bay, Ontario, and one at Elmendorf AFB, Alaska. The deployment bases would be locations from which the AWACS RCC aircraft

could become airborne to pre-determined region patrol stations and would provide support and data update. As discussed under the modernized surveillance system, eight Perimeter Patrol Line stations, six Midline stations, and six over-CONUS RCC stations were proposed for AWACS. One of the Perimeter Line station aircraft would serve also as the Alaskan Region RCC and one of the Midline station aircraft would function also as the 22d NR RCC.

2. Eight Region Operations Control Centers (ROCCs). The ROCC, located at AWACS RCC deployment bases, would be an austere region/air division facility for peacetime command and control and administration of the region/air division area.

3. Three BUIC Control Centers. Two BUIC Control Centers would be established in Alaska (at Murphy Dome and Campion) and a third BUIC Control Center would be established in Florida to support the Cuban contingency.

(S) Combat Support Aircraft. CINCONAD proposed that the modernized system end force level include 46 Combat Support Aircraft (CSA). CSA would be used to transport personnel and equipment to Dispersed Operating Bases (DOBs) and randomly selected Operating Locations (OLs). The DOBs would be used as the normal means to achieve a higher alert posture and interceptor and AWACS survivability. Further dispersal would be possible to OLs. There were approximately 200 airfields that could support interceptor/AWACS operations on an austere basis with CSA support. Airlift support would be less costly than prepositioning resources and would provide much greater flexibility in operations.

JCS PLAN

(S) The JCS submitted its plan to the Secretary of Defense on 25 June 1971 with the recommendation that it be approved as a planning objective. The JCS plan listed the same requirements for the pre-modernized and modernized air defense force as did the CINCONAD plan except for some minor exceptions. The JCS did not recommend redeployment of BOMARC to the Grand Forks-Malmstrom

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(BMEWS), the 474N (SLBM) detection and warning system, and the 440L (OTHF) until the SEWS demonstrates its operational effectiveness.

2. Deploy the Safeguard ABM system to the Phase 2 level (12 sites) by FY 79.

3. Deploy the Safeguard Hard-Site Defense to protect the land-based strategic offensive capability (IOC FY 77).

4. Continue studies to determine the effectiveness of an extension of the Safeguard system.

5. Continue development of a Sea-Based Anti-Ballistic Missile Intercept System.

b. Space Defense.

1. Develop and deploy a co-orbital and/fly-by satellite inspection system and long wave length infrared sensors for mid-course ballistic missile and satellite tracking.

2. Expand the SPADAT system and continue development of additional methods of improving the mission/threat assessment capability utilizing present sensor data.

3. Approve the AN/FSR-X type Electro-Optical sensors with an IOC of FY 73.

4. Approve the mission of intercepting satellites for all ABM systems.

5. Develop a high altitude neutralization option which will provide for rapid deployment when appropriate threats are recognized.

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c. Air Defense.

1. Develop and deploy the AWACS. Approve deployment of 25 UE aircraft with an IOC in FY 77 and a force level of 46 UE aircraft in FY 80.

2. Develop and deploy the OTHB radars. Approve deployment of a force level of three radars in FY 77.

3. Improve the BOMARC CIM-10B by FY 77 for compatibility with AWACS and to increase its performance capability.

4. Develop and deploy an Improved Manned Interceptor of the F-14/F-15 type with an IOC in FY 76.

5. Convert existing support squadrons to C-130 integral airlift aircraft. Approve deployment of one squadron of 18 UE aircraft by FY 75.

6. Approve CONUS deployment of SAM-D with an IOC in FY 78. Deploy Nike Hercules batteries to defend ABM sites until SAM-D is deployed.

7. Deploy a NORAD Airborne Command Post (NACP) in FY 76 with associated command and control equipment.

8. Retain existing ground environment control systems until AWACS is deployed and demonstrates its operational capability.

9. Approve deployment of an automatic Chemical Warning System in FY 74, an automatic Nuclear Warning System in FY 77, and an automatic Biological Warning System in FY 79.

10. Establish a fully automated Operational Status Reporting System (OPSTAR)

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with supporting communications equipment to allow near real-time reporting and display of the current inventory of NORAD resources.

CANADIAN WHITE PAPER

GENERAL

(U) The Canadian Government stated its defense policy decisions in the White Paper on Defence, "Defence in the 70s," dated August 1971.¹ The Canadian Minister of National Defence, Donald S. MacDonald, explained in the foreword to the White Paper that it indicated "the main thrust of the Government policy thinking for the years ahead." The White Paper was not a precise blueprint for action in the 1970s, but was a policy framework for decisions and indicated the future direction of Canadian defense policy.

(U) The White Paper covered the Canadian position on protection of Canada, defense of North America, the North Atlantic Treaty Organization, international peace-keeping, and miscellaneous Defence Department matters. The specific items of interest to Hq NORAD included cooperation for continental defense, the NORAD Agreement, ballistic missile defense, and bomber warning and defense (including surveillance systems, manned interceptor forces, dispersal bases, nuclear weapons, and BOMARC).

COOPERATION FOR CONTINENTAL DEFENSE

(U) The White Paper reaffirmed the policy that cooperation between the two countries was vital for defense of North America. The Paper stated that:

The Government concluded in its review that cooperation with the United States in North American defence will

1. Canada, White Paper on Defence, "Defence in the 70s," August 1971 (655).

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remain essential so long as our joint security depends on stability in the strategic military balance. Canada's objective is to make, within the limits of our resources, an effective contribution to continued stability by assisting in the surveillance and warning systems, and in the protection of the U.S. retaliatory capability as necessary. Cooperation between Canada and the U.S. in the joint defence of North America is vital for sovereignty and security.

NORAD AGREEMENT

(U) The Paper stated that at the present time there was a continuing need for the integrated operational control of forces provided by the NORAD Agreement. The Paper pointed out that the agreement would be up for renewal in 1973. "The policy of the Government at that time with respect to the agreement and the interceptor force posture required will depend upon the strategic situation extant, including progress in SALT Strategic Arms Limitation Talks."

ABM DEPLOYMENT

(U) The anti-ballistic missile (ABM) question was important to Canada, the Paper declared, and had been closely followed by the Government. The Paper stated that the U.S. did not depend on Canadian territory for its ABM system and had not requested or suggested Canadian participation.

SUBMARINE-LAUNCHED BALLISTIC MISSILE DEFENSE

(U) The Paper stated that an anti-submarine warfare capability would be maintained for Canada's maritime forces. But the present degree of emphasis on anti-submarine warfare directed against submarine-launched ballistic missiles would be reduced in favor of other roles.

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area. The JCS stated that such redeployment would contribute to the interim defense of Minuteman and ballistic missile defense but was not recommended in its plan. Secondly, CINCONAD recommended an end force level of 79 LRRs (24 of which would be in Canada). After submission of the CINCONAD plan, it was determined in discussion with JCS project officers that there should be 28 radars in Canada. Therefore, the JCS plan recommended 83 LRRs or four more than the CINCONAD plan.

(U) No further information on the JCS plan was provided to Hq CONAD.

NORTH AMERICAN AEROSPACE DEFENSE
OBJECTIVES PLAN 1974-1981 (NADOP 74-81)

GENERAL

(S) In the Commander's Foreword to NADOP 74-81 (dated 2 August 1971), General Seth J. McKee strongly urged provision of an effective ABM defense and a modernized air defense force:

Should the Soviets initiate a nuclear exchange from misinterpretation of U.S. purpose or from faulty intelligence, it would be little consolation to the surviving U.S. citizens to know that the Soviet Union had been substantially destroyed by U.S. retaliatory forces. With no ballistic missile defense and with a bomber defense whose credibility is decreasing with each year of obsolescence, analyses and war games conclude that millions of Americans and Canadians would die during the first hours following the initiation of hostilities.

General McKee stated that an effective ABM defense was the first step in countering the current Soviet and the potential Chinese threats. He advocated the 12-site Safeguard deployment to protect the strategic retaliatory forces, additional ABM sites to defend key urban/industrial areas, and acceleration of research

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and development of boost and mid-course ballistic missile intercept systems to provide ballistic missile defense in depth.

(S) CINCNORAD requested that his mission, still air defense only, include missile and space defense. He urged government-to-government negotiations to rectify "this substantial shortcoming in the aerospace defense of North America."

(S) A modernized air defense force was also essential, CINCNORAD declared, to counter the future air-breathing threat for it was his view that if the Soviets selected a first strike option, they would attack not only with ballistic missiles but with heavy bombers and medium bombers to guarantee the desired damage level to North American targets.

(S) General McKee concluded by pointing out that "The defense of North America cannot be achieved . . . unless CINCNORAD has the requisite qualitative and quantitative resources to counter the enemy capabilities."

(S) The NADOP listed the forces necessary to meet three ascending requirement levels: A, the approved program force; B, a modernized objective force which, in consideration of reasonable attainability, best met the requirements of the strategy and force planning guidance at a prudent level of risk; and C, a damage limiting force that would limit damage to 25 per cent of the total value of North America.

SUMMARY OF RECOMMENDATIONS

(S) NADOP 74-81 major recommendations (which recognized the three ascending levels of forces) for the required forces were as follows:

a. Ballistic Missile Defense.

1. Expand deployment of the Satellite Early Warning System (SEWS) to include four satellites and two duplex ground tracking stations (IOC FY 72). Retain the 474L

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BOMBER WARNING AND DEFENSE EXPENDITURE

(U) The Paper declared that the Canadian Government was not prepared to devote substantial sums on new equipment or facilities for use only for active anti-bomber defense. "Unless the strategic situation changes, the Government intends to update its contribution to the active anti-bomber defences of North America only to the extent that is required for the general control of Canadian airspace."

SURVEILLANCE SYSTEMS

(U) Up-to-date surveillance systems will continue to be required, the Paper stated, since if they were not employed, bombers could approach North America undetected and add to the weight of the attack. The Paper noted that Canada had taken over operation of the radar at Melville Air Station, Labrador,¹ when the U.S. proposed closing it, to continue coverage in the Labrador area. There would be an increase in the defense budget for this operation.

(U) The Paper expressed Canada's interest in the Over-the-Horizon (OTH) radar and the Airborne Warning and Control System (AWACS), pointing out that these systems might replace some of the existing fixed radars. "The Government will keep both systems under review since they could in the future fulfill an important role in the surveillance of Canadian airspace in the North American defence context." The Paper also stated that Canada intended to identify and intercept intruders over as wide an area as possible. Currently, identification was limited to airspace covered by radar. The Paper said that options for using mobile surveillance radars, either airborne or air portable, would be reviewed. In the future, air traffic controlled airspace in the North might be required, it was added.

1. (U) Melville Air Station was redesignated Canadian Forces Station Goose Bay, 1 September 1971.

MANNED INTERCEPTOR FORCES

(U) Canada declared that interceptor aircraft would be maintained at the current level for two reasons: (1) the Soviets might rebuild their bomber force if there was no defense against it, and (2) for peacetime identification and sovereign control of Canadian air-space.

(U) A requirement for nuclear weapons was expressed. The Paper stated that there was no alternative to equipping CF-101s with nuclear warheads ". . . to play an effective role in the defence of North America against the thrust of massive nuclear attack, CF-101s require nuclear-tipped air-to-air weapons."

(U) CF-104 aircraft in the Operational Training Unit at Cold Lake, Alberta, would be given a secondary role of air defense "so that Canada will have its own interception and identification capability in the Prairie area."

CANADIAN FORCES CONDUCT OF CANADIAN DEFENSE

(U) The White Paper stressed the principle that during normal peacetime circumstances the carrying out of defense activities on Canadian territory would be by Canadian Forces members. It was pointed out that from a joint air defense point of view, it made little difference whether an intercepting aircraft was U.S. or Canadian, but the Government believed that normal peacetime identification should be performed by Canadian aircraft. As an example, it was stated that CF-101s should at all times be able to make intercept and identification missions in the approaches to Eastern Canada and arrangements for such would be made.

CANADIAN DISPERSAL BASES

(U) As stated above, the White Paper declared the Government's intention to use Canadian Forces for Canadian defense during peacetime to the maximum extent possible. However, it also pointed out that during times of

crisis special arrangements to enhance the defense were required. Therefore, the Paper stated, the Government was prepared to respond to the U.S. proposal to negotiate the matter of U.S. aircraft dispersing to selected Canadian bases in time of crisis, as determined by the Government.

BOMARC

(U) Canada announced its intention to eliminate its two BOMARC squadrons. BOMARC was important when a full defense existed to defend urban-industrial targets as well as the U.S. bomber force, it was stated. The strategic situation had changed, however, with the deployment of Soviet ballistic missiles. BOMARC is vulnerable to missile attack and the Canadian squadrons were located in the East whereas the preponderance of U.S. land-based retaliatory forces is in the Midwest, the Paper said.

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CHAPTER III

AIR DEFENSE SENSOR SYSTEMS

SECTION I - GROUND BASED RADAR

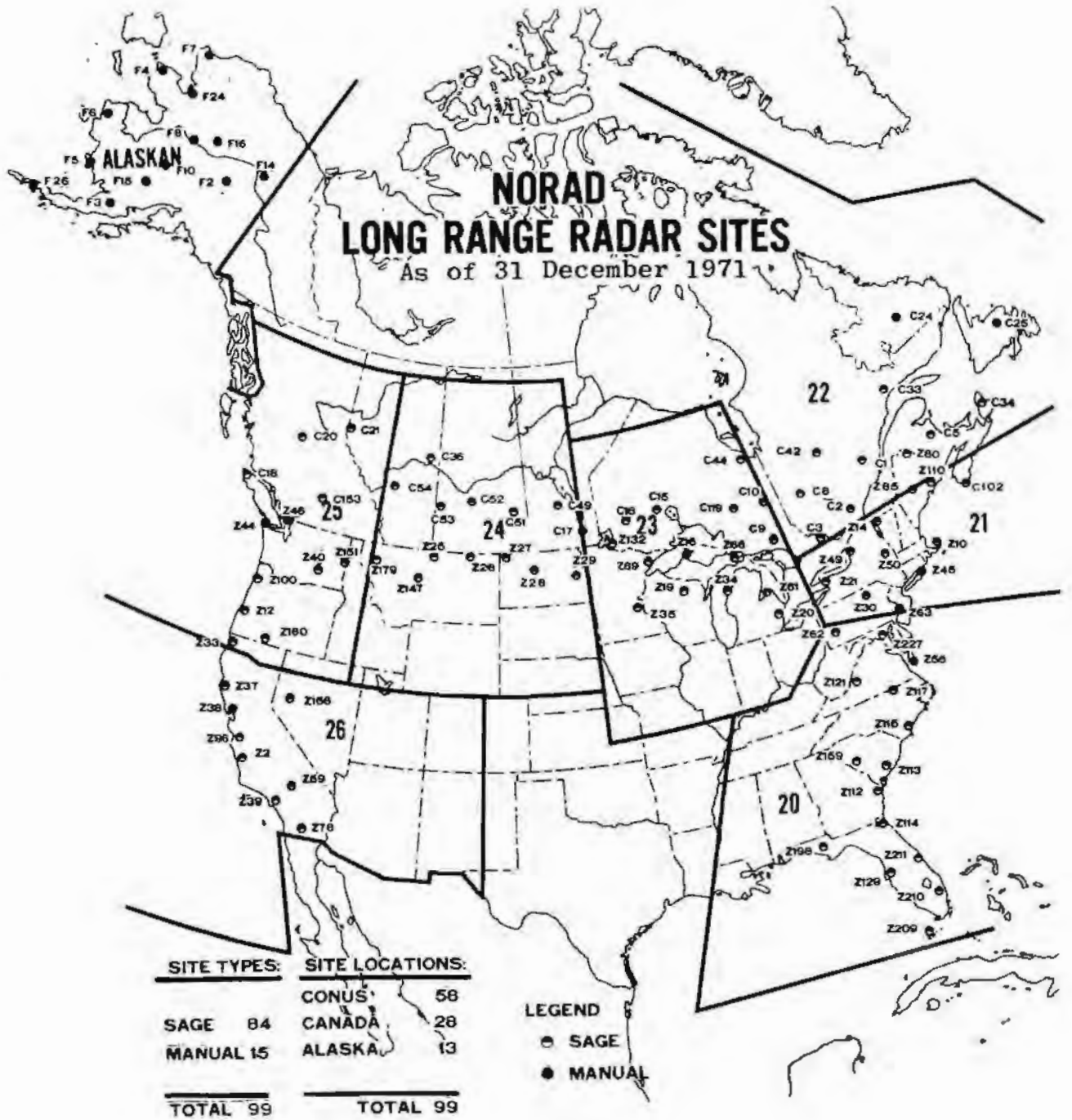
FORCE STATUS

(U) There were 101 long range radar sites and 32 Distant Early Warning (DEW) Line sites (6 Main and 26 Auxiliary) in the NORAD force at the end of CY 1970. Two long range radars (C-23 and Z-178) and one DEW Line Auxiliary site (POW-3) were closed during 1971. As of 31 December 1971, there were 99 long range radar sites remaining¹ (see map, page 45 and table, page 60) and 31 DEW Line sites (6 Main and 25 Auxiliary). Eighteen height finder radars were also taken out of operation during the year, leaving 144 in the NORAD system.²

1. (U) The 99 sites included 58 in the CONUS, 28 in Canada and 13 in Alaska. The 58 CONUS sites consisted of 39 ADC sites, 18 ADC/Federal Aviation Administration (FAA) joint-use sites, and one FAA site. One site in Alaska was an Alaskan Air Command/FAA joint-use site.
2. (U) USAF ADC was reduced by 14 height-finders and Alaskan Air Command by five; however, CF ADC gained one height-finder by taking over operation of C-24 from USAF ADC. This resulted in a loss to NORAD of 18 radars. Activation of one height-finder at Z-147 and deactivation of one at Z-178, resulted in no change to the total of 144.

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RADAR REDUCTIONS

(S) C-23. USAF ADC ended its radar operations in Canada in 1971 when it closed C-23, Stephenville, Newfoundland, and turned C-24, Melville, Labrador, over to CF ADC for operation. This resulted from a USAF proposal to deactivate these sites for economy reasons.¹ CINC-NORAD had not concurred with this proposal and suggested alternate methods of operating the sites, such as: (1) complete Canadian manning and support; (2) joint USAF/Canadian manning and equal funding; and (3) joint USAF/Canadian manning and support, with Canada contributing more than currently. CINC-NORAD advised that Canada might want to discuss tradeoffs, such as closing other Canadian radar sites, to cover increased costs of Canadian operation of the USAF sites. CINC-NORAD wanted no further degradation of the radar environment, but stated he preferred to deactivate C-23 and C-24 rather than lose other radars as tradeoffs.²

(S) The JCS advised the Canadian Chief of Defence Staff (CDS) of CINC-NORAD's position and requested the CDS's views on Canadian Forces (CF) assuming operation, manning, and support of the two sites.³ The CDS agreed to deactivation of C-23, but proposed that Canada operate C-24 on a cost sharing basis with the U.S.⁴

(C) The JCS and the State Department agreed and the terms were proposed in a note from the U.S. to the Canadian Government on 15 April. The note stated that

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1. Msg, JCS to CINC-NORAD, 8411, 191636Z December 1970 (304).
 2. Msg, CINC-NORAD to JCS, NOAD-E 281905Z December 1970 (304 X 305).
 3. Msg, JCS to CDS, 1481, 192201Z January 1971 (304 X 305).
 4. Msg, CANFORCEHED to JCS, CDS 60, 222200Z March 1971 (305).

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the U.S. desired to deactivate C-23 on or before 30 June 1971. It proposed that Canada assume responsibility on 1 July 1971 for manning C-24 and the U.S. continue to pay the operation and maintenance costs.¹ Formal concurrence to the U.S. note was given by the Canadian Government on 30 June.² Cost sharing was provided for in the Pinetree Cost Sharing Agreement, concluded on 16 August 1971 between the two governments.³

(U) CINCNOAD released C-23 from its NORAD mission on 6 May;⁴ the operating organization, USAF ADC's 640th Aircraft Control and Warning (AC&W) Squadron, was inactivated on 30 June.⁵ USAF ADC's 641st AC&W Squadron, which operated C-24, was inactivated on 30 June. CF ADC assumed operation of C-24 on 1 July without any change to the site's mode of operation or its NORAD mission.⁶

(S) Z-178. USAF ADC ended radar operations at site Z-178, Lewistown AFS, Montana, on 1 June 1971.

1. Msg, SECSTATE to AMEMBASSY OTTAWA, STATE 062840/1, 141718Z April 1971 (305).
2. Msg, AMEMBASSY OTTAWA to SECSTATE, OTTAWA 1018, 302112Z June 1971 (305).
3. (U) The Cost Sharing Agreement was approved by both countries through an exchange of notes dated 16 August 1971 to be effective from 1 August. Under the terms, the U.S. retained responsibility for the cost of operating and maintaining C-24; Canada retained responsibility for manning the site and the associated military personnel costs. (Source: Ltr, CF Hq to Hq NORAD, "CADIN-Pinetree Cost Sharing," 15 September 1971, with Agreement attached (305 X 654)).
4. Msg, CINCNOAD to USAF ADC, et al., NOAD-E 052205Z May 1971 (304 X 305).
5. USAF ADC Special Order G-126, 9 June 1971.
6. USAF ADC Special Order G-126, 9 June 1971; NOPS Historical Report, May-June 1971 (959.3).

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This resulted from an ADC recommendation to Hq NORAD, which had FAA concurrence, that Z-178 be closed and operations transferred to FAA site Z-147, Malmstrom AFB. ADC proposed to install an FPS-60-series search radar at Z-147. The consolidation of radar operations would provide more efficient radar coverage and monetary and manpower savings. Z-147 had been an ADC/FAA joint-use site until October 1969, when ADC ended operations and turned it over to the FAA. Z-147 continued to provide radar inputs to NORAD, but the FAA surveillance radar -- a van-mounted FPS-8 -- was not fully adequate for air defense because of its vulnerability to electronic jamming.¹

(S) CINCNOAD at first did not approve closing Z-178 because it provided coverage for interceptors from Logan Field, Billings, Montana. However, Hq NORAD found that an FAA radar at Logan Field would provide the required coverage and it was estimated that closing Z-178 would save \$850,000 annually in operating and maintenance funds and 125 manpower spaces. CINCNOAD approved, "provided that a dual-channel FPS-60 series radar with a complete ECCM capability is installed and operated at Z-147."2

(U) ADC installed an FPS-65 search radar and began operations at Z-147 on 1 June 1971.³ Z-178 was released from its NORAD mission on the same date.

1. Ltr, ADC to Hq NORAD, "Consolidation of FAA and ADC Radars (U)," 12 December 1969 (302.1); DF, NOPS to C/S, "Consolidation of FAA and ADC Radars of Lewistown and Malmstrom AFSS (U)," 13 January 1970 (302.1); ADC, FY 1970 History p. 237.
2. DF, NOPS to C/S, "Consolidation of FAA and ADC Radars of Lewistown and Malmstrom AFSS (U)," 13 January 1970 (302.1); Msg, CINCNOAD to ADC, NOOP-A 191746Z January 1970 (302.1).
3. NORAD Forces and Program Change Summary (U), 1 June 1971, p. 2-1 (718); Interview, Mr. D. W. Shircliffe, with Major R. M. Adams, NOAD, 23 August 1971.

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(S) POW-3. The contractor for the DEW Line (International Telephone and Telegraph Arctic Services, Inc.) proposed to USAF ADC closing three DEW Line auxiliary radar stations. These were CAM-1, Jenny Lind Island, Northwest Territory, Canada; POW-1, Lonely, Alaska; and POW-3, Flaxman Island, Alaska. ADC evaluated the proposal and recommended to Hq NORAD closure of POW-3 only and the upgrading of communications to cover loss of the site.¹

(S) Hq NORAD requested CINCAL's comments. CINCAL concurred in ADC's analysis, stating that closure of POW-3 would have the least operational effect.² Hq NORAD approved the ADC recommendation and relieved POW-3 from its NORAD mission effective 1 July 1971.³

(S) Height-Finder Radars. ADC, with Hq CONAD's approval, removed 12 height-finder radars from operation during March, April and May 1971.⁴ The reason was a USAF decision to reduce manpower for these radars during the fourth quarter of FY 1971. The radars selected were at 12 CONUS long range radar sites that had 2 height finders, so height coverage would still be available.⁵ Also, these sites were located along the

1. Ltr, ADC to Hq NORAD, "Value Engineering Proposal, Contract FO 4606-69-C-1108 (U)," 5 March 1971 (306).
2. Msg, ANR to CINCNOAD, ANDOO-R 161815Z April 1971 (306).
3. Msg, CINCNOAD to ADC, et al., NOAD-E 011915Z July 1971 (306).
4. Ltr, Hq CONAD to ADC, "Height Finder Reductions (U)," 3 March 1971 (302.1); Msg, ADC to AIG 7142, et al., DOTE 191700Z March 1971 (302.1 X 403); USAF ADC History, FY 1971, pp. 284-286.
5. (U) In addition to these 12, ADC inactivated one height finder at C-23, when that site closed, and transferred the one at C-24 to CF ADC. Thus, ADC lost a total of 14 height finders. See Note 2 on page 44.

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U.S.-Canadian border where Canadian sites had two height-finder radars.¹ The radars selected were as follows:²

<u>Radar Type</u>	<u>Site</u>	<u>Location</u>
FPS-6	Z-14	St. Albans AFS, VT
FPS-90	Z-16	Calumet AFS, MI
FPS-6	Z-25	Havre AFS, MT
FPS-90	Z-26	Opheim AFS, MT
FPS-90	Z-27	Fortuna AFS, ND
FPS-6	Z-29	Finley AFS, ND
FPS-90	Z-35	Osceola AFS, WI
FPS-6	Z-49	Watertown AFS, NY
FPS-90	Z-69	Finland AFS, MN
FPS-90	Z-132	Baudette AFS, MN
MPS-14	Z-151	Mica Peak AFS, WA
FPS-90	Z-179	Kalispell AFS, MT

(S) The USAF decision, noted above, also required the Alaskan Air Command to decommission one height-finder radar at each of five sites in Alaska that had two height finders. The five radars were removed from operation on 1 April 1971 at the following sites:³

<u>Radar Type</u>	<u>Site</u>	<u>Location</u>
FPS-6	F-2	Murphy Dome AFS
FPS-6	F-3	King Salmon AFS
FPS-6	F-8	Campion AFS
FPS-6	F-15	Sparrevohn AFS
FPS-6	F-16	Indian Mountain AFS

1. Memo, General Fogle to General Austin, "Height Finder Reductions (U)," 19 March 1971 (302.1).
2. Msg, ADC to AIG 7142, et al., DOTE 191700Z March 1971 (302.1); (U) Ten of the radars were removed from operation on 1 April. The radar at Z-151 was turned off in late March and the radar at Z-25 in May.
3. Msg, AAC to CSAF, DOOR 011921Z April 1971 (303);
Msg, AAC to CSAF, DOOR 271917Z April 1971 (303).

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SECTION II - AIRBORNE EARLY WARNING
AND CONTROL (AEW&C) FORCE

FORCE STATUS

(U) The 552d AEW&C Wing, with three squadrons based at McClellan AFB, California (the 963d, 964th, and 965th), and wing detachments at McCoy AFB, Florida; Iceland; and Korea, was authorized a total of 46 EC-121 aircraft as of 31 December 1970.¹ USAF Program Document 73-1, January 1971, required inactivation of one squadron and reduction of authorized aircraft to 18 aircraft by 30 June 1971.²

(U) Accordingly, ADC inactivated the 965th AEW&C Squadron on 30 June and authorized nine EC-121s for each of the two remaining squadrons, the 963d and 964th.³ In addition to the 18 aircraft authorized, 8 additional aircraft were included in the active inventory (in a not operationally authorized status): 4 in the detachment at McCoy AFB and 4 at McClellan AFB.⁴ There was no change to this status as of 31 December 1971.⁵

1. DF, NOAD to NOOP, "AEW&C Force Changes," 15 March 1971 (302.12); Interview, Mr. Shircliffe with Major R. M. Adams, NOPS, 19 January 1972.
2. ADC Programmed Action Directive 71-13, 22 March 1971 (302.12).
3. (C) From the 18 authorized aircraft, 8 were provided to the detachment in Korea and 3 to the detachment in Iceland.
4. Msg, ADC to AIG 7142, XPC 101850Z March 1971 (302.12); USAF ADC Special Order G-113, 25 May 1971 (728).
5. Interview, Mr. Shircliffe with Major D. L. Hudson, NPAP, 12 January 1972.

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PROPOSED TRANSFER OF AEW&C AIRCRAFT

(S) Hq USAF proposed to transfer 12 of the 18 EC-121s authorized ADC to the Air Force Reserve and the remaining 6 to the Tactical Air Command. General McKee expressed his objections to the Air Force Chief of Staff, General John D. Ryan:¹

I find it difficult to understand the proposal to transfer EC-121 assets to the reserve force and the Tactical Air Command. The 18 residual aircraft currently in our inventory are needed to carry out tasks directly related to the NORAD/CONAD mission. The EC-121 operation out of Iceland effectively covers a major gap in distant early warning between Greenland and Iceland; extends warning to the UK, and in both cases provides distant early warning to the NORAD system. The JCS requirement to provide AEW coverage of the Florida Straits is again directly related to the NORAD/CONAD mission. In addition, the EC-121s are required during periods of increased tension to extend early warning and control coverage seaward from both coasts. Until the advent of AWACS, I foresee these operations as essential and as part of the continuing responsibility of NORAD.

(S) General Ryan advised General McKee in October 1971 that the proposed transfer had been reexamined. The EC-121s would be retained under ADC, but the exact number of aircraft to be retained in the active force was to be determined later.² No changes were made by the end of CY 1971.³

1. Ltr, General Seth J. McKee to General John D. Ryan, 17 September 1971 (403 X 302.12).
2. Ltr, General John D. Ryan to General Seth J. McKee, 23 October 1971 (403 X 302.12); Ltr, Vice Chief of Staff, USAF to Commander, ADC, 27 September 1971 (302.12).
3. Interview, Mr. Shircliffe with Major D. L. Hudson, NPAP, 12 January 1972.

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SUPPORT OF U.S. SOUTHERN COMMAND

(S) CINCONAD was charged by the JCS with supporting U.S. Southern Command air defense operations in certain contingency situations. CONAD OPLAN 314C-70, 6 April 1970, provided for deployment of AEW&C aircraft and fighter interceptor forces to the Canal Zone to support this task.¹

(C) A test of the reaction time of CONAD AEW&C forces, as well as air defense augmentation forces from the U.S. Strike Command, was made during the Southern Command-sponsored exercise, BLACK HAWK I, conducted from 9-13 August 1971. Other objectives of this exercise were to provide environmental training to augmentation forces and to test Canal Zone air defense command and control procedures.² The 552d AEW&C Wing was directed on 6 August to deploy three EC-121 aircraft to arrive at Howard AFB, Canal Zone, prior to the start of the exercise on 9 August. The aircraft were in place on 7 August, meeting the required reaction time. During their participation in the exercise, the aircraft made significant contributions by providing essential radar coverage in a vital geographical area, extending the range of command and control facilities, assuming control of the air battle during a ground radar outage, and successfully directing 34 intercepts. The aircraft were released from the exercise and redeployed to their home base, McClellan AFB, California, on 12 August.³

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1. (U) For additional background information, see CONAD Command History, 1970, pp. 57-58.
 2. Msg, ADC to 552d AEW&C Wg, DOKCO 070030Z August 1971 (302.12); STRIKECOM Information Summary (U), No. 13, p. 40 (737).
 3. Msg, ADC to 552d AEW&C Wg, DOKCO 070030Z August 1971 (302.12); Msg, USCINCSO to CINCONAD, 080025Z August 1971 (302.12); Msg, CINCONAD to CMDR ADC, CHCR 011340Z September 1971 (302.12); Msg, USCINCSO to CINCONAD, 121522Z August 1971 (302.12).

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SECTION III - SYSTEM IMPROVEMENTS

AWACS EMPLOYMENT

(S) NORAD Operational Employment Concept (NOEC) 3-71, 22 April 1971,¹ provided two employment concepts for AWACS in the post-1978 time period (AWACS was programmed for Initial Operational Capability in 1977 and Final Operational Capability in late 1978). The two concepts were associated with AWACS aircraft force levels. The first concept was termed the "Basic" and applied to the force of 25 aircraft programmed for ADC. Twelve wartime patrol stations were to be established under this concept: 6 on a perimeter line and 6 over the CONUS. The second concept was termed the "Objective" and applied to a NORAD-required force of 46 aircraft.² This larger force would improve overall air defense capabilities by overcoming the deficiencies inherent in the deployment of the smaller force. Twenty wartime patrol stations, discussed in Chapter II, were to be established under the Objective Concept.

(U) The NOEC stated that manpower to support AWACS was to be furnished by USAF ADC and/or by changes to the NORAD organizational structure. Canadian manning was to be included if Canada participated in AWACS.

PASSIVE DETECTION AND TRACKING SYSTEM

(S) A system to detect and track aircraft using Electronic Countermeasures (ECM) against the ground environment had been in operation since 1964 at Semi-Automatic Ground Environment (SAGE) long range radar

1. (U) NOEC 3-71 superseded NOEC 1-67, 9 January 1967. For coverage of CINCNORAD's/CINCONAD's requirements for AWACS, see Chapter II.
2. (U) This requirement was stated in NADOPs 73-80, 15 August 1970, and 74-81, 2 August 1971.

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sites and control centers. This was a passive¹ system designated Semi-Automatic Threshold Control Unit/Automatic Strobe Tracking (SATCU/ASTRA). A number of deficiencies had troubled the system, but previous attempts by USAF ADC to correct them had been mainly unsuccessful.² Hq NORAD took action to obtain improvements with the publication of NORAD Qualitative Requirement (NQR) 1-71, 1 February 1971 (Improved Passive Tracking Capabilities in the NORAD Ground Environment). The NQR, which was forwarded to the JCS, listed the following deficiencies: limited tracking capability, high susceptibility to sweep jamming, inaccurate azimuthal discrimination, lack of target height information, manual removal of radar echoes, and only highly trained and experienced personnel could operate the system.

(S) The NQR proposed the following improvements to the system:

1. Semi-Automatic Threshold Control Unit Normalization Receiver (SNOR). Provides increased protection against sweep jamming and highly accurate azimuth discrimination which increases the operator's ability to determine true strobes (radar echoes).

2. Semi-Automatic Range and Height (SARAH). Provides tracking inputs from height finder radars.

3. Peak Detector. Provides voltage measurements so that true strobes may be located and false strobes eliminated.

4. Automatic De-Ghosting. A change to the passive tracking program in SAGE and BUIC computers

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1. (U) A "passive" system detects and tracks by receiving emissions from an aircraft. An "active" system, such as a radar, sends out its own signals which are reflected by the target aircraft.
 2. NORAD/CONAD Historical Summary, July-December 1965, pp. 54-55.

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which discriminates between true and ghost intersections indicating aircraft location on the basis of speed and track history.

5. Elevation vs. Integrated Log (EVIL). A program for SAGE and BUIC computers which permits target heights to be calculated using inputs from height finder radars.

(S) The NQR stated that these improvements were urgently needed to counter the present threat and to provide CINCNORAD "with the ability to track and destroy hostile aircraft in a passive mode as effectively as in the active mode." Manpower and training requirements would be lowered by these improvements because the system could be manned with regular operationally-ready personnel rather than specially trained and experienced personnel.

(U) The JCS advised that they recognized the need for improved passive tracking capabilities, but that more definitive information was needed to establish a valid requirement. The JCS requested information on costs and the impact that the proposed equipment would have on computer capacity, and directed that the requirements be redefined and forwarded as a Required Operational Capability (ROC).¹

(U) Hq NORAD informed USAF ADC of the JCS request and directed preparation of a ROC providing the information. The ROC was to be returned to Hq NORAD for submission to the JCS.²

(S) A ROC had not been prepared by the end of CY 1971, but the status of the improvements was as follows:³

1. Msg, JCS to CINCNORAD, 6727, 192300Z March 1971 (302.1).
2. Ltr, Hq NORAD to ADC, "NQR 1-71, Improved Passive Tracking Capabilities in the NORAD Ground Environment," 24 March 1971 (302.1).
3. DF, NEEC to NHSV-H, "Status - NQR 1-71 (U)," 21 January 1972 (302.1).

1. SNOR. The Canadian General Electric Company, in conjunction with CF ADC, had tested SNOR equipment at radar site C-8, Senneterre CFS, Quebec. Test results were requested to be sent to Sacramento Air Materiel Area (SMAMA), McClellan AFB, California, for evaluation. SMAMA's recommendation on whether to procure this equipment was to be forwarded to the Air Staff and USAF ADC, but by the end of 1971, ADC had not received notification.

2. SARAH. ADC conducted tests of SARAH at radar sites Z-10, North Truro AFS, Massachusetts, and Z-198, Tyndall AFB, Florida. Testing was completed on 15 December 1971. The results indicated the existence of program errors in SAGE computers and design deficiencies in the data processors (Common Digitizer). These factors prevented proper operation of SARAH in certain situations. The program errors were being corrected by ADC "blue suit" programmers and the Electronic Systems Division was requested on 27 December to correct deficiencies in the Common Digitizers.

3. Peak Detector. This required an expensive change to SAGE and BUIC computer programs. A one-year feasibility study was to be made by ADC to determine cost effectiveness.

4. Automatic De-Ghosting. This item was discontinued as a result of test data evaluation; however, investigation in this area resulted in four low-cost computer program changes that had significant passive tracking value. Three of these changes were already in use and the fourth one was to be completed in August 1972.¹

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1. (U) These program changes automated and improved de-ghosting operations that previously had been done manually. The changes already in use were: (1) Strobe Integrator Ratio, for elimination of inaccurate radar strobes; (2) Strobe Channel Tracking, for providing radar strobe data to computers at RCCs and BUIC centers; and (3) Jammer Data Trail, for providing a displayed history of track intersections which
(Continued on next page.)

5. EVIL. ADC dropped consideration of EVIL because its effectiveness and operational value did not justify the expense.

PROJECT POCKET VETO

(S) The Advanced Research Projects Agency (ARPA) proposed to CINCONAD in early 1970 a project that would provide low altitude coverage in the Florida Straits by suspending a radar from a tethered balloon. CINCONAD advised the JCS, ARPA, and ADC of interest in this project, termed "Pocket Veto." CINCONAD stated that air defense requirements for such a system would include reliable low-level detection of MIG-size aircraft out to 150 miles and 24-hour per day surveillance coverage.¹

(S) Testing was to be done by ARPA at Cudjoe Key AFS, Florida, where ADC was to put the equipment into operation if it satisfied air defense requirements. Phase I testing was conducted by ARPA from 10 December 1970 through 16 March 1971. The equipment used (an 84,000 cubic foot balloon and a short-range radar) did not meet CINCONAD's requirements.² Phase II testing for a 90-day period was to have started in June 1971, but problems in fitting a longer-range radar to a larger

(Continued from page 57) (U) had occurred during the last several radar sweeps. The fourth change, Strobe Channel Tracking and Merit Display, which was to work in conjunction with (2) above, was to display strobes with a numerical quality (from two the lowest to five the highest) assigned to each strobe. Theoretically, jamming aircraft would be located at intersections of strobes having the highest quality.

1. CONAD Command History, 1970, pp. 36-37.
2. Memo DCS/Ops CONAD to C/S, CINCONAD, "Pocket Veto Status (U)," 9 July 1971 (302.1).

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(200,000 cubic foot) balloon caused that date to slip to early 1972. At the end of 1971, ARPA's tentative schedule called for balloon qualification testing to begin on 24 February and system testing to begin on 11 March 1972.¹

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1. Memo, DCS/Ops CONAD to C/S, CINCONAD, "Pocket Veto Status (U)," 18 August 1971 (302.1); COOP Project Report, "Balloon Borne Radar (U)," December 1971 (302.1).

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CHAPTER IV
AIR DEFENSE INTERCEPTOR
AND MISSILE FORCE

SECTION I - MANNED INTERCEPTOR FORCE

CONUS FORCE REDUCTIONS

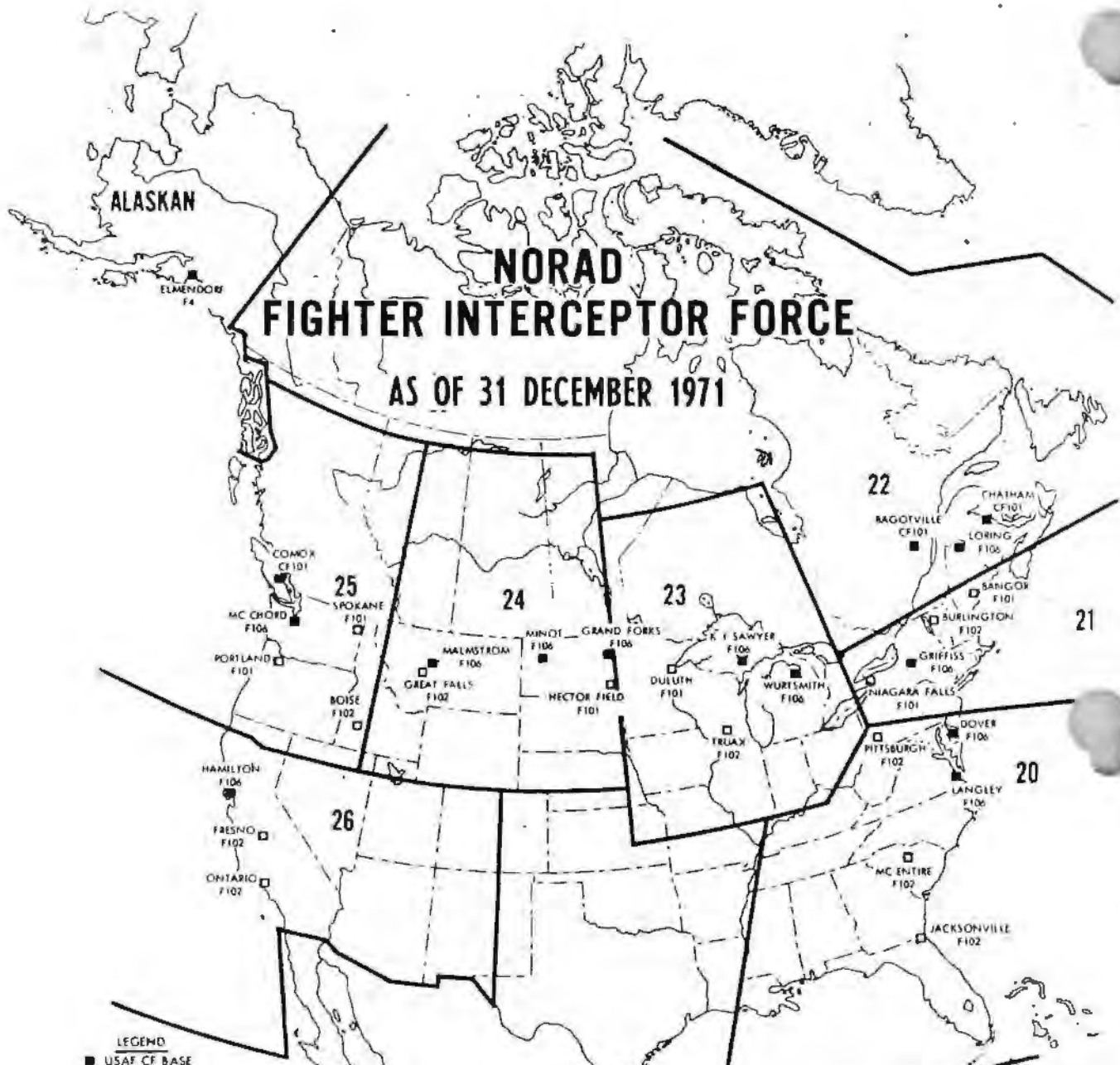
STATUS - REGULAR AND ANG FORCE

(S) The NORAD manned interceptor force was reduced from 33 to 30 squadrons in 1971. The 31 December 1970 NORAD force consisted of 18 regular squadrons (11 F-106s and 3 F-101s in the CONUS, 3 CF-101s in Canada, and 1 F-4 in Alaska) and 15 Air National Guard (ANG) squadrons in the CONUS (12 F-102s and 3 F-101s). The three regular F-101 squadrons were inactivated and their aircraft used to re-equip three ANG F-102 squadrons. This made a total of 15 regular squadrons (11 F-106s, 3 CF-101s, and 1 F-4) and 15 ANG squadrons (9 F-102s and 6 F-101s) by the end of CY 1971, as shown on the map on the next page.

F-101 SQUADRONS

(S) Program Budget Decision (PBD) 398, 9 December 1970, provided for a reduction in FY 1971 to 23 CONUS-based interceptor squadrons (11 regular and 12 ANG). The JCS directed CINCONAD to recommend deployment of a 23-squadron force and a 26-squadron force (11 regular and 15 ANG). CINCONAD did not address a 23-squadron force, however, because an Air Force reclama resulted in retention of 15 ANG squadrons. For a 26-squadron CONUS force, CINCONAD recommended 11 regular F-106

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LEGEND
 ■ USAF CF BASE
 □ ANG BASE

SUMMARY

REGULAR FIGHTER INTERCEPTOR FORCE		
11	F-106	SQDNS
3	CF-101	SQDNS
1	F-4	SQDN
TOTAL 15		SQDNS

ANG FIGHTER INTERCEPTOR FORCE		
9	F-102	SQDNS
6	F-101	SQDNS
TOTAL 15		SQDNS

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fighter-interceptor squadrons (FISs), 9 ANG F-102 FISs, and 6 ANG F-101 FISs.¹ CINCONAD also recommended there be one Dispersed Operating Base (DOB) for each of the 11 F-106 FISs (see Interceptor Dispersal, page 67).

(U) The JCS directed USAF on 9 January 1971 to support CINCONAD's recommendations. CINCONAD's recommended posture was put into effect.

(S) USAF ADC's three remaining F-101 squadrons were removed from the NORAD force and their aircraft transferred to the ANG, as follows:²

<u>Unit</u>	<u>Release from NORAD Alert</u>	<u>ANG Squadron Receiving Acft</u>
18 FIS, Grand Forks, ND	8 March 1971	123 FIS, Port- land IAP, OR
60 FIS, Otis AFB, MA	1 April 1971	136 TFS, ³ Niag- ara Falls IAP, NY
62 FIS, K. I. Sawyer AFB, MI	1 April 1971	179 FIS, Duluth IAP, MN

(S) The 179th FIS was relieved of alert on 12 April and the 123d FIS on 16 April to convert from F-102s to F-101s. The 136th Tactical Fighter Squadron was equipped with F-100s and had a Tactical Air Command (TAC) mission. It began conversion to F-101s in April and was assigned an air defense mission and redesignated the 136th FIS in June. In the meantime, the 118th ANG

1. Msg, CINCONAD to JCS, CHCR, 311940Z December 1970 (657).
2. NOPS Historical Report, March-April 1971; Ibid., May-June 1971 (959.3).
3. (U) TFS - Tactical Fighter Squadron.

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FIS, Bradley Field, Connecticut, was relieved of its air defense mission on 8 May and assigned to TAC.¹ Thus, the total number of ANG squadrons in the NORAD force remained at 15.

(U) ADC moved two of its F-106 squadrons during May to fill gaps from the loss of the F-101 units. The 87th FIS was moved from Duluth IAP to K. I. Sawyer AFB and the 460th FIS was moved from Kingsley Field, Oregon, to Grand Forks AFB, North Dakota.²

(S) Only one of the three converting ANG squadrons had assumed alert by the end of CY 1971. The 123d FIS, Portland IAP, resumed full NORAD operational status and alert on 15 December. It was estimated that the 179th FIS, Duluth IAP, would resume alert by mid-February 1972 and the 136th FIS, Niagara Falls IAP, would assume NORAD alert by July 1972.³

PROGRAMMED ANG F-106 CONVERSION

(S) A decision was made at USAF/JCS level to further reduce the regular F-106 force by four squadrons.⁴ The aircraft were to be transferred to the ANG, two squadrons by end FY 1972 and the other two in FY 1973, according to USAF Program Guidance 73-4, September 1971.

1. NORAD Forces and Program Change Summary (U), 1 June 1971, p. 2-1 (718).
2. NOPS Historical Report, March-April 1971; ADC Movement Order 2, 19 March 1971 (403); ADC Movement Order 4, 30 March 1971 (403).
3. Interview, Mr. Buss with Lt Col P. D. Wagoner, NOAD, 20 January 1972.
4. Ltr, General John D. Ryan To General Seth J. McKee, 23 October 1971 (403 X 302.12).

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(S) CINCNOAD expressed strong objections to the Air Force Chief of Staff, General John D. Ryan, in a letter on 17 September.¹ General McKee recommended retention in the active force so as to have a force structure to accommodate a modernization program that he said he was convinced would come to pass in reaction to Soviet modernization of its long-range bomber force.

(S) General McKee pointed out that ANG units being converted were not available as fighting units for extended periods of time. Secondly, he reminded General Ryan that even after the ANG units became operational in the F-106 there would be a net loss for use in response to tactical warning. Only four aircraft per ANG squadron were assigned for day-to-day peacetime operational control.²

(S) General McKee recommended that if the F-106s were transferred to the ANG, a BOMARC squadron be reactivated at Niagara Falls, New York. Missiles would be

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1. Ltr, General Seth J. McKee to General John D. Ryan, 17 September 1971 (403 X 302.12); (S) General McKee also discussed a proposed transfer of EC-121 aircraft to TAC. This subject is covered in Chapter III.
 2. (S) Fully operational ANG squadrons placed four aircraft on alert responsive to NORAD control 24 hours per day. At each squadron were ANG Air Defense Alert Detachments (ANGADADs) composed of operationally ready aircrews on voluntary active duty. At DEFCON 1, all ANG air defense unit personnel not already on active duty would be automatically recalled to active duty in accordance with emergency use agreements with the states which provided for integration prior to Federal mobilization. After declaration of a National Emergency and Federal authorization to mobilize the Ready Reserve, component commanders would mobilize Category I (primary mission of air defense) National Guard Forces. (NORAD Operation Order 300N-70).

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available from the Canadian squadrons which were to be inactivated (as stated in the Canadian White Paper on Defence in the 70s -- Chapter II).

(S) General McKee stated in conclusion, that his recommendations were based on his belief that:

our responsibility is: first, to deter a nuclear war against the United States; second, to do our best to insure survival of the United States in the event deterrence fails; and third, to provide those military capabilities required by our national policy for purposes not so directly related to national survival. In my opinion, defensive forces could and should play an important role in the deterrence equation, and certainly are the only capabilities we will have (or not have) that can do anything about insuring national survival against enemy weapons launched in the event deterrence fails.

I would be most appreciative of your support in preventing further erosion of our strategic defensive capabilities which are already much less than that required in the event deterrence fails.

(S) General Ryan answered on 23 October that the F-106 transfer was one of a number of difficult decisions made under severe budget restrictions.¹ The JCS had examined the reduction and supported it to the Secretary of Defense, General Ryan stated. The views of the JCS were contained in the Joint Force Memorandum FY 1973-1980, 14 June 1971.

(S) CINCNORAD and ADC were informed on 23 November that the Air Force Chief of Staff had issued on 11 November a guidance memorandum which reaffirmed the

1. Ltr, General John D. Ryan to General Seth J. McKee, 23 October 1971 (403 X 302.12).

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decision to transfer F-106 units to the ANG as scheduled, in Program Guidance 73-4 (two squadrons by end FY 72 and two in FY 73).¹

(S) In the meantime, on 16 November, General McKee also advised Deputy Secretary of Defense David Packard of his position. General McKee forwarded a letter to the Deputy Secretary through the Chairman of the JCS, explaining that Mr. Packard had requested his views in a meeting in Washington on 8 November.² General McKee provided Mr. Packard a copy of his 17 September letter to General Ryan (pages 65-66). General McKee advised Mr. Packard that he felt his position supported the Deputy Secretary's 20 April 1971 memorandum:³

which recognized that air defense does contribute to deterrence; that our air defense capability should not be further reduced; and that development of a modernized air defense force should be continued. The 26 October /1971/ incursion of U.S. airspace by a Cuban aircraft provided clear evidence that, with present forces, I cannot accomplish all of the objectives delineated in the above referenced memorandum.

INTERCEPTOR DISPERSAL

CONUS DISPERSED OPERATING BASE REALIGNMENT

(S) DOB Status at End CY 1970. There were 10 Dispersed Operating Bases (DOBs) in the CONUS at the end of

1. Msg, CSAF to ADC, XOO, 231455Z November 1971 (430.3 X 403). (U) See page 107 for the decision on disposition of missiles from the Canadian BOMARC squadrons.
2. Ltr, General Seth J. McKee to Admiral Thomas H. Moorer, 16 November 1971, w/1 Attachment, Ltr, General McKee to Honorable David Packard, 16 November 1971 (430.1 X 403).
3. (U) Chapter II, pages 29-30.

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CY 1970.¹ ADC had 14 interceptor squadrons, so doubling up was required at some DOBs. Four DOBs² were assigned two squadrons each. Eleven squadrons were designated for Modified Phase III (Phase III(M)) dispersal and 3 of the squadrons sharing a DOB were designated for Phase II dispersal (see table on page 71).

(S) Phase III required the continuous dispersal of four aircraft per squadron. When severe personnel shortages existed in critical AFSCs, a Phase III(M) commitment was authorized. Phase III(M) dispersal could be reduced to two aircraft per squadron by the region commander. Squadrons designated for Phase II dispersal were not required to maintain continuous dispersal, but dispersed when directed.

(S) Realignment of DOBs and Phase-Down of Alert. One DOB was established for each of ADC's 11 F-106 squadrons. However, continuous alert was not to be maintained at 10 of the DOBs until declaration of an increased readiness condition.³ Phase III dispersal would be maintained at Kingsley Field, Oregon -- DOB for the 84th FIS, Hamilton AFB.⁴

(S) The bases at which no continuous alert was to be maintained were termed Phase I Operations/Phase III Munitions DOBs. Fuel, armament, and limited

1. (U) For background, see CONAD Command History, 1970, pp. 63-64.
2. (U) Bangor IAP, ME; Phelps-Collins Apt, MI; Volk Field, WI; and Logan Field, MT.
3. Msg, ADC to NORAD, NGB, AIG 7142, DO 042110Z March 1971 (403 X 420); Ltr, ADC to Dist., "Fighter Force Posture and Concept (U)," 4 March 1971 (403).
4. (S) USAF ADC could provide resources for one full-time DOB with available resources. Kingsley was chosen for operational reasons to provide support for West Coast operations. (Interview, Mr. Buss with Lt Col R. M. Viscarra, NOOP, 14 September 1971.)

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equipment would be retained, but detachment manning would be greatly reduced. These DOBs could be rapidly expanded at advanced readiness conditions or for exercises by deploying personnel and supplies from Main Operating Bases (MOBs).

(S) The Phase I/Phase III designation went into effect on 12 March 1971. NORAD alert was terminated at Phase I/Phase III DOBs on this date. Hq NORAD directed each region to assume the total NORAD/CONAD readiness posture at unit MOBs.¹ See page 81 for alert requirement revisions during 1971. DOB realignment actions (inactivations, activations, and relocations) were completed by 30 June 1971. Three DOBs were inactivated (Niagara Falls on 15 April, Fresno and Siskiyou on 30 April) and four DOBs were established (Spokane on 1 April, Otis on 15 April and Duluth and Kingsley on 1 May).² The table on page 71 and map on page 72 show the dispersal realignment as of 1 July 1971. This alignment remained in effect at the end of CY 1971.

ANG DISPERSAL

(S) Resources could be placed at only a few deployment bases for ADC ANG units because of National Guard Bureau budgetary and manpower shortages.³ Therefore, assignment of deployment bases was limited to squadrons

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1. Msg, CINCNORAD to Regions, NOOP, 091800Z March 1971 (403 X 420).
 2. (U). These dates were those when the DOB detachment was inactivated or activated. The completion date for all actions was 30 June 1971.
 3. Ltr, ADC to Dist., "Fighter Force Posture and Concept (U)," 4 March 1971 (403); ADC Operation Plan 300-71, 1 July 1971 (656).

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in high threat areas or that had to be moved to be effective.¹ Five of the nine F-102 squadrons were assigned deployment bases, but neither the other F-102 units nor the six F-101 units were assigned bases. Change 4, 15 June 1971, to Operation Order 300N-70 stated, however, that all ADC ANG units would prepare mobility plans to permit rapid deployment if required.

(S) Units assigned deployment bases were to be capable of deploying within 12 hours after receipt of Defense Readiness Condition (DEFCON) 1. Four squadrons were to plan to deploy eight interceptors; the fifth squadron, the 190th, Boise, Idaho, behind ADC's perimeter radar coverage, was to deploy 10 aircraft to a forward base. The deployment alignment was as follows:

<u>FIS</u>	<u>HOME BASE</u>	<u>DEPLOYMENT BASE</u>	<u>ALTERNATE DEPLOYMENT BASE²</u>
146th	Gtr Pittsburgh, PA	Mansfield MAP, OH	Youngstown Aprt, OH
159th	Jacksonville IAP, FL	Savannah MAP, GA	Glynco NAS, GA
186th	Gt Falls IAP, MT	Logan Fld, MT	Moose Jaw, Calgary
190th	Boise Aprt, ID	Grant Co. MAP, WA	Kingsley, Walla-Walla, Whidbey Is. NAS
196th	Ontario IAP, CA	Edwards AFB, CA	Palmdale, Palm Springs MAP, CA

The 25th Air Division, McChord AFB, Washington, asked ADC if the primary deployment base for the 190th FIS could be changed from Grant Co. MAP, Washington, to

1. ADC Operation Plan 300-71, 1 July 1971 (656).
2. (U) Alternate deployment options were at the discretion of the Region Commander.

REALIGNMENT OF DISPERSED OPERATING BASES

31 December 1970

1 July 1971

<u>Unit</u>	<u>MOB</u>	<u>DOB</u>	<u>Phase</u>
5th	Minot AFB, ND	Logan Fld, MT	II
18th (Inact.)*	Grand Forks AFB, ND	Volk Fld, WI	III(M)
27th (83rd)	Loring AFB, ME	Bangor IAP, ME	II
48th	Langley AFB, VA	New Hanover Co, NC	III(M)
49th	Griffiss AFB, NY	Niagara Falls IAP, NY	III(M)
60th (Inact.)	Otis AFB, MA	Bangor	III(M)
62nd (Inact.)	K.I. Sawyer AFB, MI	Phelps-Collins Arpt, MI	II
71st (319th)	Malmstrom AFB, MT	Logan Fld, MT	III(M)
84th	Hamilton AFB, CA	Fresno, CA	III(M)
87th (K.I. Sawyer)	Duluth IAP, MN	Volk Fld, WI	III(M)
94th (2nd)	Wurtsmith AFB, MI	Phelps-Collins	III(M)
95th	Dover AFB, DE	Atlantic City, NJ	III(M)
318th	McChord AFB,	Walla-Walla Arpt, WA	III(M)
460th (Grand Forks)	Kingsley Fld, OR	Siskiyou Arpt, CA	III(M)

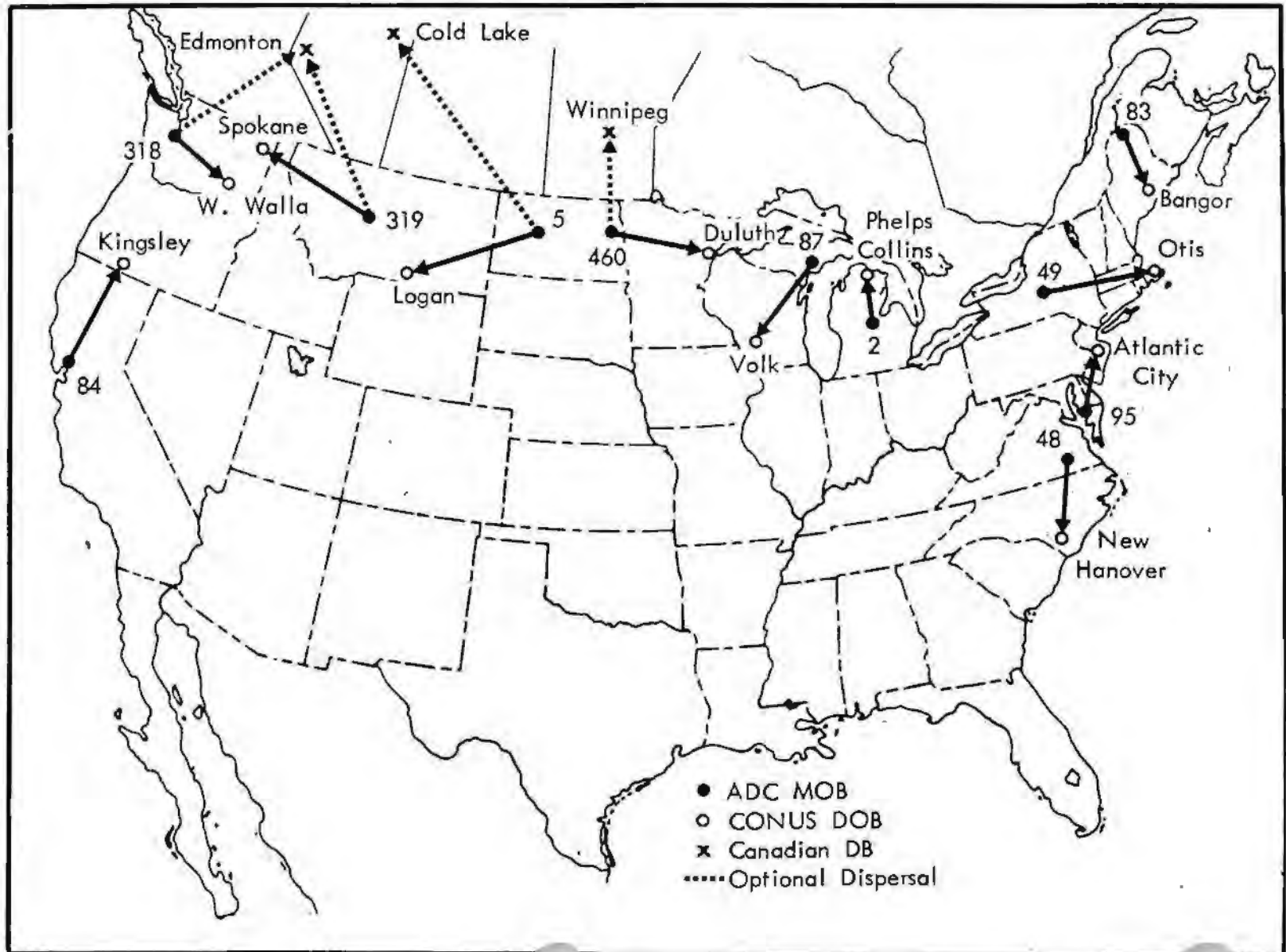
<u>Unit</u>	<u>MOB</u>	<u>DOB</u>	<u>Phase</u>
5th	Minot	Logan	I/III
83rd	Loring	Bangor	I/III
48th	Langley	New Hanover	I/III
49th	Griffiss	Otis	I/III
319th	Malmstrom	Spokane IAP, WA	I/III
84th	Hamilton	Kingsley	III
87th	K.I. Sawyer	Volk	I/III
2nd	Wurtsmith	Phelps-Collins	I/III
95th	Dover	Atlantic City	I/III
318th	McChord	Walla-Walla	I/III
460th	Grand Forks	Duluth	I/III

* (U) Information in parentheses indicates that the unit was inactivated, moved, or redesignated after 31 December 1970.

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USAF ADC REGULAR FORCE DISPERSAL ALIGNMENT - 1 JULY 1971



- ADC MOB
- CONUS DOB
- ✕ Canadian DB
- Optional Dispersal

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Kingsley Field, Oregon, as a more suitable tactical location.¹ ADC submitted the request to Hq NORAD which approved it on 22 October and the primary base changed to Kingsley for the 190th.² A change to 300N-70 had not been issued by year's end.

USE OF CANADIAN BASES FOR DOBS

(U) Hq NORAD and USAF ADC had tried since 1965 to obtain the use of four Canadian bases as DOBs. Agreement by the Canadian Government was required for development and use of these bases as DOBs and a proposal for such was submitted officially by the U.S. Ambassador to Canada in September 1966. No agreement had been concluded by 1971. However, the Canadian Government stated in its White Paper on Defence in the 70s, August 1971 (Chapter II), that it was prepared to respond to the U.S. proposal to negotiate the matter of U.S. aircraft dispersing to selected Canadian bases in time of crisis, as determined by the Government.

(S) The bases desired for use as DOBs by Hq NORAD and ADC were Namao, Alberta; Cold Lake, Alberta; Portage la Prairie, Manitoba; and Val d'Or, Quebec. Following issuance of the White Paper, Hq USAF asked ADC for information on Canadian DOB requirements. ADC confirmed the requirement for these four bases and stated that on-site surveys were required.³ Arrangements were made through the U.S.-Canadian Military Cooperation Committee (MCC) for the surveys which were made 4-14

1. Ltr, 25th AD to ADC, "Air National Guard Interceptor Aircraft Dispersal (U)," 1 October 1971 (430.3).
2. Ltr, Hq NORAD to ADC, "Air National Guard Interceptor Aircraft Dispersal (U)," 22 October 1971 (430.3); Interview, Mr. Buss with Major L. L. Davis, NOPP, 21 January 1972.
3. Msg, ADC to CSAF, CINCONAD, XPAW, 142125Z September 1971 (420).

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October 1971. At a meeting of the MCC on 16 September 1971, the Canadian Section presented a number of questions on dispersal and pointed out that the answers and the results of the site surveys would have to be evaluated before any proposal could be presented to the Canadian Government.¹ At a meeting of the Canadian-United States Permanent Joint Board on Defense in late October, the U.S. Chairman advised that, following evaluation of the surveys of the bases, the U.S. would send a letter of understanding to Canada covering the dispersal concept and the questions raised at the MCC meeting.² Hq NORAD was awaiting further information at the end of the year.

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1. PJBD Memorandum, "Journal of Discussions and Decisions of the 128th Meeting of the PJBD, Canada-United States, 25-29 October 1971 (U)," 1 November 1971 (655).
 2. Ibid.
 3. Interview, Mr. Buss with Major L. L. Davis, NOPP, 20 March 1972.

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CF-101 SQUADRONS

AIRCRAFT EXCHANGE

~~(S)~~ Background.² Canadian Forces Air Defence Command Headquarters (CF ADC Hq) had recommended in 1967 that its CF-101s be replaced with USAF F-101s being phased out of the USAF inventory. CF ADC Hq suggested that it was better to use the USAF aircraft with their improved fire control system rather than retire them. Hq NORAD concurred with the proposal in

1. (U) 319th was the designation given to the 71st FIS, Malmstrom AFB, on 1 July 1971. Also, on this date, the 27th FIS, Loring AFB, ME, was redesignated the 83d FIS, and the 94th FIS, Wurtsmith AFB, MI, was redesignated the 2d FIS. The 27th, 71st, and 94th designations were transferred to TAC. ADC's First Fighter Wing designation had been transferred to TAC in 1970 and USAF Hq had approved a TAC request to transfer also the designations of the squadrons that had a historical association with the Wing. The new designations are used in this report.
2. (U) For additional background, see CONAD Command History, 1970, pp. 62-63.

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August 1967. CF Hq informed Hq NORAD in April 1970 that Canadian Cabinet approval had been received to negotiate an agreement to exchange aircraft under a project termed Peace Wings. USAF advised on 14 May 1970 that it had given approval and that the Canadian Cabinet had approved the transaction.

(S) Fifty-eight aircraft were to be exchanged (48 F-101Bs for 48 CF-101Bs and 10 F-101Fs for 10 CF-101Fs) and Canada was to purchase 8 additional F-101Bs. Peace Wings would fulfill three needs:¹

1. Raise the CF ADC inventory from 58 to 66 CF-101s.²
2. Provide aircraft with an improved fire control system, and
3. Modify the autopilot system to improve flight control and system reliability.

The F-101s were refurbished and modified at Ling-Temco-Vaught Electro System, Greenville, South Carolina, and Bristol Aerospace, Ltd., Winnipeg, Manitoba. This work required approximately 70 days per aircraft. Acceptance and calibration at base level required another 15 days. ADC's CF-101s were sent back to the United States for storage on a phased schedule.

(S) Conversion Schedule and Progress. The 66 Peace Wings aircraft were planned to be allocated as follows:³

1. CF ADC, Aide Memoire, "Peace Wings (U)," 29 December 1970 (403).
2. (S) CF ADC's 58 CF-101s were located as follows:
28 at Bagotville, 18 at Chatham, and 12 at Comox.
3. Msg, 22d NR to CINCNORAD, 291200Z October 1971 (403); Memorandum, CF ADC SOAE 2, 30 December 1971; Interview, Mr. Buss with Major J. M. G. Ouimet, NLOG, 24 January 1972.

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28 to Bagotville, Quebec, 425 All Weather (Fighter)(AW(F)) Squadron (18 UE plus 1) and 410 Operational Training Squadron (9 UE).

19 to Chatham, New Brunswick, 416 AW(F) Squadron (18 UE plus 1).

13 to Comox, British Columbia, 409 AW(F) Squadron (12 UE plus 1).

6 for rotation for testing, modification and major maintenance (Bristol Aerospace, Winnipeg, and Aircraft Maintenance Development Unit, Trenton, Ontario).

(S) Re-equipment with the Peace Wings aircraft was originally scheduled for completion in September 1971. The program fell behind schedule, however, because of delays at Ling-Tempco-Vaught and in squadron acceptance. By the end of 1971, delivery of the last aircraft to the bases was scheduled for February 1972. As of 31 December 1971, 56 Peace Wings aircraft had been delivered, which was one aircraft behind schedule.¹ Bagotville had received 28 aircraft, Chatham 18, and Comox 10.

(S) Because of the re-equipping program and a reduction in aircraft availability caused by engine problems, the CF-101 squadrons were unable to continuously maintain normal operational status or to maintain NORAD alert except for short periods or for an emergency (see following section and page 85, CF ADC Interceptor Alert Posture).

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1. NORAD Management Program Report, Second Quarter FY, 1972, 31 December 1971, p. 4-12 (709); Msg, CANDEFCOM to CINC NORAD, SUP4338, 29 December 1971 (403); Msg, CANDEFCOM to CINC NORAD, SUP4000, 5 January 1972 (403); Interview, Mr. Buss with Major J. M. G. Quimet, NLOG, 11 February 1972.

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CF-101 ENGINE PROBLEMS

(S) Along with the Peace Wings conversion program, a serious engine problem arose in CF-101 squadrons. The engines in two CF-101 aircraft failed because of blade fatigue in the rotor compressor. The blades had extensive time on them and it was felt that other engines had blades of similar time and were subject also to failure. It would take some time to identify such engines and in the interim all engines were suspect.

(S) Commander CF ADC advised CINCNORAD on 19 March 1971 that he had directed CF-101 AW(F) squadrons to cease normal flying until further notice, but continue maintaining NORAD Alfa (peacetime) alert commitment under mandatory order status.¹ The 22d NR tasked its F-106-equipped 83d FIS, Loring AFB, Maine, on 23 March 1971, with responsibility for the entire 22d NR identification (ID) and "Cold Shaft" operations (see Soviet Aircraft Identification -- 22d NR, page 89).² The 22d NR's CF-101 AW(F) squadrons (416 and 425) were relieved of their ID commitment until the number of aircraft required for ID purposes was cleared for unrestricted operations. CF-101s that would normally be designated for ID purposes were to be maintained on a 1-hour conventionally-armed readiness posture.

(S) The third CF-101 squadron, 409, was assigned to the 25th NR. The 25th NR relieved 409 Squadron of 5-minute ID alert until further notice, effective 26 March 1971 (see page 85 for year-end alert posture).³

1. Msg, CANDEFCOM to CINCNORAD, DCOS OPS20, 192310Z March 1971 (403).
2. Msg, 22NR to 27FIS, CINCNORAD, et al., 22OPS32, 232035Z March 1971 (403 X 420); (U) For background on "Cold Shaft," see CONAD Command History, 1970, pp. 55-57.
3. Msg, 25NR to Hq NORAD, 25DOTW, 301700Z March 1971 (403 X 420).

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(S) CF Hq requested assistance from Hq NORAD on 27 March in hastening the supply of blades from U.S. sources for Canadian use.¹ Hq NORAD requested assistance from USAF, pointing out that the engine problem had serious impact on NORAD operational capability.² Hq NORAD was advised that compressor blade sets and zero-time J-57 engines would be loaned to the Canadian Forces.³

(S) CF ADC Hq advised CINCNORAD on 27 April that flying had been resumed to a limited extent by all squadrons and they were assuming the ID alert when able as a result of increased production of compressors and engines, maintenance work by the Canadian Forces, and the loan of spare blade sets and engines by USAF.⁴ CF ADC Hq added, however, that to build and sustain crew capability, it would be necessary to fly ID-assigned aircraft until enough additional aircraft became available.

(S) The 83d FIS continued to be primarily responsible for Cold Shaft operations. The 22d NR advised on 20 May that enough CF-101s were not yet available to conduct training and maintain continuous ID and Cold Shaft operations. Both 416 and 425 Squadrons were providing 5-minute readiness aircraft when possible, but neither squadron was able to hold a firm commitment. 416 Squadron assisted in Cold Shaft operations insofar

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1. Msg, CANFORCEHED to CINCNORAD, VCDS 621, 262205Z March 1971 (403).
 2. Msg, CINCNORAD to USAF, NLOG 292130Z March 1971 (403).
 3. Msg, CSAF to AFLC, info CINCNORAD, SME 012334Z April 1971 (403); Msg, AFLC to CANLOGCON, info CINCNORAD, MMP 021425Z April 1971 (403); Msg, Dir Mat Mgt, Tinker AFB, to CINCNORAD, MMT 081930Z April 1971 (403).
 4. Msg, CANDEFCON to CINCNORAD, DORA 271725Z April 1971 (403).

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as aircraft availability permitted (for later operations and policy, see Soviet Aircraft Identification -- 22 NR, page 89). For year-end alert posture, see page 85.

(S) By the end of CY 1971, CF ADC had a total of 143 approved engines of which 91 were assigned to the 22d NR.¹ It was expected that complete recovery would be achieved by the end of January 1972.

FIGHTER-INTERCEPTOR ALFA READINESS REQUIREMENTS

1970 REQUIREMENTS

(S) NORAD/CONAD Regulation 55-3, 25 May 1970, required each regular interceptor squadron under Alfa (peacetime) Weapons Readiness State to maintain a specified number of interceptors on alert in accordance with a squadron's combat capability or "C" rating² and number of authorized aircraft. The goal was to have one-third of a squadron's authorized aircraft on alert. Fifteen-minute readiness was required at Main Operating Bases (MOBs) and 1-hour readiness at DOBs for regular USAF squadrons.³ Canadian squadrons were to maintain the total C-rating requirement on 1-hour readiness.

1. Memo, CF ADC SOAE 2, 30 December 1971 (403).
2. (U) A unit's C rating was an overall evaluation of its combat capability based upon objective measurement (i.e., personnel, equipment/supplies on hand, equipment readiness, and training) and the commander's personal subjective evaluation. Ratings ran from C-1, the highest, through C-4. C ratings applied to Alfa Weapons Readiness State requirements and were not applicable to higher weapons readiness states. Alfa was held at DEFCON 5 or 4.
3. (S) ANG units maintained 4 aircraft on 15-minute readiness posture at home bases under normal operations status.

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(S) No specific requirement was stated for the aircraft required to perform the around-the-clock identification (ID) requirement. The aircraft designated for this function had to be on 5-minute readiness. It was left to the region commanders to determine the ID requirement and designate the number of aircraft maintained on 5-minute readiness by each interceptor squadron. These aircraft were to be counted as part of the 15-minute or 1-hour requirement.

(S) Deviations from the 15-minute and 1-hour requirement could be authorized by region commanders when a squadron was engaged in a special activity (given activity code abbreviations): deployment (RO), training or exercises (TR/EX), deactivation (DE), or re-equipping (EQ).

APRIL 1971 CHANGE

(S) When alert was terminated at Phase I/Phase III DOBs on 12 March (Dispersal, pages 67-69), Hq NORAD directed the regions to assume the total alert requirement at unit MOBs. Hq NORAD changed the DOB alert requirement from 1 hour to 15 minutes on 8 April 1971 (Interim Change 1 to NORAD/CONAD Regulation 55-3, 25 May 1970). Therefore, units assigned a Phase I/Phase III DOB were to maintain the total 15-minute posture at home base (see table, page 83). The requirement for Canadian units was not changed.

AUGUST 1971 CHANGES

(S) The fact that the Alfa alert posture for regular squadrons was tied to the squadron's C rating caused the number of aircraft on alert to fluctuate greatly from day-to-day because of changes in squadron C ratings. Also, because of authorized deviations for special activities and the fact that so few units continuously maintained the highest C rating (C-1), the number of aircraft on alert fell short of the goal of having one-third of a squadron's aircraft on alert.

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(S) A revised regulation was issued on a trial basis effective 23 August 1971 as Interim NORAD/CONAD Regulation 55-3, changing the requirements for USAF ADC squadrons. The purpose of the revision was to establish a firm readiness requirement and a maximum survivable posture for interceptors. The C rating adjustment for alert requirements for USAF ADC units was deleted. A firm minimum Alfa alert requirement was established for each USAF ADC squadron having a normal operations (OP) Activity Code (see table on page 84) including a requirement for two aircraft on 5-minute alert (for the ID function). Hq NORAD/CONAD approval was required for assignment of (1) TR Activity Code for regular interceptor units; (2) assignment of RO, EQ and DE Activity Codes; or (3) placing all regular and ANG interceptor units within the region in an EX Activity Code at the same time for region-generated exercises not previously coordinated, approved and published in the Hq NORAD/CONAD Exercise Calendar Schedule. The requirements for CF ADC squadrons,¹ Alaskan NORAD/CONAD Region, and the ANG were not changed in Interim NORAD/CONAD Regulation 55-3.

(S) Hq NORAD asked USAF ADC and the regions on 14 October for their comments on the impact of Interim NORAD/CONAD Regulation 55-3. USAF ADC replied that the increased alert commitment had caused no major adverse effects on interceptor operations but aircrew workweek had increased by an average of 10 hours. ADC recommended that the trial period be continued through the winter months.² The majority of the regions indicated no problems with operations. However, aircrew workweek and

1. (U) See page 85, for CF-101 squadron alert posture.
2. Memo for CINC, C/S, from DCS/Operations, "Comments from the Components and Region Commanders on Interim NORADR/CONADR 55-3, Weapons Readiness and Readiness Postures (U)," 3 November 1971 (420).

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INTERIM CHANGE 1, NORAD/CONAD REGULATION 55-3
(8 APRIL 1971)*

ALFA READINESS STATE
Regular Squadron Requirement

Unless otherwise authorized by CINCNORAD/CINCONAD interceptor units will maintain the numbers of aircraft on the Readiness postures as indicated below at USAF MOBs and DOBs. USAF units assigned a Phase I/Phase III DOB (no continuous dispersal) will maintain the total requirement for MOB and DOB on a 15-minute posture at Home Base. Canadian units will, except for ID function, maintain the total C-Rating requirement on a 1-hour readiness posture.

Activity Code	C-Rating	AUTHORIZED UNIT EQUIPMENT (U. E. AIRCRAFT)					
		<u>12 U. E.</u>		<u>18 U. E.</u>		<u>24 U. E.</u>	
		<u>MOB</u>	<u>DOB</u>	<u>MOB</u>	<u>DOB</u>	<u>MOB</u>	<u>DOB</u>
		<u>Acft/Posture</u>	<u>Acft/Posture</u>	<u>Acft/Posture</u>	<u>Acft/Posture</u>	<u>Acft/Posture</u>	<u>Acft/Posture</u>
OP	C-1	0 15 min	4 15 min	2 15 min	4 15 min	4 15 min	4 15 min
	C-2	0 15 min	3 15 min	0 15 min	4 15 min	2 15 min	4 15 min
	C-3	0 15 min	2 15 min	0 15 min	3 15 min	0 15 min	4 15 min
	C-4	0 15 min	0 15 min	0 15 min	0 15 min	0 15 min	0 15 min
		All remaining OR aircraft on 3-hour Readiness posture.					
RO		Same as OP except that 15-minute or 1-hour requirement is reduced by number of aircraft deployed or devoted to special mission.					
TR/EX		All OR interceptors on 3-hour Readiness posture.					
DE		All OR interceptors on 3-hour Readiness posture unless released.					
EQ		Same as OP (based on C-Rating) unless released by Region Commander.					

* (U) Table 1, Attachment 1, NORAD/CONAD Regulation 55-3, 25 May 1970, as changed by Interim Change 1, 8 April 1971.

INTERIM NORAD/CONAD REGULATION 55-3
(23 August 1971)

ALFA READINESS STATE

USAF ADC FIS REQUIREMENTS

Activity Code	Minimum Requirements
OP	a. 2 Interceptors conventionally armed on 5-minute posture. 2 Interceptors conventionally armed on 15-minute posture. 2 Interceptors fully armed on 15-minute posture. <u>6 Total Requirement</u> b. Units assigned a Phase III DOB will maintain at least two of the six required interceptors on nuclear-armed 15-minute posture at the DOB. c. All remaining OR aircraft on a 3-hour readiness posture.
EX	All OR aircraft on a minimum 3-hour readiness posture.
RO	Same as OP, except that the 5-minute or 15-minute readiness requirement is reduced by the number of aircraft deployed or devoted to the special mission.
TR	All OR interceptors on 3-hour readiness posture.
DE	All interceptors on 3-hour readiness posture, unless released.
EQ	Same as OP, unless released by region commander.

maintenance workload increased. The regions recommended that the trial period be extended through the adverse weather season. All regions agreed with the concept except the 24th which recommended, without explaining its rationale, that alert requirements be based on C-ratings.

(U) Interim NORAD/CONAD Regulation 55-3 was still in force at the end of CY 1971. Some changes had been proposed by Hq NORAD and were being coordinated but had not yet been issued.

CF ADC INTERCEPTOR ALERT POSTURE

(S) When Hq NORAD proposed to change the Alfa alert posture, CF ADC replied that it had not yet determined its capability to meet the requirements and also desired to await guidance to be provided by the Canadian White Paper.¹ CF ADC advised on 23 September that it had determined that it was possible to adopt, as resources permitted, a posture of two aircraft on 5 minutes for 409 Squadron and two on 5 and two on 15 minutes for 416 Squadron and 425 Squadron.² All aircraft were to be armed with conventional weapons. Hq NORAD replied that it approved this proposed posture and implementation as resources permitted.³

(S) Hq NORAD advised CF ADC and the two regions in which the CF-101 squadrons were located (22d and 25th) that this posture would be incorporated in a revision to Interim NORAD/CONAD Regulation 55-3. Hq NORAD said it recognized, however, that until completion

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1. Msg, CANDEFCON to CINC NORAD, COMD 76, 172245Z August 1971 (420).
 2. Msg, CANDEFCON to CINC NORAD, COMD 83, 231905Z September 1971 (420).
 3. Msg, Hq NORAD to CANDEFCON, NOPS, 281605Z September 1971 (420).

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of the Peace Wings conversion program full compliance with this new posture might not be feasible.¹

(S) CF ADC informed its three CF-101 squadrons and also the 22d and 25th regions of Hq NORAD's approval of the above alert and recognition of the problems in fully complying until completion of the Peace Wings conversion program.² CF ADC stated that until completion of this program, it believed attainment of alert might best be resolved between each squadron and its parent region. In the meantime, the squadrons had to do much flying training to regain normal combat readiness. CF ADC said it was most important during this period that a judicious balance be maintained between essential flying training and the alert posture. Insistence on an alert posture higher than a squadron and base could safely sustain could have serious flying safety consequences.

(S) Delivery to the squadrons of all Peace Wings aircraft was scheduled for February 1972. The change to Interim NORAD/CONAD Regulation 55-3 pertaining to CF ADC had not been issued by the end of CY 1971.

SPECIAL REQUIREMENTS

FLORIDA AIR DEFENSE

(S) Background.³ Hq CONAD issued OPLAN 308 by message on 8 January 1970 to provide for increased early warning and air defense when the President was in residence

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1. Msg, Hq NORAD to CANDEFCOM, 22d NR, 25th NR, NOPS 232315Z November 1971 (420).
 2. Msg, CANDEFCOM to 416, 409, 425 Sqdns, 22d NR, 25th NR, et al., COMD 118, 291405Z November 1971 (420).
 3. (U) For additional background, see CONAD Command History, 1969, pp. 127-140; and CONAD Command History, 1970, pp. 46-52.

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at Key Biscayne, Florida. A formal plan (OPLAN 308C-70) was issued 1 April 1970. CINCLANT and CINCSTRIKE were tasked to provide F-4s for alert at NAS Key West and Homestead AFB, and ADC was to maintain a detachment of three EC-121s at McCoy AFB.

(S) CINCONAD assumed responsibility for providing the interceptors for Southern Florida on 3 June 1970, relieving CINCLANT and CINCSTRIKE. A detachment from ADC's 48th FIS, Langley AFB, Virginia, assumed the task at Homestead AFB. Hq CONAD issued a new plan, OPLAN 318C-70, 17 June 1970 (which remained in effect during CY 1971), directing the 20th CONAD Region (CR) Commander to do the following:

1. Exercise operational control of all forces made available for this plan.

2. Increase AEW&C manning of Station 50 (or Station 52 if so specified by the CONAD COC) to 24 hours per day beginning not later than 2 hours prior to the President's arrival and terminating not earlier than 1 hour subsequent to the President's actual departure from the Southern Florida area.

3. Maintain the readiness posture of interceptor forces in the Southern Florida area at two interceptors at 5-minute readiness posture and two interceptors at 15-minute readiness posture during the period starting 2 hours prior to the President's scheduled arrival at Key Biscayne, Florida, and terminating not earlier than 1 hour subsequent to the President's actual departure from the Southern Florida area.

4. Direct selected ADA fire units in the Miami-Homestead defense to assume 5-minute status on a rotational basis during the period that the President is in residence at Key Biscayne, Florida.

(S) Alert Commitment at Homestead AFB. The 20th CR requested on 4 January 1971 that the 48th FIS detachment be augmented on occasion by two F-102s from the ANG 125th Fighter Group, Jacksonville, Florida.¹ The

1. Msg, 20 NR to Hq NORAD, NOPS 041930Z January 1971 (420).

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48th FIS had to provide six F-106s for the 318C mission to assure enough operationally-ready aircraft for alert and to provide training for the Manual CONAD Control Center (located at NAS Key West). The 20th Region proposed that when the 48th's detachment was augmented by F-102s, three F-106s would be employed, but the primary ID aircraft would be the F-106s. This augmentation would give the region more flexibility for its various responsibilities. Hq CONAD concurred with the proposal provided that it not pertain to periods when OPLAN 318C was implemented.¹

(S) The 20th Region requested a change also to its alert commitments because of difficulty in meeting the total requirements. The 48th FIS asked that the aircraft at Homestead AFB be credited toward meeting its total Alfa alert commitment (six aircraft).² The 48th was having to provide aircraft for alert at both its MOB and at Homestead AFB. CINCONAD authorized a more flexible arrangement for the 20th Region without lowering the Alfa alert requirement.³ The region commander could choose to hold the entire Alfa alert requirement at Homestead when all six deployed aircraft were in commission and crews available or commit four to alert at Homestead and two at Langley AFB. CINCONAD granted the region authority to reduce the 15-minute requirement at the MOB to a 1-hour status not to exceed two aircraft.

(S) The revised regulation specifying Weapons Readiness States and Postures, Interim NORAD/CONAD Regulation 55-3, 23 August 1971, provided that the squadron tasked with the Southern Florida mission would be granted an RO (deployment) Activity Code and would maintain at Homestead AFB four interceptors, two on 5-minute posture and two on 15-minute posture.

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1. Msg, Hq NORAD to 20NR, NOPS, 052135Z January 1971 (420).
 2. Msg, 20NR to CINCNORAD, NHCR, 041340Z May 1971 (420).
 3. Msg, CINCNORAD to 20NR, NHCR, 251750Z May 1971 (420).

SOVIET AIRCRAFT IDENTIFICATION - 22D NR

(S) NORAD OPLAN 304N-70. Soviet bomber penetrations of the Greenland-Iceland-United Kingdom (G-I-UK) Line increased greatly starting in early 1968. Occasionally, Soviet aircraft flew on into the Canadian Air Defense Identification Zone (CADIZ). To meet these incursions into the CADIZ, CINCNORAD established an identification alert at two bases, Loring AFB, Maine, with two F-106s (83d FIS) and CFB Chatham, New Brunswick, with CF-101s (416 Squadron). NORAD OPLAN 304N-68, 15 July 1968, established the operation. CF ADC and 22d NR termed the operation "Cold Shaft." This term was still used by these commands during 1971. USAF ADC termed its operation plan "College Shaft."

(S) NORAD OPLAN 304N-70, 8 April 1970, replaced 304N-68. 304N-70 directed that upon receipt of a G-I-UK Line penetration suspected to be proceeding toward the CADIZ, the interceptors at Loring AFB and CFB Chatham were to be scrambled to their forward turnaround bases and immediately recycled to Strategic Orbit Points. Loring's aircraft used Goose AB and Chatham's aircraft used Gander AB for turnaround from 1 April through 31 October. Both used Goose AB from 1 November through 31 March because of bad weather at Gander AB. 304N-70 remained in effect during CY 1971. Change 1, 21 June 1971, added a provision for the 22d NR Control Center to notify the NORAD Combat Operations Center when the plan was implemented and terminated.

(S) CF-101 Flying Restrictions. Commander CF ADC ordered his CF-101 squadrons to cease normal flying operations on 19 March until further notice because of an engine failure problem (see page 78). The 22d NR directed the 83d FIS to meet the entire Cold Shaft commitment and the Region ID commitment. The 83d FIS was directed to maintain two aircraft on 5-minute alert for ID/Cold Shaft and two on 15 minutes for Cold Shaft.

(S) Commander CF ADC informed CINCNORAD on 27 April that flying had been started to a limited extent and the CF-101 squadrons were assuming the ID alert when able. The 22d NR advised on 20 May that

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sufficient aircraft were not yet available for training and maintaining continuous ID and Cold Shaft commitments. 416 Squadron was providing 5-minute readiness aircraft when available, but the squadron could not hold a firm commitment for some time. The 22d NR had directed that when a Cold Shaft scramble was necessary, the Region Senior Director would determine if 416 Squadron could provide two aircraft. If it could, the two aircraft were to be brought to 5-minute readiness and only the two 83d FIS F-106s on 15 minutes would be committed to Cold Shaft. If 416 could not provide the aircraft, all four 83d FIS aircraft on alert would be used for the Cold Shaft requirement.¹ This procedure prevailed until 2 September when it was modified to meet policy enunciated in the Canadian White Paper.

(U) Canadian Conduct of Canadian Defense Activities. The Canadian White Paper on Defence, August 1971, stated the principle that during normal peacetime circumstances the carrying out of defense activities on Canadian territory would be by CF personnel. Peacetime identification, for example, should be by Canadian aircraft. The Paper stated that CF-101s should at all times be able to make intercept and identification missions in the approaches to Eastern Canada and arrangements for such would be made.

(S) The 22d NR advised on 2 September (and further explained on 23 September) that effective 2 September 1971, CF-101s would be used for Cold Shaft operations insofar as was practical in line with the policy in the White Paper.² In all cases, tactical considerations would dictate the response, however. Hq NORAD approved

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1. Msg, 22NR to CFB Chatham, 416 Sqdn, 27 FIS, CINCNORAD, 22OPS 50, 201835Z May 1971 (420).
 2. Msg, 22d NR to 416 Sqdn, 425 Sqdn (Info CINCNORAD), 22OPS 124, 022000Z September 1971 (420); Msg, 22d NR to CINCNORAD, 22CRD 28, 231910Z September 1971 (420).

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on 28 September and directed review of OPLAN 304N-70.1
Upon receipt of the regions' comments, the plan would
be revised to reflect this new policy. A revised
OPLAN had not been issued by the end of CY 1971.

(S) Cold Shaft Implementation Summary. The 22d
NR summarized implementation of Cold Shaft during 1971
as follows:²

1. 22 March - 4 F-106s
2. 20 April - 2 F-106s
3. 26 June - 2 F-106s and 2 CF-101s
4. 25 November - 4 CF-101s and 2 F-106s

AUGMENTATION OF NORAD/CONAD FORCES

AUGMENTATION FORCE STATUS

	<u>31 December 1970</u>	<u>31 December 1971</u>
<u>OPLAN 302C-68</u>		
Pre-Committed Aircraft:		
Tactical Air Command	128 F-4s	116 F-4s
U.S. Navy/ Marine Corps	55 F-4s 8 F-8s	55 F-4s
<u>College Tap</u>		
4780th Air Defense Wg	34 F-102s	None

1. Msg, Hq NORAD to 22d NR, NOPS, 281610Z September 1971 (420).
2. Memo, 22d NR OWP, 10 January 1972 (420).

	<u>31 December 1970</u>	<u>31 December 1971</u>
Air Defense Wpns Ctr	16 F-106s 9 F-101s 8 F-102s	20 F-106s
<u>College Tang</u>		
147th ANG Ftr Gp	20 F-102s	10 F-102s 9 F-101s
<u>CF ADC</u>		
410 Opnl Trng Sqdn	CF-101s as available	CF-101s as available

AUGMENTATION BY TAC, NAVY AND MARINE CORPS

(S) CONAD OPLAN 302C-68. Augmentation of the CONAD force in an emergency with aircraft from Tactical Air Command (TAC), the Navy and the Marine Corps was provided for in CONAD OPLAN 302C-68, 15 September 1968. The plan did not provide an effective augmentation force, however.¹ One reason was that the JCS had approved it for planning and programming purposes only and the Services had never funded for its support. Also, the pre-committed force consisted of tactical training aircraft rather than tactical operational aircraft. Hq CONAD also had difficulty in assuring the training of augmentation crews in air defense operations.

(S) Proposed OPLAN 3101. The JCS tasked CINCONAD in April 1971 to develop a new plan for augmentation by TAC, the Navy and the Marine Corps. The JCS specified that provision was to be made for augmentation by

1. (U) For background, see CONAD Command History, 1969, pp. 75-78.

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tactical operational aircraft and that the plan was to be coordinated with CINCPAC, CINCLANT and CINCSTRIKE.¹ CINCONAD advised these commanders that a working group had been formed at Hq CONAD and a conference would be convened for coordination prior to submission of the plan to the JCS.² The draft operation plan (CONAD OPLAN 3101) prepared on the basis of JCS guidelines, was sent to the unified commanders on 4 May 1971.

(S) The draft plan provided for the use of tactical fighter augmentation forces in an air defense role in the event of enemy attack, or threat of attack. Employment would be required at JCS DEFCON 3, or when directed by the JCS, or automatically upon receipt of CINCNORAD/CINCONAD declaration of Air Defense Emergency or Air Defense Warning Red (actual attack). Upon implementation of the plan, a portion of the augmentation forces were to deploy to Augmentation Operating Bases (AOBs). The remainder would be employed from home bases. The draft plan stated that it was expected that as many as 14 F-4 tactical fighter squadrons would be available for augmentation.

(S) The training requirements proposed by Hq CONAD to qualify aircrews to fly NORAD/CONAD missions included making 62 intercepts each six months, attending NORAD/CONAD ground indoctrination, and participating in at least one region exercise annually. Each region was to include a portion of the augmentation force in a minimum of four region-wide exercises per year. One exercise would include one complete augmentation squadron.

(S) CINCLANT and CINCSTRIKE objected to automatic implementation at JCS DEFCON 3 or CINCNORAD/CINCONAD

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1. (U) CINCPAC - Commander-in-Chief, Pacific; CINCLANT - Commander-in-Chief, Atlantic; CINCSTRIKE - Commander-in-Chief U. S. Strike Command.
 2. Msg, CINCONAD to CINCLANT, CINCPAC and CINCSTRIKE, CHCR, 122305Z April 1971 (430).

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declaration of Air Defense Emergency or Air Defense Warning Red.¹ Both commanders desired employment of augmentation forces only when directed by the JCS. CINCSTRIKE requested that the reaction time requirement state that "strategic warning is assumed to be 12 hours prior to plan implementation." CINCSTRIKE explained that to meet a no-notice implementation would require a peace-time alert posture. The recommended change would remove this requirement.

(S) CINCLANT objected to participation of an entire squadron in a region exercise. CINCSTRIKE recommended augmentation force participation in region exercises be cut from four to two per year.

(S) CINCPAC recommended that two Navy training squadrons be committed rather than tactical squadrons.² The two squadrons (Readiness Attack Carrier Air Wing (RCVW) squadrons), at NAS Miramar, had highly qualified crews, were committed under 302C-68 and had participated in the 26th Region's exercises.

(S) A working group conference was convened at Hq CONAD in June 1971 at which time these objections and others were discussed. The conference did not settle the central issues of the requirements for plan implementation, reaction time, the composition of the augmentation force, and CINCONAD's training requirements. Hq CONAD explained its position on these items to CINCLANT, CINCPAC and CINCSTRIKE in a message on 16 July.³

1. Plan Implementation. Hq CONAD wanted this to remain as drafted (at JCS DEFCON 3, or when directed

1. Msg, CINCSTRIKE to CINCONAD, STRJ-5-AF 03659, 251901Z May 1971 (430.1); Msg, CINCLANT to CONAD, NO3100, 271507Z May 1971 (430.1).
2. Msg, CINCPAC to CINCONAD, 250333Z May 1971 (430.1).
3. Msg, Hq CONAD to CINCLANT, CINCPAC, and CINCSTRIKE, CHCR, 161725Z July 1971 (430).

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by the JCS; or automatically upon receipt of CINCNORAD/CINCONAD declaration of Air Defense Emergency or Air Defense Warning Red). This would provide for both strategic and tactical warning and also provide the National Command Authorities a "trigger" under strategic warning conditions for timely implementation of an augmentation plan.

2. Reaction Time. Hq CONAD stated that the reaction time section would provide the following:

aircraft deploying to AOBs -
30 per cent airborne within 3 hours after plan implementation, an additional 30 per cent airborne within 6 hours, and the remainder airborne within 12 hours; aircraft operating from home base - Delta NORAD Weapons Readiness Posture, as defined in NORAD/CONAD Regulation 55-3, as soon as possible upon receipt of plan implementation but not less than 30 per cent in 3 hours, an additional 30 per cent within 6 hours, and the remainder within 12 hours.

3. Force Composition. Hq CONAD wanted USAF and Marine Corps squadrons to be tactical (above-the-line) squadrons and pre-designated. Hq CONAD stated that it considered it essential to have fighter units responsive to CONAD command and control requirements under both strategic warning and emergency conditions. Hq CONAD agreed to accept, however, the Navy training squadrons proposed by CINCPAC in place of tactical squadrons. A prime mission of Naval RCVW units was fleet air defense.

4. Training Requirements. Hq CONAD maintained that while training was a service responsibility, it was CINCONAD's responsibility as a unified commander to establish standards and requirements for development of an effective joint team for air defense.

(S) Hq CONAD asked for comment or concurrence on these issues. CINCLANT and CINCSTRIKE objected to the

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provisions for plan implementation.¹ Both stated the decision to transfer control should occur only at the direction of the JCS. CINCPAC and CINCSTRIKE desired that the reaction time requirement have added a statement that strategic warning of a minimum of 12 hours would be given prior to plan implementation.² CINCSTRIKE did not concur with the provision for use of identified above-the-line tactical fighter units. Neither CINCPAC nor CINCSTRIKE accepted the training requirements as proposed. CINCPAC desired that the requirement for intercepts per aircrew each six months be reduced from 62 to 50. CINCSTRIKE recommended that the CONAD plan address training policies in the conduct of joint exercises only.

(S) CINCONAD advised the JCS that agreement could not be reached by the unified commanders involved on these basic issues.³ He explained that consideration was given to the views of all the commanders, but all views could not be incorporated and still have a workable plan and a plan that followed JCS guidelines. CINCONAD stated that he was concerned that agreement could not be reached, but even more important was the requirement for a plan that would give CONAD the viable, realistic augmentation it now lacked. All of the divergent views were detailed for the JCS and the draft plan was forwarded for resolution by the JCS.⁴

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1. Msg, CINCSTRIKE to Hq CONAD, STRJ5-AF-08457, 291530Z July 1971 (430.1); Msg, CINCLANT to CINCONAD, NO3100, 092013Z August 1971 (430.2).
 2. Msg, CINCPAC to CINCONAD, 012152Z August 1971 (430.2).
 3. Ltr, CINCONAD to JCS, "Use of Tactical Aircraft for CONAD Augmentation (U)," 7 September 1971 (430).
 4. Ltr, Hq CONAD to JCS, "Draft CONAD OPLAN 3101 - Augmentation of Strategic Defensive Forces (U)," 8 September 1971 (430).

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(S) The matters of divergence had not been settled and an approved plan returned to Hq CONAD by the end of CY 1971.¹ The old CONAD OPLAN, 302C-68, still remained in force.

COLLEGE TAP AUGMENTATION

(S) Background. ADC's Air Defense Weapons Center (ADWC), Tyndall AFB, Florida, and the 4780th Air Defense Wing (ADW), Perrin AFB, Texas, had interceptors assigned for training that could be used for air defense in an emergency if deployed to forward bases. ADC OPLAN 23-70, 1 January 1970, and NORAD Operation Order 300N-70, 15 April 1970, provided that the ADWC would deploy 16 F-106s, 9 F-101s, and 8 F-102s and the 4780th ADW would deploy 34 F/TF-102s.

(S) Reduction. The number of aircraft for College Tap deployment was reduced to 20 F-106s from the ADWC, effective 22 March 1971. F-101 and F-102 augmentation from the ADWC was deleted and augmentation from the 4780th ADW, Perrin AFB, terminated because of USAF program actions.

(S) F-101 training was transferred from the ADWC to the ANG 147th Fighter Group (Training), Ellington AFB, Texas, because of the transfer of ADC's F-101s to the ANG (pages 63-64). ADWC's F-101s designated for College Tap were transferred to the 147th Fighter Group and the ADWC F-102 authorization was deleted. ADWC F-106 authorization was increased, however, and planned College Tap deployment raised from 16 to 20 F-106s. ADC began phasing down its training (F-102) at Perrin AFB early in March and closed the base and deactivated the 4780th ADW at the end of June.²

1. Interview, Mr. Buss with Major L. L. Davis, NOPP, 20 January 1972.
2. NORAD Forces and Program Change Summary, 1 April 1971 (718); ADC Program Action Directive 71-10, 9 March 1971 (403).

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(S) Interim Change 2, 22 March 1971, to ADC OPLAN 23-70, and Change 4, 15 June 1971, to NORAD Operation Order 300N-70, listed the following College Tap deployment of F-106 aircraft:

<u>Region</u>	<u>Base</u>	<u>Deployed Within 3 Hours</u>	<u>Added Within Next 9 Hours</u>	<u>Added Within Next 6 Hours</u>	<u>Total In 18 Hours</u>
20th	Dover	2	2	0	4
21st	Griffiss	0	0	4	4
23d	K.I.Sawyer	0	4	0	4
	Wurtsmith	2	2	0	4
24th	Grand Forks	4	0	0	<u>4</u>
					20

Change 4 to Operation Order 300N-70 stated that these aircraft would come under NORAD operational control automatically at DEFCON 3 or higher Alert Condition (LERTCON), Missile Attack Warning, or upon declaration of Air Defense Warning Red by CINCNORAD/CINCONAD or his designated representative and would be retained until released by CINCNORAD/CINCONAD. In these circumstances, unless otherwise directed, the aircraft were to be automatically deployed as indicated.

(U) ADC superseded its 1970 College Tap OPLAN 23-70, with OPLAN 3319, 10 September 1971. The implementation conditions and deployments stated above were listed. College Tap deployments remained the same at year's end.

COLLEGE TANG AUGMENTATION

(S) 1970 Background. The ANG 147th Fighter Group (Training), Ellington AFB, Texas, with a primary mission of ANG F-102 combat crew training, was equipped with 20 F/TF-102s in 1970. ADC OPLAN 24-70, "College Tang," 1 July 1970, provided that at DEFCON 3 or higher readiness

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state, the unit would cease training and prepare for combat operations. When directed by CINCONAD/CINCNORAD, the 147th's aircraft would be deployed to one or several selected forward bases. ADC provided several deployment options within three general categories designated Alfa, Bravo and Charlie. CINCONAD/CINCNORAD would determine the deployment option to meet the particular situation.

(S) One deployment option in OPLAN 24-70 (Bravo) included deployment to two Canadian bases, North Bay, Ontario, and Moose Jaw, Saskatchewan. Hq NORAD asked CF ADC Hq for its comments on this portion of the ADC plan. CF ADC replied that approval should be sought from CF Hq. The latter informed Hq NORAD that it had no prior knowledge of the plan. Hq NORAD directed USAF ADC to rescind those portions of the plan concerning deployment to Canadian bases pending coordination with CF authorities. USAF ADC issued Change 1, 25 August 1970, deleting all reference to deployment to Canada of College Tang aircraft.

(S) 147th Fighter Group Equipment Change. As stated previously, the three USAF ADC F-101 squadrons were inactivated and the aircraft used to re-equip three ANG F-102 squadrons. F-101 training was ended at ADC's Air Defense Weapons Center, Tyndall AFB, Florida, and taken over by the ANG 147th Fighter Group. The 147th's equipment was changed to 10 F/TF-102s and 9 F-101s (the F-101s being transferred from Tyndall AFB).

(S) Deployment to Canadian Bases. Hq NORAD proposed to CF Hq in March 1971 that the 147th's aircraft be deployed at DEFCON 3 to fill a gap between Val d'Or, Quebec, and K. I. Sawyer AFB, Michigan, and to augment the 22d NR.¹ CF Hq agreed to a Hq NORAD request for permission for CF ADC and USAF ADC to develop a plan

1. Msg, Hq NORAD to CF Hq, NOPS, 231630Z March 1971 (430.3).

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which would be subject to approval by CF Hq.¹ CF ADC, USAF ADC, and Hq NORAD representatives tentatively agreed at a meeting in May for deployment of the 147th's aircraft to the 22d NR, as directed by CINCONAD/CINCNORAD. CF ADC and USAF ADC were to rewrite OPLAN 24-70 and submit it for approval.

(S) USAF ADC OPLAN 3320. The new College Tang plan, dated 1 September 1971, approved by CF Hq² and Hq NORAD, included an option for deployment to CF bases. USAF ADC OPLAN 3320 provided that the 147th Group would augment NORAD/CONAD forces with 19 aircraft (10 F-102s and 9 F-101s) upon plan implementation. The plan would be implemented automatically upon receipt of missile attack warning, or declaration of Air Defense Emergency or Air Defense Warning Red by CINCNORAD/CINCONAD; and by direction of CINCNORAD/CINCONAD upon declaration of DEFCON 3 or higher state of readiness. The 19 aircraft would be deployed to one or several locations depending on the tactical situation and selection of the Alfa, Bravo or Charlie options. Deployment was to begin 3 hours after plan implementation and be completed in 18 hours. The aircraft were to deploy with conventional weapons, but nuclear weapons for the F-101s were to be made available at the deployment bases.

(S) College Tang deployment option Alfa 1 was 10 F-102s to North Bay, Ontario, and Alfa 2 was 9 F-101s to Val d'Or, Quebec; Alfa 3 deployment was all 19 aircraft to Elmendorf AFB, Alaska. Under options Bravo 1 through 11, the aircraft could be deployed to any one of the 11 CONUS Main Operating Bases vacated by an ADC squadron temporarily serving outside the CONUS. Under options Charlie 1 through 4, detachments of the unit could be deployed to Duluth IAP, Minnesota; Spokane IAP, Washington; Logan Field, Montana; and Fresno Air Terminal, California.

1. Msg, CANFORCEHED to CINCNORAD, DORA 422, 141535Z April 1971 (430.3); Msg, Hq NORAD to ADC, CANDEFCON, ADC, 191610Z April 1971 (430.3).
2. Msg, CANFORCEHED to CINCNORAD, DORA 405, 121500Z November 1971 (430.3).

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(S) NORAD OPORD 300N-70. Change 4, 15 June 1971, to 300N-70, stipulated that 147th Fighter Group interceptors would come under CINCNORAD operational control automatically upon declaration of DEFCON 3 or higher LERTCON, Missile Attack Warning, or upon declaration of Air Defense Warning Red by CINCNORAD/CINCONAD or his designated representative, and would be retained until released by CINCNORAD/CINCONAD. The 147th Group was to cease training and to prepare for deployment in accordance with the ADC College Tang Plan. The deployments were to be as directed by CINCNORAD/CINCONAD. Change 5, 10 September 1971, did not change these provisions. No further changes had been issued by the end of CY 1971.

AUGMENTATION BY CF-104 AIRCRAFT

(U) The Canadian White Paper, Defence in the 1970s, August 1971,¹ stated that CF-104s (clear-weather strike attack aircraft) in the Operational Training Unit at Cold Lake, Alberta, would be given a secondary role of air defense so that Canada would have an interception and identification capability in the Prairie area. Hq NORAD J-3 and J-5 representatives, meeting to determine White Paper follow-up actions, felt that the CF-104 might be included as augmentation aircraft to the NORAD force. In late September, a Hq NORAD J-3 representative visited CF Hq and informally discussed the possibility of using the CF-104 in an augmentation role. The CF-104 had limitations for air defense, being capable of little more than visual identification under suitable light conditions. No further action on inclusion of the CF-104 in the augmentation force had been taken by end CY 1971.

SECTION II - AIR DEFENSE MISSILES

STATUS SUMMARY

(S) The NORAD force at the end of CY 1970 consisted of 82 Nike Hercules batteries, 7 BOMARC squadrons, and 8

1. (U) Chapter II, page 42.

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Hawk batteries. The NORAD Nike Hercules force was reduced to 55 batteries by the end of CY 1971. The BOMARC and Hawk force remained the same. The map on page 103 shows the deployment.

(C) The 82 Nike Hercules batteries at the end of CY 1970 consisted of the following:

1. Seventy-six batteries in the CONUS (38 Regular Army (RA) and 38 Army National Guard (ARNG)). Seventy-two of these batteries were Program I (Strategic Forces) and 4 were Program II (General Purpose Forces).¹

2. Six batteries in Alaska (RA). All were Program I.

During CY 1971, 27 Program I batteries were inactivated (24 CONUS, 3 Alaska) and 3 batteries in Alaska were transferred to Program II. The 55 batteries at the end of CY 1971 included the following:

1. Fifty-two batteries in the CONUS (21 RA and 27 ARNG Program I and 4 RA Program II).

2. Three batteries in Alaska (RA Program II).

NIKE HERCULES REDUCTIONS

(S) Program Budget Decision 398, 9 December 1970, directed a cut in FY 1971 of 30 Program I Hercules batteries. The JCS advised that an Army reclama requested deployment of 54 Program I batteries, 48 in the CONUS and 6 in Alaska. CINCONAD also recommended deployment of 54 Program I batteries to the JCS.

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1. (U) The Program I batteries had a single mission of air defense. The four Program II batteries, Miami-Homestead Defense, had a dual (air defense-Strategic Army Force) mission. They were under CINCNORAD operational control but could be transferred by the JCS in an emergency.

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(S) The JCS informed CINCONAD and Commander-in-Chief, Alaska (CINCAL) that neither the Army reclama nor a JCS reclama to the Office of the Secretary of Defense to retain current Program I Hercules force levels were to any avail.¹ The force under Program I would be reduced by 30 batteries (24 CONUS, 6 Alaska). However, three batteries would be retained in Alaska under Program II. Therefore, only 27 batteries would be inactivated. The Department of the Army (DA) also advised CINCONAD and CINCAL of this decision, explaining that the Program II batteries in Alaska would fulfill a dual mission of air defense and surface-to-surface fire support for CINCAL.² DA requested CINCONAD's recommendations on deployment of the three batteries in Alaska. Hq CONAD recommended, with CINCAL agreement, that the three batteries be retained in the Anchorage defense (i.e., the Fairbanks defense be deleted).³

(C) The 27 batteries were released from their air defense alert commitment on 3 March 1971 with inactivation to be completed by 30 June.⁴ The reductions were as follows:

<u>Defense</u>	<u>RA</u>	<u>ARNG</u>
Chicago-Milwaukee	3	2
Cleveland	2	1
Fairbanks	3	0
Los Angeles	0	1
Minneapolis-St. Paul	4	0
New England	0	3
New York-Philadelphia	1	2
Pittsburgh	0	1
San Francisco-Travis	3	0
Washington-Baltimore	0	1
Totals	<u>16</u>	<u>11</u>

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1. Msg, JCS to CINCAL, CINCONAD, 1324, 161821Z January 1971 (503).
 2. Msg, DA to CINCONAD, DCSOPS PL SF, 142056Z January 1971 (503).
 3. Msg, Hq CONAD to DA, JCS, COPS, 170100Z January 1971 (503).
 4. NOPS Historical Report, March-April 1971 (959.3).

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REVISION OF NIKE HERCULES ALERT REQUIREMENTS

(S) 1970 Revision. Commanding General Army Air Defense Command (CG ARADCOM) proposed to CINCNORAD in November 1970 that Air Defense Artillery (ADA) alert requirements be revised to allow 25 per cent of assigned fire units to be released at all times. At that time, ARADCOM was required to place 25 per cent of its units on 1-hour alert and 75 per cent on 3-hour alert unless released by the NORAD region commander. CG ARADCOM made the request because of personnel shortages. CINCNORAD approved the reduction as a temporary measure until the personnel shortages were alleviated. The change, sent to all regions on 23 November 1970, required 25 per cent of assigned batteries within each ADA defense to be on 1-hour alert, 50 per cent on 3-hour alert (unless released) and 25 per cent released.

(S) 1971 Revisions. ARADCOM began Hercules modifications (termed Block VI Modification Program) in May 1971 which changed equipment in the fire control area and Continental Army Command support test equipment.¹ The Block VI modifications were a prerequisite to a later (FY 3/72 to FY 2/74) Surface-to-Air Missile Capabilities Modification Program designed to improve capability in an ECM environment. One Hercules unit per ADA defense, but no more than five units at a time, were to undergo Block VI modifications.

(S) Another revision of the ADA alert requirements was necessary because units being modified would have to be released. Hq NORAD directed on 11 May 1971 that units undergoing this modification were to be placed in a released status and that this would be in addition to the 25 per cent released in all ADA

1. DF, DCS/Opns to C/S, CINC, "Nike Hercules Block VI Modification Program (U)," 29 April 1971 (503).

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defenses.¹ One exception was made. At the two 3-battery defenses, Seattle and Detroit, one unit was to be on 1-hour alert, one unit on 3-hour alert, and one unit undergoing modification.

(S) Hq NORAD rescinded the provisions of its November 1970 and May 1971 directives on ADA alert revisions with a directive on 23 July 1971, changing NORAD/CONAD Regulation 55-3, 25 May 1970.² The revised requirements were to become effective on 27 July. This change eliminated the percentage computations for each readiness state and substituted set numerical requirements based on the number of assigned batteries in each ADA defense. A 24-hour readiness posture was established under Alfa readiness state in place of the 25 per cent released to provide for training, maintenance and modification.³

(S) The revised Alfa requirements for units with an OP activity code were as follows:

<u>Assigned Batteries Per Defense</u>	<u>Three</u>	<u>Four</u>	<u>Six</u>	<u>Ten</u>
Readiness Posture:				
1-Hour	1	1	2	3
3-Hour	1	2	2	4
24-Hour	1	1	2	3

(S) Hq NORAD directed that region commanders could reduce the 24-hour requirements for ADA defenses by placing units in a released posture. The 1-hour and 3-hour

1. Msg, CINCNORAD to AIG 952, NOPS, 111820Z May 1971 (503); DF, NOOP to NOPS, "Nike Hercules Block VI Modification (U)," 11 May 1971 (503).
2. Msg, CINCNORAD to AIG 952, NOPS, 232300Z July 1971 (512).
3. (S) The 24-hour posture was removed under higher readiness states, i.e., Bravo, Charlie, and Delta.

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Alfa requirements could not be reduced below the specified requirement without prior approval of CINCNORAD.

(U) Interim NORAD/CONAD Regulation 55-3, 23 August 1971, incorporated the July 1971 changes.

CANADIAN BOMARC SQUADRONS

(U) The Canadian White Paper, August 1971,¹ announced the Canadian Government's intention to eliminate its two BOMARC squadrons. These were the 446 Surface-to-Air Missile (SAM) Squadron, CFB North Bay, Ontario, and the 447 SAM Squadron, CFS La Macaza, Quebec. Hq NORAD was informed by CF Hq on 9 December that the two squadrons would cease operational status on 31 March 1972 and the sites would be closed out by 1 September 1972.²

(S) CINCNORAD recommended to the Air Force Chief of Staff on 17 September 1971, in commenting on the programmed transfer of F-106 aircraft to the ANG, that a USAF BOMARC squadron be established at Niagara Falls, New York, and suggested that missiles from the Canadian squadrons could be used for this purpose. Hq NORAD was advised on 9 December that the Air Force Chief of Staff had issued a guidance memorandum which directed that BOMARC missiles returned from Canada be assigned to existing U.S. squadrons to support an increased operational test firing schedule.

IMPROVED BOMARC

(S) ADC Hq submitted a Required Operational Capability (ROC 7-69) to USAF Hq in June 1969 for developing

1. (U) Chapter II, page 43.
2. Msg, CANFORCEHD to CINCNORAD, VCDS 833, 091515Z December 1971 (502); Msg, 22NR to CINCNORAD, 220CC 419, 010001Z April 1972 (503).
3. Msg, CSAF to ADC, NORAD, FOUO XOO, 092036Z December 1971 (502).

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and purchasing an improved BOMARC missile.¹ ADC proposed improving the guidance system, miniaturizing the electronic components to allow for a larger fuel tank, and providing more reliable power supply systems. By so doing, the new missiles would have improved range, speed, altitude, and reliability. A range of 800 nautical miles (NM) or more (versus 400 NM for the CIM-10B) was estimated possible by ADC. USAF Hq authorized the Air Force Systems Command to contract with the Boeing Company for a study of BOMARC improvement when funds were available.²

(S) The CONUS Air Defense Deployment Plan, FY 1972-1981, submitted to the JCS in May 1971 by CINCONAD as an input to a plan being prepared for the Secretary of Defense (Chapter II), included a proposal for five squadrons of Improved BOMARC in the modernized air defense system. The JCS plan (submitted to the Secretary of Defense in June) proposed five BOMARC-type squadrons and stated that the BOMARC system improvements recommended in the CONAD study would provide an increased capability compatible with the modernized air defense system. NADOP 74-81, 2 August 1971 (Chapter II), recommended improving BOMARC by FY 1977 for compatibility with AWACS and to increase performance.

(U) There was no change in the status of Improved BOMARC by the end of the year.

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1. Ltr, ADC to Dist., "Required Operational Capability (ROC), CONUS BOMARC Area Defense System (ADC ROC 7-69)(U)," 9 June 1969 (503).
 2. CPRO Basic Projects Book, Tab M, 1 May 1971; Ibid., 1 September 1971.

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MANNED INTERCEPTOR FORCE
(AUTHORIZED STRENGTH)

	1 JANUARY 1971			1 JULY 1971			31 DECEMBER 1971		
	CONAD sqdns/acft	CF sqdns/acft	NORAD sqdns/acft	CONAD sqdns/acft	CF sqdns/acft	NORAD sqdns/acft	CONAD sqdns/acft	CF sqdns/acft	NORAD sqdns/acft
REGULAR FORCE:									
USAF AAC:									
F-4	1/24		1/24	1/24		1/24	1/24		1/24
USAF ADC:									
F-101	3/54		3/54						
F-106	11/198		11/198	11/198		11/198	11/198		11/198
CF ADC:									
CF-101		3/48	3/48		3/48	3/48		3/48	3/48
REG TOTAL:	15/276	3/48	18/324	12/222	3/48	15/270	12/222	3/48	15/270
AIR NATIONAL GUARD:									
F-101	3/54		3/54	6/108		6/108	6/108		6/108
F-102	12/216		12/216	9/162		9/162	9/162		9/162
ANG TOTAL:	15/270		15/270	15/270		15/270	15/270		15/270
AGG TOTAL:	30/546	3/48	33/594	27/492	3/48	30/540	27/492	3/48	30/540

SOURCE: NORAD Forces and Program Change Summary; AAC PAD 22A, 15 Oct 1970.

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AIR DEFENSE MISSILE FORCE
(Assigned Strength)

	1 JANUARY 1971		1 JULY 1971		31 DECEMBER 1971	
NIKE HERCULES: 1						
ARADCOM:						
RA Batteries	38		25		25	
ARNG Batteries	38	<u>76</u>	27	<u>52</u>	27	<u>52</u>
Missiles	1,215	<u>1,215</u>	828	<u>828</u>	828	<u>828</u>
Launchers	762	<u>762</u>	517	<u>517</u>	517	<u>517</u>
USARAL:						
RA Batteries	6	<u>6</u>	3	<u>3</u>	3	<u>3</u>
Missiles	123	<u>123</u>	61	<u>61</u>	61	<u>61</u>
Launchers	48	<u>48</u>	24	<u>24</u>	24	<u>24</u>
NIKE HERCULES TOTALS:						
Batteries	82		55		55	
Missiles		<u>1,338</u>		<u>889</u>		<u>889</u>
Launchers		<u>810</u>		<u>541</u>		<u>541</u>
HAWK: 1						
ARADCOM Batteries	8		8		8	
Missiles	288		288		288	
Launchers	48		48		48	
BOMARC:						
USAF ADC:						
Squadrons	5	<u>5</u>	5	<u>5</u>	5	<u>5</u>
Missiles	140	<u>140</u>	140	<u>140</u>	140	<u>140</u>
Launchers	140	<u>140</u>	140	<u>140</u>	140	<u>140</u>
CF ADC:						
Squadrons	2	<u>2</u>	2	<u>2</u>	2	<u>2</u>
Missiles	56	<u>56</u>	56	<u>56</u>	56	<u>56</u>
Launchers	56	<u>56</u>	56	<u>56</u>	56	<u>56</u>
BOMARC TOTALS:						
Squadrons	7		7		7	
Missiles		<u>196</u>		<u>196</u>		<u>196</u>
Launchers		<u>196</u>		<u>196</u>		<u>196</u>

SOURCE: NORAD Forces and Program Change Summary.

1. (U) A HERCULES battery consists of a single fire unit; a HAWK battery has two fire units.

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CHAPTER V

BALLISTIC MISSILE AND SPACE
WEAPONS WARNING SYSTEMS

SECTION I - MISSILE WARNING SYSTEMS

DEFENSE SUPPORT PROGRAM

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SEA-LAUNCHED BALLISTIC MISSILE (SLBM) DETECTION AND
WARNING SYSTEM

(U) The SLBM Detection and Warning System (designated 474N), consisting of seven AN/FSS-7 radar-equipped sites, began operations on 1 July 1970 in an interim capability (IC) status.¹ The sites were located as follows:

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1. ~~(C)~~ "Interim capability" described the status of a system still under development which had a limited operational capability and could be put into operation. For additional background information on the 474N System, see CONAD Command History, 1970, pp. 79-82.

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Z-38 Mill Valley AFS, CA
Z-65 Charleston AFS, ME
Z-76 Mt. Laguna AFS, CA
Z-100 Mt. Hebo AFS, OR
Z-115 Fort Fisher AFS, NC
Z-129 MacDill AFB, FL
Z-230 Laredo MTK, TX

(S) Equipment deficiencies and faulty computer programs kept the system from reaching Initial Operational Capability (IOC). IOC was first scheduled for December 1970, but was postponed in late 1970 to December 1971 for correction of the computer program. A contract for computer program modification (Modification of SLBM Software - MOSS) was given to the System Development Corporation. This company began work on a master program at Mill Valley AFS in April 1971.¹

(S) However, further computer program changes and equipment modifications resulted from ADC Required Operational Capability (ROC) 22-70, 14 January 1971. The ROC pointed out a requirement to modify the 474N radars and computer program to meet the Soviet SS-N-6 SLBM threat.² The 474N System was ineffective against this missile because of its high speed. The changes were required to enable 474N to handle the SS-N-6 missile when launched within the off-shore coverage capability of the radars (750 NM).³ The Air Force approved

1. CPRO Basic Projects Book, Tab W, 1 October 1971 (721).
2. (S) The SS-N-6 was a submerged-launched, 1,300 NM range missile fitted in nuclear powered Y-Class submarines. Deployment of this missile began in 1968. Hq NORAD estimated that there were 22 Y-Class submarines, each carrying 16 missiles. (NORAD Intelligence for Planning, 1971, Part 3, Chapters 1 and 2.)
3. (S) The ROC also proposed improvements to increase the range of the radars from 750 NM to at least 1,700 NM, and to increase the number of sites in the system. (Ltr, ADC to Dist., "ADC ROC 22-70, For an Improved 474N SLBM Detection and Warning System (U)," 14 January 1971 (233).)

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these modifications and the AVCO Corporation was awarded a contract in June to modify the radars; System Development Corporation's MOSS contract was amended to include the computer program change. The improvements were to be tested at Mill Valley AFS beginning in November 1971 and installed at all sites by 22 February 1972. It was expected that Final Operational Capability (FOC) for the 474N System would be declared by the end of February 1972.¹

AN/FPS-49 RADAR

(S) The AN/FPS-49 Spacetrack radar at Moorestown, New Jersey, was inactivated in 1969 as a result of Project 703. It was planned at the time to move the radar to the Pacific to collect information on Communist China's missile development program.² The radar was never moved, however. The Secretary of the Air Force recommended in March 1971 that the radar be reactivated for use in an SLBM detection and warning role to augment the 474N System. The FPS-49 would provide SLBM detection capability off the East Coast out to about 3,500 NM from the site (see map following).³

(S) The Secretary of Defense directed USAF in May 1971 to modify the radar to perform the SLBM detection and warning mission and reactivate it. USAF designated the Air Force Systems Command (AFSC) as project manager.⁴

1. CPRO Basic Projects Book, Tab W, 1 October 1971 and 1 January 1972 (721).
2. CONAD Command History, 1970, p. 205.
3. Msg, CSAF to SAC, ADC, XOO 111956Z March 1971 (228); Msg, CSAF to SAC, XOOS 141902Z April 1971 (233); Interview, Mr. D. W. Shircliffe with Major N. B. Smith, NOSD, 27 September 1971.
4. Msg, CSAF to AFSC, ADC, RDP/XOO 171700Z May 1971 (233); Ltr, ADC to Hq NORAD, "Reactivation of the FPS-49 Moorestown Tracker (U)," 1 June 1971 (233).

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Hq NORAD provided operational requirements for the FPS-49 to USAF ADC in June and directed that the radar have a primary mission of augmenting the 474N System on the East Coast by providing coverage beyond the range of the FSS-7 radars and a secondary mission of supplementing short-range coverage. These requirements, which optimized surveillance coverage of the Atlantic Ocean against the SS-N-6 SLBM threat, were incorporated into the modification program for the radar.¹

(S) The radar was scheduled to undergo formal demonstration testing in October and to become operational by the end of November 1971.² Testing began in October but problems encountered with the equipment and computer program extended testing through 27 December. After an analysis of demonstration and test data, USAF ADC announced that test objectives were achieved and that the system (radar, computer program, communication links, displays, etc.) demonstrated a capability to perform the assigned mission.³ The FPS-49 began full operations as an SLBM detection and warning sensor in the 474N System as of 0001Z, 1 January 1972 (5:01 p.m., MST, 31 December 1971). Detachment 10, 14th Aerospace Force, which had been activated on 15 July 1971, was assigned to operate the radar.⁴

1. Ltr, Hq NORAD to ADC, "Reactivation of the FPS-49 Moorestown Tracker (U)," 15 June 1971 (233); Ltr, ADC to CINCNORAD, "Reactivation of the FPS-49 Moorestown Tracker," 13 July 1971 (233); Msg, 1AERO SPCONSQ to ADC, et al., EW 281950Z December 1971 (233).
2. Msg, Hq NORAD to JCS, et al., NOSD 302040Z September 1971 (233).
3. Msg, ADC to ESD, XPDS 282229Z October 1971 (233); Msg, ADC to ESD, XP 162245Z December 1971 (233); Msg, ADC to 14th AF, ESD, XP 310130Z December 1971 (233).
4. Msg, 1AEROSPCONSQ to ADC, et al., EW 310415Z December 1971 (233); Msg, Det 10, 14 AF to NORAD, et al., D1014AFDO 010705Z January 1972 (233); ADC Special Order G-157, 14 July 1971 (728).

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1. CONAD Command History, 1968, pp. 123-129; Ibid., 1970, pp. 76-79.
 2. DF, NOSD to NOOP, NOPS, "Status of the 440L System (U)," 8 February 1971; Interview Mr. D.W. Shircliffe with Major R. G. Lewis, NOSD, 29 September 1971.

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1. Msg, ADC to CSAF, 151520Z June 1971 (226.1).
 2. NOPS Historical Report, May-June 1971; Interview, Mr. D. W. Shircliffe with Major R. G. Lewis, NOSD, 12 October 1971.
 3. Msg, Hq NORAD to CINCUSAFE, NOSD 082025Z June 1971 (226.1).
 4. Msg, CSAF to CINCNORAD, et al., RDP 152208Z June 1971 (226.1); NOPS Historical Report, May-June 1971 (959.3).
 5. Msg, CINCNORAD to CSAF, NOSD 181625Z June 1971 (226.1).

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1. Memo, DCS/Ops to CINCNORAD, "Request for 440L Alarm Level Information (U)," 2 February 1971 (226.1); DF, NOPS to NHCS, NHCR, "Staff Brief - Requirement for 440L Alarm Level Information (U)," 3 March 1971 (226.1).
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1. Ltr, Hq NORAD to RAF Strike Comd, "Requirement for 440L Alarm Level Information (U)," 15 March 1971 (226.1); Ltr, Hq NORAD to ADC, "Requirement for 440L Alarm Level Information (U)," 15 March 1971 (226.1).
2. DF, NOSC-M to NOCE, "Unresolved Missile Warning Display Problems (U)," 15 November 1971 (226).
3. Ltr, Hq NORAD to ADC, "Unresolved Missile Warning Display Problems (U)," 29 November 1971 (226).
4. DF, NECO to NOCE, "Missile Warning Display Problems (U)," 5 January 1972 (226); Ltr, ADC to Hq NORAD, "Missile Warning Display Problems (ADC/DOK ltr, 17 Dec 1971)(U)," 14 January 1972 (226); Ltr, NOCE to NPCP, et al., "Missile Warning Display Problems," 26 January 1972 (226.)

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MISSILE WARNING ROLE FOR SPADATS RADARS

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1. Msg, NORAD SDC to TUSLOG Det 8, et al., NOSC-OC, 042049Z January 1971 (226 X 226.1 X 228).
 2. Msg, NORAD to TUSLOG Det 8, et al., NOSC-OC, 092020Z July 1971 (226 X 228).
 3. Msg, JCS to CINCNORAD, 5258, 211834Z October 1971 (226 X 654).

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1. Msg, Hq NORAD to Goddard Space Flight Center, et al.,
NOSD 272215Z October 1971 (654).
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1. Msg, JCS to CINCNORAD, 5258, 211834Z October 1971 (226 X 654); Msg, JCS to CINCNORAD, 5144, 112137Z November 1971 (654).
 2. Msg, CINCNORAD to JCS, NOSD 041615Z November 1971 (654).

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1. Msg, Hq NORAD to JCS, NOSD 181805Z November 1971 (654).
 2. Msg, JCS to CINCNORAD, 3723, 101527Z November 1971 (654).
 3. Msg, Hq NORAD to JCS, NOSD 162310Z November 1971 (226 X 226.1); (U) Change 1, 20 December 1971, superseded Interim Change 3, making the revision to the formats a permanent part of NORAD Manual 55-7.
 4. Msg, Hq NORAD, to JCS, NOSD 072225Z January 1972 (654).

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MISSILE AND SPACE
SURVEILLANCE AND WARNING SYSTEMS
(Operational)

	1 JANUARY 1971	1 JULY 1971	31 DECEMBER 1971
BMEWS Sites:	3	3	3
Defense Support Program:	0	0	1 (Emergency operational capability Eastern Hemisphere coverage, 23 Nov 71)
OTH Radar System (440L):			
Transmitter Sites	4	4	4
Receiver Sites	5	5	5
SLBM D and W System:			
AN/FSS-7 Radar Sites	7	7	7
AN/FPS-49 Radar Site	0	0	1 (Operational 31 Dec 71)
SPADATS:			
Spacetrack:			
Radar Sites	3	3	3
Baker-Nunn Camera Sites	4	4	4
Canadian Forces:			
Baker-Nunn Camera Site	1	1	1
NAVSPASUR:			
Transmitter Sites	3	3	3
Receiver Sites	6	6	6

SOURCES: NORAD Forces and Program Change Summary; USAF ADC V-24 Report, 1 Aug 71.

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CHAPTER VI
BALLISTIC MISSILE AND SPACE
DEFENSE WEAPONS

SECTION I - SAFEGUARD SYSTEM

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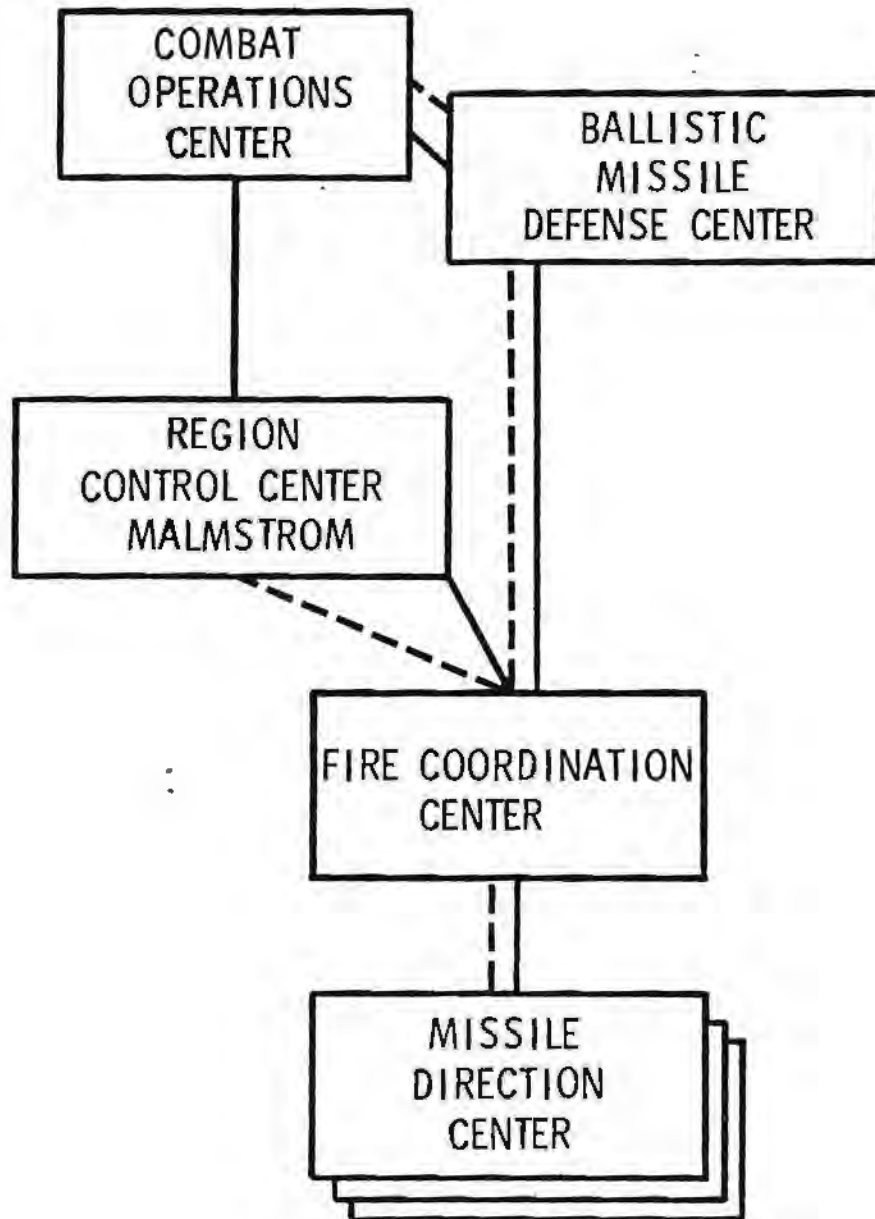
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CONAD ORGANIZATION FOR OPERATIONAL COMMAND OF SAFEGUARD



— OPERATIONAL COMMAND
- - - DATA LINK

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SECTION II - SATELLITE
INTERCEPT SYSTEM

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BALLISTIC MISSILE AND SPACE DEFENSE WEAPONS

	1 JANUARY 1971	1 JULY 1971	31 DECEMBER 1971
SAFEGUARD SYSTEM:	Under development; first site scheduled to begin operations in FY 1975. ¹		
SATELLITE INTERCEPT SYSTEM (SIS):	1 ²	1	1

1. CPRO Basic Projects Book, Tab R, 1 January 1972.
2. (S) SIS on 30-day recall status (CINCONAD OPLAN 3010, 15 April 1971).

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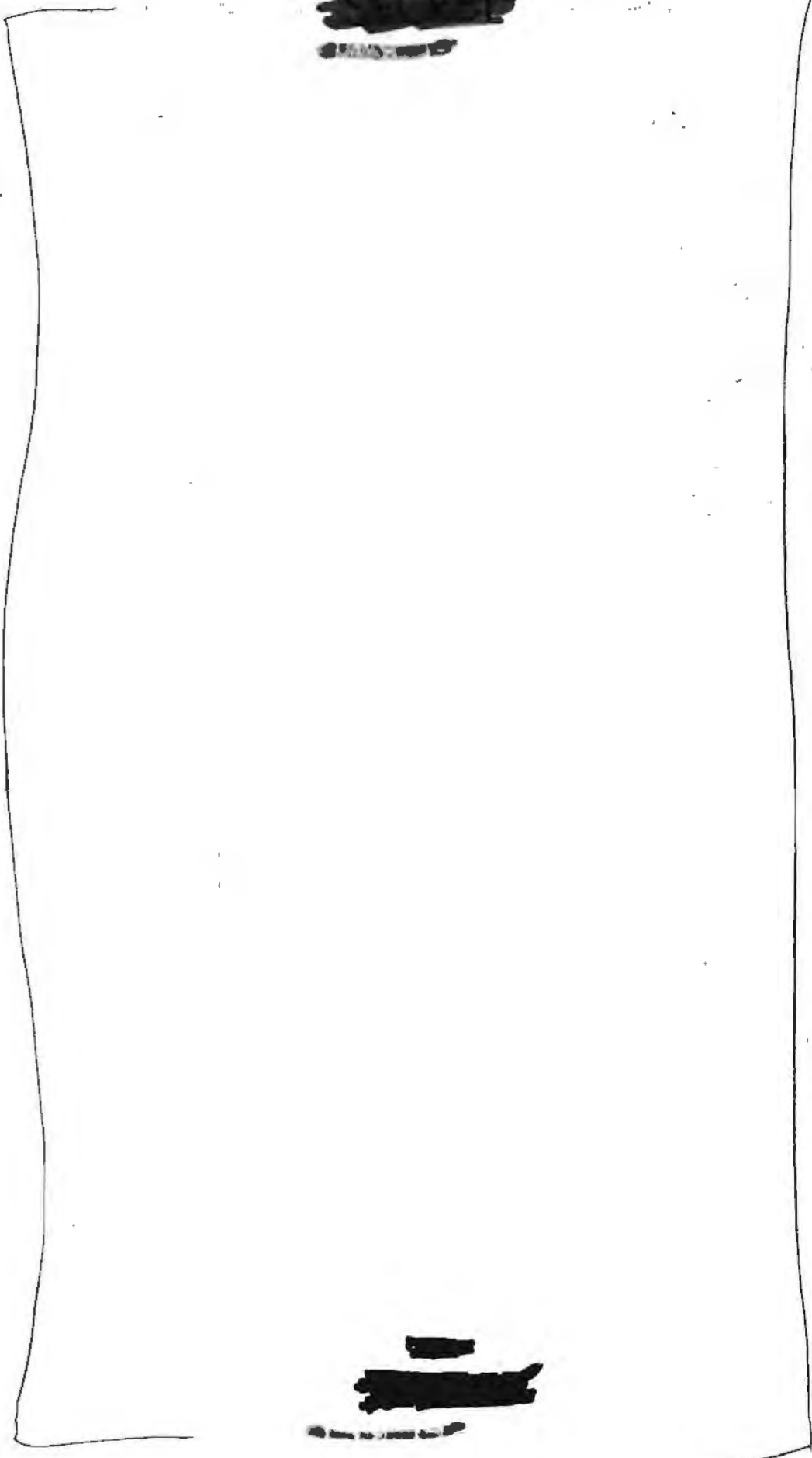


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CHAPTER VII

COMMAND, CONTROL AND COMMUNICATIONS

SECTION I - NORAD CHEYENNE MOUNTAIN COMPLEX IMPROVEMENT PROGRAM

NCOC MASTER PLAN

(U) Background and Purpose. Preparation of a NORAD Combat Operations Center (NCOC) Master Plan started on 20 December 1966 under the overall direction of DCS/Plans and Programs (J-5).¹ The completed plan was delivered to the JCS on 6 December 1968. Hq NORAD explained in Volume I (Introduction) of the five-volume plan, that within the first few months of operation in the NCOC in the NORAD Cheyenne Mountain Complex (NCOM), it became apparent that a master plan for the evolution of the NCOC was essential. The purpose of the Master Plan was to define and describe the operational configuration and organization for the NCOC from 1968 to the late 1970s. It would provide for those defense systems to come into being and those to phase out and relationships to exist with external commands and

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1. (U) For 1965-1969 background, see CONAD Command History, 1967, pp. 32-34 and CONAD Command History 1969, pp. 211-219. NORAD/CONAD Staff Memorandum 20-2, 28 December 1970, designated the Directorate of Command and Control, Assistant DCS/Programs, J-5, as the office of primary responsibility for overall coordination, update, and implementation of the NCOC Master Plan.

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agencies. It would identify requirements for facilities (including utilities and new buildings) and for equipment, software, communications and personnel. The plan would serve as guiding documentation for development and procurement agencies and as a basis for funding.

(U) The JCS validated the operational concept and the operational requirements in the Master Plan on 17 March 1969. The Secretary of Defense approved the operational concept for the NCOC as a point of departure for planning on 30 June 1969.

(U) Program 427M. The magnitude and complexity of implementing the NCOC Master Plan was such as to require the application of appropriate system management procedures and facilities. The Air Force accepted the Master Plan as a NORAD Required Operational Capability and issued System Management Directive (SMD) 9-312-427M(1), establishing Program 427M, on 20 June 1969. Air Force Systems Command (Electronic Systems Division) established a Program 427M System Management Office at L. G. Hanscom Field to integrate the implementation efforts. The MITRE Corporation, Bedford, Massachusetts, was assigned the task of analyzing the operational requirements in the Master Plan to establish the technical requirements and subsequently the system specifications for the 427M System. The first SMD was superseded on 20 April 1971 with SMD 1-448-427M(2).

(S) The 427M System would consist of three distinct segments integrated into one workable unit which would satisfy the operational requirements of the agencies in the NCMC. The three segments would be the NORAD Computer System (NCS), the ADC Space Computational Center (SCC), and communications consisting of a Channel and Technical Control Facility, a Cryptographic Facility, and a Communications Processor. The NCS would replace the current NORAD Combat Operations System (NOCOPS), the SCC would replace the current Space Defense Center (SDC), and the communications would provide the interface between the command and control elements of the NCMC and the outside world.

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(U) The NCOC would consist of a Command Post and eight support centers -- four NORAD/CONAD, two ADC and two ARADCOM.¹ The four NORAD/CONAD support centers were designated the Battle Staff Support Center (BSSC), the Forecast Center, the CONAD Intelligence Center, and the Systems Center. To support the Command Post, there would also be the ADC Space Computational Center, an ADC Support Center (ADC SC),² the ARADCOM BMDC, and an ARADCOM Support Center (ASC) -- see chart following and section on BSSC, page 145.

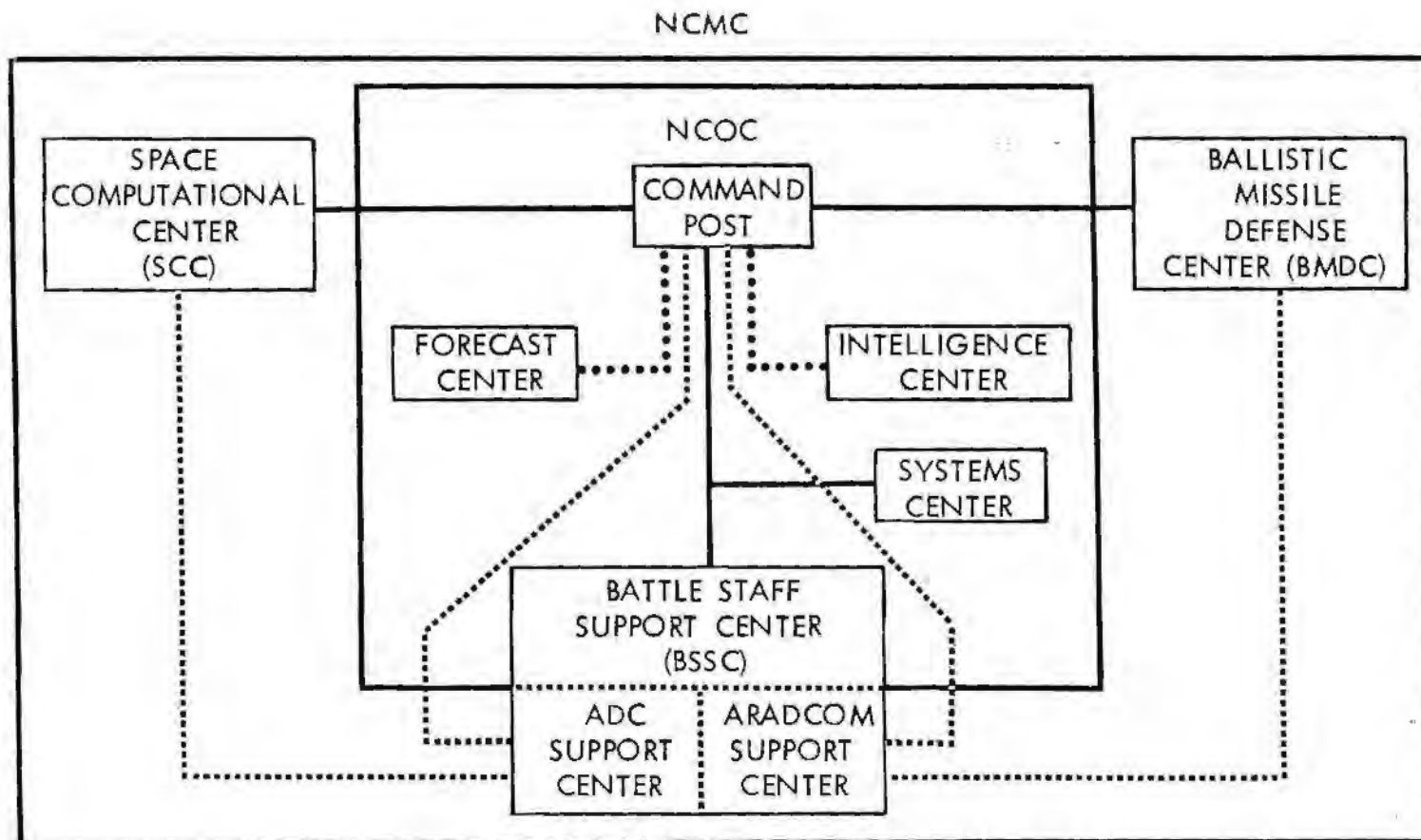
(S) Foxhall Encryption System. Communications programmed for the 427M System included a new cryptographic system, referred to as Project Foxhall. The JCS approved and validated the Foxhall system for the NCMC on 2 May 1969. The Department of Defense approved Foxhall on 19 September 1969.

(S) Hq USAF advised on 16 August 1971 that Foxhall would not be procured because of its excessive cost and because it was the only system of its kind being developed.³ Hq USAF requested that an alternative plan of action be developed using KG-30-series equipment in place of Foxhall. Hq CONAD objected to the JCS and asked for support in continuing Foxhall, pointing out that no other system would be available for operational

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1. MITRE Technical Report 1116, 427M System Technical Requirements, Volume I, General System Overview and Interface Requirements, 1 March 1971.
 2. (C) The term ADC Support Center was established by Change 14, 23 August 1971, to the NCOC Master Plan. The previous term was ADC Resource Management Center (ADC RMC), designated by Change 1, 30 March 1970, to the Master Plan. This change replaced the ADC Computer Center (ADC CC) with the ADC RMC. Change 1 directed that the computational functions of the ADC CC be consolidated with those of the NORAD Computer System and that the ADC CC functions and a separate automatic data processing facility be deleted.
 3. Msg, CSAF to NORAD, 161418Z August 1971 (51 X 57).

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ORGANIZATION FOR OPERATIONS



- OPERATIONAL COMMAND/CONTROL
- COMPONENT SUPPORT
- OPERATIONAL SUPPORT

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employment in the mid-1970s with the capability to meet the performance of Foxhall.¹ Foxhall would make a quantum jump in crypto/communications improvement in terms of security, reliability and speed of service. Hq CONAD expressed concern that the KG-30 series equipment (KG-34) could not meet its requirements.

(S) The JCS replied on 29 October 1971 that cancellation of Foxhall was recommended to the Deputy Secretary of Defense because of the costs for a one-of-a-kind system and a decision to avoid proliferation of systems. The Deputy Secretary of Defense approved the recommendation on 21 September.

(S) USAF advised later that it was attempting to revive the subscriber line unit portion of Foxhall, the KG-73, for use in place of the KG-34.² Whether it would be procured depended upon major command requirements. It would be known by about June or July 1972 whether there was a requirement for enough units to make it feasible for the KG-73 to be manufactured. Hq CONAD indicated that its first interest would be in the KG-73 rather than the KG-34 for the period through the 1970s. The KG-73 required less space and cooling than the KG-34 and had several cryptologic advantages. Hq CONAD requested six KG-73 units for testing which it was hoped could be held in July 1972.

(S) For the long term, i.e., after about 1980, Hq CONAD was preparing a CONAD Qualitative Requirement ("Real-Time Cryptographic Systems") for advanced equipment. The requirement had not been published at the end of CY 1971.

(S) NCMC Expansion. The NCOC Master Plan included a requirement for construction of three new buildings in Cheyenne Mountain and expansion of utilities to accommodate future facilities. Congress approved \$20.8 million for the Military Construction Program (MCP) for the NCMC

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1. Msg, CINCONAD to JCS, CELC/CPAP, 242120Z August 1971 (57 X 51).
 2. Interview, Mr. L. H. Buss with Lt Col R. V. Reyes, NEPP, 4 January 1972.

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for FY 1970. However, Congress appropriated only \$12.8 million and only \$7.5 million of this amount was released by the Office of the Secretary of Defense (OSD) because the Office of Management and Budget (OMB) did not accept the requirement for three new buildings.

(S) Hq NORAD representatives briefed the Air Staff, a combined OSD/OMB group, and the Chief Counsel of the Military Construction Subcommittee of the House Appropriations Committee in September 1970 in Washington.¹ Hq NORAD learned after the briefings that it had OSD support but not that of OMB as yet. Supplemental information requested by OMB was provided by Hq NORAD and ADC in October and November 1970 and OMB and OSD officials visited Hq NORAD in March 1971. In the meantime, USAF submitted a re-programming action to transfer the amount not yet appropriated by Congress (\$8 million) from other programs so as to meet construction dates. This re-programming action required OMB support, however. OSD advised OMB on 21 April 1971 that the Department of Defense supported the funding requirements. OMB was requested to approve release of appropriated funds and to make an early decision on the USAF re-programming action.² OMB dropped its objections to the NORAD requirements on 27 April 1971.³ The House and Senate joint appropriations committee approved the Air Force re-programming action, OSD released the appropriated funds withheld and on 1 June all \$20.8 million became available for the NCMC MCP program.⁴

Decls

(S) Bids for construction of the three new buildings (designated Buildings 9, 10 and 11) were advertised on 10 May and opened on 24 June 1971. The Omaha District

Decls

1. Ltr, Hq NORAD to USAF, "Visit of OMB and OSD Personnel (U)," 23 March 1971 (51).
2. NPAP Historical Report, March-April 1971 (959.5).
3. NPAP Historical Report, June-July 1971 (959.5).
4. Interview, Mr. L. H. Buss with Mr. L. B. Stephens, ADC DEE, 15 October 1971.

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Corps of Engineers and the Air Force Regional Civil Engineers evaluated the bids and rejected them all because the lowest bidder exceeded the cost ceiling.¹ The requirements were to be trimmed and the three new buildings and utilities combined in one package. The combined package (power plant, chillers, and three buildings) was advertised in September, bids opened in November, and a contract awarded in December 1971 to Santa Fe Engineering, Inc., Lancaster, California. The scheduled Beneficial Occupancy Dates for the three new buildings were September 1973 for Building 11, and October 1973 for Buildings 9 and 10.²

(U) Master Plan Changes. Hq NORAD issued serially-numbered changes to the 1968 plan as new requirements and developments arose. By the end of 1970, ten changes had been issued, numbers 1 through 11 (number 10 was to be published later).³

(U) Change 12, 17 February 1971, revised the wording in Change 5 concerning COC/BMDC functions to coincide with a Hq NORAD-ARADCOM agreement. Change 13, 9 April 1971, revised 427M/BMDC interface requirements, superseding Change 8. Change 14, 23 August 1971, redesignated the ADC Resource Management Center as the ADC Support Center (ADC SC), directed consolidation of the BSSC, the ADC SC, and the ARADCOM Support Center (ASC), and stated the functions of each center. Change 15, 2 September 1971, further clarified and amplified Hq NORAD's operational and functional requirements for interface between the 427M System and the Safeguard BMDC. Change 15 was the last change published in CY 1971.

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1. CPRO Basic Projects Book, Tab I, 1 September 1971 (721).
 2. CPRO Basic Projects Book, Tab I, 1 October 1971 (721); Interview, Mr. L. H. Buss with Colonel S. Wood, Jr., NLOG, 25 January 1972.
 3. CONAD Command History, 1970, pp. 106-108.

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SECTION II - NCOC BATTLE STAFF
SUPPORT CENTER

ORIGIN

(U) The Cheyenne Mountain Wartime Essential Functions Study, 17 November 1969, recommended that a Battle Staff Support Center (BSSC) be established in the NCMC. CINCNORAD had directed this study be made to identify non-essential functions and to recommend operational improvements, organizational changes, and manning requirements. The study report was approved by CINCNORAD on 18 November 1969 with certain changes (see CONAD Command History, 1969, pp. 229-230).

(S) The study group reported that its review showed that the ADC and ARADCOM commanders with staffs were required in the NCMC to assist CINCNORAD in accomplishment of his mission and it was necessary that the Hq NORAD and component staffs work in consonance with one another. The report explained that:

There is layering and duplication between NORAD staff elements . . . and component commands to receive reports, process data, and post data base changes. Further, it is not possible to present an integrated, coherent display on status of forces because of this fragmentation. . . . The problem is best resolved by organizing a Battle Staff Support Center in the NCMC, as the location from which individual support actions of NORAD and its components are focused into an integrated coherent operation with common objectives.

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ESTABLISHMENT

(U) A branch of the BSSC (Data and Reports Branch) was established on 8 January 1970 although the BSSC itself was not yet implemented. It was implemented for Exercise FAIR PLAY 70-1, 23-27 February

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1970. The date of the official establishment of the BSSC was 1 July 1970, the date of the Hq NORAD/CONAD JTD which first listed the BSSC personnel authorizations. The Directorate of the BSSC was placed under the Assistant Deputy Chief of Staff for Combat Operations, J-3, (redesignated Vice DCS/Operations for Combat Operations in October 1971 -- see Chapter I).

CONSOLIDATION AND LOCATION OF THE BSSC AND COMPONENT SUPPORT CENTERS

(U) CINCNORAD directed in September 1970 that the BSSC, the ADC Support Center (SC), and the ARADCOM Support Center (ASC) be brought together to act jointly on matters within NORAD's purview. Hq NORAD provided an operational concept for component command guidance which stipulated that similar operational elements of the three centers would be consolidated in the same physical area. Room 2202 of Building 2 in the NCMC would house the Joint Support Staff of the BSSC, the ADC SC and the ASC. Room 2202 was located under the Command Post and easily accessible to it. Activities related to reporting systems, NBC and damage functions, and data base management were to be centralized in Room 2208. Hq NORAD pointed out to ADC and ARADCOM in November 1970 that modifying Room 2202 and installing the facilities would take some months; therefore, other rooms would be used temporarily while the change was underway.

(U) An ad hoc committee of Hq NORAD, ADC and ARADCOM representatives completed a study in January 1971 of BSSC space allocation. The three commands concurred in February 1971.¹ Brigadier General Morgan S. Tyler, Jr., Vice DCS/Operations for Combat Operations, J-3, directed establishment of the BSSC in Room 2202 and the BSSC telecommunications facility in Room 2202A.² The Reports and

1. NPAP Historical Report, January-February 1971 (959.5).
2. NOPS Historical Report, March-April 1971 (959.3); Ltr, Hq NORAD to ADC, "Request for AFCS Assistance (U)," 27 April 1971 (51).

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NBC activities were to remain in Room 2208. General Tyler required that the BSSC be operational in its permanent location by 22 August 1971. NCMC Change Request 71-12, 21 April 1971, specified the requirements for the BSSC relocation. Extensive equipment and telephone moves would be required.¹ Facilities of the 47th Communications Group and the J-3 Directorate of Communications and Electronics had to be moved from Rooms 2202 and 2202A to another area.

(U) Establishment of the BSSC in its permanent location was completed by 21 August 1971.²

(U) Change 14; 23 August 1971, to the NCOC Master Plan reflected the consolidation of the Hq NORAD BSSC, the ADC SC, and the ASC. Change 14 stated that the BSSC was comprised of Hq NORAD elements and the ADC SC and the ASC. It explained, however, that while these elements were physically and functionally consolidated, the ADC and ARADCOM elements retained their identity as component support centers responsive to the respective component commanders and to requirements imposed by the respective Service command and control systems.

(U) During normal readiness conditions, the ADC SC consisted of a small contingent in the BSSC to maintain an ADC data base. During increased readiness conditions, the ADC element manning would be increased to accomplish wartime-essential functions in support of CINCNORAD. The ASC was also to be manned on a daily basis by an ARADCOM contingent to provide CG ARADCOM a quick reaction capability to increased LERTCON. During increased LERTCON (DEFCON 4 or higher), the ARADCOM element would also increase its manning.

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1. (U) Included would be 425L consoles, closed circuit television cameras and monitors, telephones, and teletype equipment.
 2. NOPS Historical Report, September-October 1971 (959.3).

ORGANIZATION AND OPERATION OF THE BSSC

(U) (FOUO) Volume VI to NORAD/CONAD Manual 55-19, 23 August 1971, provided for the organization and operation of the BSSC. All elements of the Hq NORAD BSSC, including the ADC SC and ASC, were to be regulated by this manual. Component command functions and responsibilities that were strictly of a Service nature were described in component publications. Volume VI stated that the BSSC was a physical and functional entity within the NCOC comprised of personnel from the Hq NORAD staff, USAF ADC, and ARADCOM performing functions in direct support of CINCNORAD and his Battle Staff.

(U) (FOUO) The BSSC received, processed and evaluated data and made recommendations on the operational status of forces. Its functions included:

1. Maintaining an up-to-date data base showing the current status of operational forces.
2. Force distribution planning for operational forces, and converting CINCNORAD's decisions on force distribution into coordinated directives to be executed by subordinate commands.
3. Operating joint reporting systems necessary to update the status of operational forces.
4. Briefing CINCNORAD and the Battle Staff on the status of operational forces.

(U) (FOUO) Under normal readiness conditions, the mission of the BSSC was to provide an operating base for the rapid transition to an augmented BSSC in an emergency. The Directorate of the BSSC controlled and operated the NORAD reporting systems which provided Nuclear, Biological and Chemical (NBC) data, Facility and Unit Damage Status, Force Status, and Logistics information. The Directorate was comprised of two divisions -- the NBC/Damage Division and the Support Division. Both were manned during normal duty hours to maintain the data base and reporting functions. The Hq NORAD/CONAD JTD, 1 July 1971, listed 23 positions authorized for the Directorate/BSSC. The Director's position was a USA 06.

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(FOUO) During emergencies, or as directed, the BSSC was to be augmented to a total of 96 personnel in each of three shifts (chart, page 150). Hq NORAD was to provide 33 personnel per shift, USAF ADC 40, and ARADCOM 23. The NORAD total included one civilian from the Federal Aviation Administration and one civilian from the Canadian Ministry of Transport. When the BSSC was in its augmented configuration it was to be under the BSSC Chief.¹ The position was to act as the principal information source in the NCMC on the status of NORAD forces in order to brief and advise CINCNORAD and implement his decisions concerning these forces. In the absence of the Chief, the ADC or ARADCOM Assistant BSSC Chiefs would occupy the position of Chief on a seniority basis.

SECTION III - REPORTING AND ALERTING SYSTEMS

OPERATIONAL STATUS REPORTING SYSTEM

~~(S)~~ Hq NORAD and ADC developed a proposal for an Operational Status Reporting (OPSTAR) System as an outgrowth of a JCS-directed study to find a means for automatic reporting and processing of Nuclear, Biological and Chemical (NBC) attack data. Hq NORAD submitted a communications requirement programming action to the JCS in May 1970 for a computer-controlled OPSTAR System for reporting and automatic processing of NBC event data, operational status and other reports. The JCS advised in July 1970 that the requirement was approved in principle, but implementation could not be supported because of budgetary constraints. The estimated cost of the OPSTAR System at that time was about \$20 million.

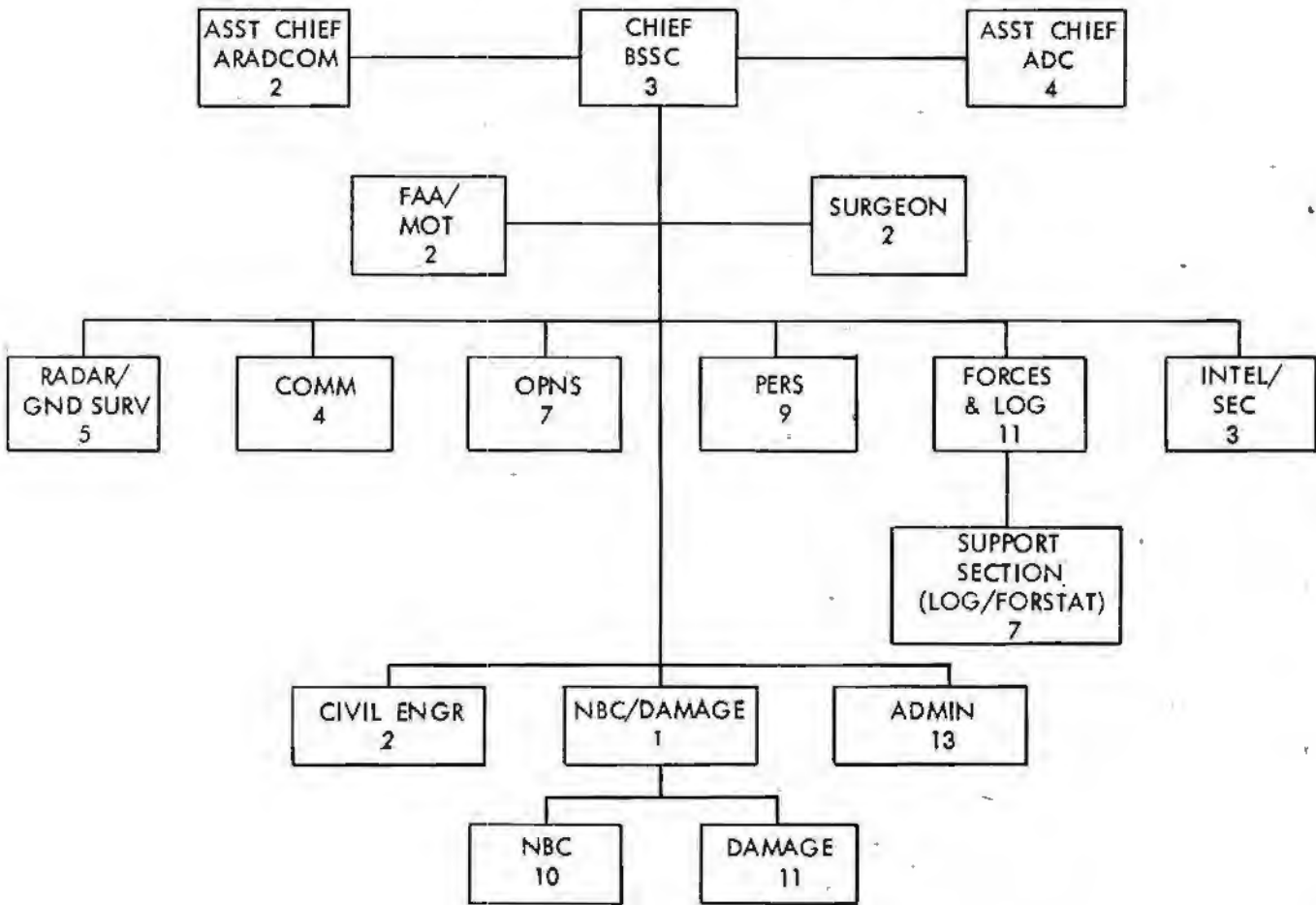
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1. (FOUO) The Director of the BSSC would serve as Chief on one of the three shifts when the BSSC was in its augmented configuration. (Interview, Mr. L. H. Buss with Lt Col G. L. Gallier, NOCC, 4 January 1972.).

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BSSC ORGANIZATION CHART



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(U) The Rome Air Development Center (RADC) made a study of the proposed OPSTAR System at the request of ADC and found that the estimated cost would be only about \$5.7 million.¹ Hq NORAD submitted a new communications requirement programming action to the JCS on 15 September 1971. The JCS validated the requirement on 30 November 1971 and advised that it was being forwarded to the Air Force.² The JCS directed that further information be provided the Air Force. The additional information was forwarded on 13 December 1971.³ Hq NORAD had received no further information on action by the end of CY 1971.

VOICE ALERT SYSTEM MODIFICATION

(U) CINCNORAD approved on 8 February 1971 expansion of the Voice Alert System (VAS) and integration into it of the alerting features of the NORAD Attack Warning System (NAWS).⁴ The current NAWS would be inactivated when the expanded and modified VAS, called Modified Voice Alert System (MVAS), became operational. The VAS currently was used to send warning orders and execution directives from the NCOC to Region Control Centers (RCCs), the first BUIC NORAD Control Center (BNCC) in each region (the region ALCOPs), USAF ADC, ARADCOM, CDS, and a few other agencies over the Semi-Automatic Ground Environment (SAGE) Automatic Voice

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1. Interview, Mr. L. H. Buss with Major J. P. DiRosario, CEPP, 11 January 1972; Ltr, Hq CONAD to JCS, "Submission of Major Telecommunications Requirement, NORAD Operational Status Reporting (OPSTAR) System," 15 September 1971 (57).
 2. Ibid.
 3. Ltr, Hq NORAD to C/S USAF, "Submission of Major Telecommunications Requirement, NORAD Operational Status Reporting System (U)," 13 December 1971, with MFR, Major J. P. DiRosario, CEPP (57).
 4. NOPS Historical Report, January-February 1971 (959.3).

Network (AUTOVON). The NAWS provided the NCOC with the capability to send a missile attack warning signal to the RCCs and fighter interceptor squadron Combat Alert Centers over a leased dedicated circuit.

(U) The VAS was to be expanded to include the second BNCC in each region, Manual NORAD Control Centers and all weapons units (fighter interceptor squadrons, BOMARC squadrons and Army Air Defense Command Posts).¹ The NAWS signal feature was to be included in the MVAS. Thus, the NCOC could initiate a NAWS signal and also talk to all command and control and weapons units over the same system. The incorporation of the NAWS into the MVAS would save approximately \$50 thousand annually because the SAGE AUTOVON would be used and the NAWS leased circuit discontinued.

(U) Hq NORAD directed USAF ADC to issue the tele-communications requests and orders to provide for modification of the CONUS portion of the VAS and directed the Alaskan NORAD Region to provide for the MVAS capabilities in its area.² Hq NORAD also requested CF Hq to provide the MVAS capabilities to the 22d NR.³ 1 September 1971 was set as the required date for completion of the VAS modifications.

(U) The NCOC portion of the MVAS was completed during October 1971 but completion of the remainder of the system at all regions slipped beyond the end of CY 1971.⁴ The delay was caused by a communications workers

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1. Interview, Mr. L. H. Buss with Lt Col C. E. Mahaffee, Jr., 29 December 1971.
 2. Ltr, Hq NORAD to ADC, "Modification of Voice Alert System (VAS)," 25 February 1971 (57); Ltr, Hq NORAD to ANR, "Modification of Voice Alert System (VAS)," 1 March 1971 (57).
 3. Ltr, Hq NORAD to CDS, "Modification of Voice Alert System (VAS)," 25 February 1971 (57).
 4. NELC Historical Report, September-October 1971 (959.6).

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strike which held up production and installation of equipment.¹ Completion of the MVAS was expected by May 1972 as of the end of CY 1971.

NCMC-ENT AFB SECURE CLOSED CIRCUIT TELEVISION LINK

(U) Hq USAF approved on 16 March 1971 the use by Hq NORAD of excess equipment from a deactivated Closed Circuit Television (CCTV) link between Andrews AFB and

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1. Msg, Hq NORAD to Rgns, NOCC, 121930Z October 1971 (57).
 2. NOPS Historical Report, March-April 1971 (959.3); Ltr, Hq NORAD to ADC, "NAWS Console Modifications (U)," 4 March 1971 (57).

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the Pentagon to satisfy a long-standing Hq NORAD requirement.¹ ADC was directed by USAF to prepare programming actions, and an engineering survey was made in April at Ent AFB and the NCMC. It was found that adequate space was available for siting the associated microwave and auxiliary TV equipment. A number of other studies followed of various configurations (including NCMC and Ent AFB room locations), technical requirements and costs.

(U) In the meantime, however, the requirement was reevaluated by Hq CONAD and a decision made in September to cancel the requirement.² It was determined that in view of existing budget circumstances, the proposed cost of installing the system and the fact that a substitute means had been provided for the exchange of desired information,³ the requirement could no longer be justified. Hq CONAD directed ADC to cancel the requirement for the secure CCTV on 30 September 1971 and discontinue all actions to acquire it.⁴ ADC informed USAF of this decision on 15 October and requested that all actions to acquire the CCTV system be discontinued.⁵ Hq USAF advised on 26 October that the secure TV system was being offered to an agency in the Washington area.⁶

1. NELC Historical Report, March-April 1971 (959.6); For background, see CONAD Command History, 1970, p. 121.
2. NELC Historical Report, September-October 1971 (959.6).
3. (U) Secure teletype was used for written communications and secure telephone for voice communications.
4. Ltr, Hq CONAD to ADC, "NORAD CMC-Ent Secure CCTV Link," 30 September 1971 (57).
5. Msg, ADC to CSAF, DOKAP, 151523Z October 1971 (57).
6. Msg, CSAF to ADC, AFCS, NORAD, 262059Z October 1971 (57).

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EMERGENCY BROADCAST SYSTEM

(U) False Alert. National Warning Center Number One (NWC I), a Department of the Army tenant organization in the NCMC, transmitted by mistake an authenticated Emergency Action Notification (EAN) alert message over press teletype services at 7:30 A.M. MST, 20 February 1971.¹ A test message was scheduled for transmission, but an authenticated message stating that the President had declared a national emergency was sent instead. When the mistake was realized, NWC I sent notification to cancel the alert, but the message had no authenticator; a second cancel message had the wrong authenticator. Proper notification was sent at 8:13 A.M.²

(U) Investigation revealed that the EAN alert message and the test message were located on separate hooks above the teletype transmitter. The hooks were marked to indicate the nature of each message, but the operator mistakenly selected the wrong message. Officials directed that the alert message be sealed in a clearly-marked envelope and stored in a cabinet to prevent reoccurrence.³

(U) The EAN alert message should have caused commercial broadcasting stations to activate the Emergency Broadcast System (EBS) to provide the President and the Federal Government with facilities to reassure the populace and give directions on survival and recovery of the nation.⁴ However, it was found that an overwhelming majority of stations

1. Msg, DA to AIG 7409, 221741Z February 1971 (252).
2. (U) Because NWC I was located in the NCMC, it was widely, but erroneously, reported by the news media that Hq NORAD was responsible for the false alert.
3. Msg, DA to AIG 7409, 221741Z February 1971 (252).
4. Federal Communications Commission/Department of Defense/Office of Emergency Planning, Basic Emergency Broadcast System Plan, Annex V, 4 August 1967 (J-3 Files).

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ignored the alert. The Secretary of Defense requested CINCONAD and the Department of the Army to investigate the incident and provide information on station response. Hq CONAD replied on 22 February that it did not have the information to answer the specific questions which the Secretary had asked. Concerning the incident, Hq CONAD stated: "Following the transmission of the actual alert message, the Civilian Warning Officer advised the CONAD Command Director of the error, and he in turn notified the National Military Command Center. No other CONAD actions were involved in the incident."¹

(U) Responsibility for EBS Activation. A review of the EBS by the Director of Telecommunications Policy, Executive Office of the President, gave consideration to removing the function of EBS activation/deactivation from NWC I and assigning the function to another agency or command. The JCS asked CINCONAD in August 1971 if Hq CONAD could assume this responsibility. Hq CONAD replied that it was technically feasible.² In response to a request for further information, Hq CONAD advised the JCS on 4 November that CINCONAD could accept responsibility for activating and deactivating the EBS and that ADC should budget and be responsible for EBS circuitry and terminal equipment for CONAD operations.³ The equipment would be operated in an area reserved for communications management by two officers on a 24-hour per day basis. Hq CONAD stated that a memorandum of understanding containing mutually agreed-upon budgeting arrangements and clearly defined responsibilities and authorities should be negotiated between the appropriate agencies and CINCONAD.

1. Msg, SECDEF to OSA, et al., 4507, 212148Z February 1971 (252); Msg, CINCONAD to SECDEF, CHCR 221710Z February 1971 (252).
2. Msg, JCS to CINCONAD, 6239, 211512Z August 1971 (252); Msg, CINCONAD to JCS, NOCC 271915Z August 1971 (252).
3. Msg, JCS to CINCONAD, 4003, 301930Z October 1971 (252); Msg, CINCONAD to JCS, COCC 041900Z November 1971 (252).

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(U) The JCS directed CINCONAD in January 1972 to plan to assume the responsibility for activating and deactivating the EBS. No specific date was set for the completion of required actions.¹

SECTION IV - ALTERNATE COMMAND POSTS

NORAD ALCOP

(U) To meet Project 703 fund reductions, on 14 November 1969 the Western NORAD/CONAD Region, Richards-Gebaur AFB, Missouri, was discontinued (CONAD Command History, 1969, pp. 14-22). Both the Hq NORAD and Hq CONAD Alternate Command Posts (ALCOPs) were at Richards-Gebaur AFB. Hq NORAD designated the 22d NR as the first alternate to the NCOC effective 14 November 1969.² Hq CONAD designated the 24th CR, Malmstrom AFB, as the CONAD ALCOP effective 11 March 1970.

(S) Hq NORAD had been trying since 1962 to establish its ALCOP in the 22d NR hardened control center at North Bay. A Hq NORAD-prepared ALCOP Basic Plan was approved by the Secretary of Defense in 1966, but Canada never approved the plan. In October 1970, CINC-NORAD requested the JCS to withdraw the ALCOP Basic Plan from Canadian channels and to approve designation of the 24th NR as the primary NORAD ALCOP. CINC-NORAD explained to the JCS that the reason for this action was the uncertainty and delay in obtaining Canadian approval and the savings that would result from combining ALCOPs at the 24th Region. CINC-NORAD also requested the Canadian Chief of Defence Staff (CDS) to hold in abeyance any action on the Basic Plan and advised that Hq NORAD desired to designate the 24th NR as the primary NORAD ALCOP. *Declass*

1. Msg, JCS to CINCONAD, 9203, 132240Z January 1972 (252).
2. (U) The 24th NR was designated as second alternate to the NORAD COC.

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Declass (S) The CDS replied in January 1971 that the Canadian Government's position would be provided in the spring of 1971. Hq NORAD learned unofficially in April that Canada was not in favor of having the NORAD ALCOP in Canada.¹

Declass (S) The JCS requested additional information from Hq NORAD on designating the 24th NR as the primary ALCOP. Hq NORAD pointed out that some protection would be provided by the Safeguard System; savings would be made in construction, personnel, equipment, and communications through ALCOP consolidation; and a viable NORAD ALCOP could be established soon.² Hq NORAD also pointed out disadvantages -- the ALCOP would be located in a high priority target area and in a "soft" facility.

Declass (S) The JCS recommended to the Secretary of Defense on 29 September 1971 that the NORAD ALCOP Basic Plan be withdrawn from Canadian channels and that the 24th NR be designated as the primary NORAD ALCOP.³ The Secretary of Defense approved and on 22 October the Canadian Government was formally notified of the withdrawal and asked to approve designation of the 24th Region as the NORAD ALCOP. The JCS advised on 11 December that the CDS had approved designation of the 24th NR as the ALCOP.⁴ The CDS also requested CINCNORAD's proposal for manning the ALCOP including the proposed Canadian positions.⁵

1. NPAP Historical Report, March-April 1971 (959.5); CPRO Basic Projects Book, Tab K, 1 October 1971 (721).
2. Ltr, Hq NORAD to JCS, "NORAD Alternate Command Post (ALCOP)(U)," 26 May 1971 (51.2).
3. NPAP Historical Report, September-October 1971 (959.5).
4. Msg, JCS to CINCNORAD, 9074, 111836Z December 1971 (51.2).
5. (U) This action had not been taken by the end of CY 1971.

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(S) Hq NORAD issued a message to all concerned that effective 0001Z 22 December 1971, the 24th NR was designated the NORAD ALCOP.1 Interim Change 7 to NORAD OPORD 300N-70 was issued on 28 December deleting reference to the 22d NR as first alternate and the 24th NR as second alternate to the NCOC.2

Declass

CONAD ALCOP OPERATION PLAN

(S) CINCONAD OPLAN 3340, 20 August 1971, provided for the operation, organization and functions of the CONAD ALCOP established at the 24th CONAD Region, Malmstrom AFB. The OPLAN stated the assumptions that in the event of an attack, the NORAD/CONAD CMC "may be rendered incapable of performing its mission . . . and the CONAD ALCOP . . . has not been rendered unusable by enemy action or other disaster."

Declass

(S) The OPLAN was to be implemented under the following conditions:

1. When directed by CINCONAD.
2. Automatically, upon determination that the CCOC has been totally destroyed or is rendered incapable of exercising operational command over CONAD forces.
3. Automatically, when communications on the dedicated, continuity circuits from the CONAD ALCOP to the COC have been lost for a period of 1 minute or more.

Declass

(S) The Command Post element of the CONAD ALCOP was operational on a 24-hour, day-to-day basis. The manning of the ALCOP BSSC, however, was dependent upon two conditions:

Declass

1. Msg, Hq NORAD to JCS, CANFORCEHED, et al., NOCC, 211815Z December 1971 (51.2).
2. Msg, Hq NORAD to JCS, CANFORCEHED, et al., NOPP, 282305Z December 1971 (656).

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1. Condition Alfa. The CCOC has been destroyed or disrupted or is incapable of exercising operational command over CONAD forces. This condition will dictate the exercise of Interim Command of CONAD forces through the CONAD ALCOP with personnel already in place at the 24th CRCC.

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2. Condition Bravo. There is sufficient warning of an impending attack to deploy pre-identified augmentation personnel from ARADCOM, USAF ADC, and the 4th Weather Wing to Malmstrom AFB, MT. Component Support Center personnel will augment the Joint Support Staff in the CONAD ALCOP BSSC. The CONAD ALCOP BSSC satisfies both CONAD and the 24th CR support requirements.

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(S) Under Alfa, no augmentation personnel were to be deployed to the ALCOP from the Colorado Springs area; however, senior surviving Component Commanders were to deploy to the ALCOP from other locations. Under Bravo preidentified ARADCOM, USAF ADC, and 4th Weather Wing personnel were to deploy from the Colorado Springs area on order of CINCONAD or automatically at DEFCON 3.

DeClass

(S) The OPLAN stipulated the following concerning succession to command:

1. Operational command will be exercised through the CCOC so long as the CCOC is operational. If the CCOC is destroyed or loses communications with CONAD Command and Control elements, the CONAD ALCOP commander will assume operational command of all CONAD forces.

2. . . . Should both the CCOC and ALCOP be destroyed, the ranking CONAD Region Commander, as identified in the CONAD Succession to Command List, will assume interim command of CONAD forces.

3. If the CCOC becomes inoperative, the senior U.S. officer at the ALCOP will exercise Command and Control of all CONAD

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facilities and forces until relieved or able to establish contact with CINCONAD or his successor. . . . if he is not designated on the Hq CONAD Succession to Command List, his authorities are limited to those of the CCOC Command Director. For any additional authorities, he will contact a CONAD officer on the Succession to Command List. If timely contact is not possible, he will attempt to contact the National Command Authorities. . . .

4. Should the CCOC become inoperative, CINCONAD or the senior surviving CONAD officer on the Succession List, where possible and time permitting, will proceed to the ALCOP. Until he is able to relocate to the ALCOP facility, he will forward appropriate command decisions to the ALCOP for dissemination and execution.

ALCOP COMMUNICATIONS

(U) ADC provided the communications facilities required for the CONAD ALCOP at the 24th Region, Malmstrom AFB, as directed by Hq CONAD.¹ The NORAD ALCOP was established at the same location effective 22 December 1971 and would use the same facilities, which would save funds. Had the NORAD ALCOP been established at the 22d NR, separate communications would have been required.

(U) The communications facilities established and the operational dates as of the end of CY 1971 were as follows:²

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1. CELC Historical Report, September-October 1971 (959.6); Ltr, Hq CONAD to ADC, "CONAD ALCOP Communications Requirements (U)," 21 May 1971 (51.2 X 57).
 2. NELC Project Report, Lt Col T. A. Wilber, "NORAD/CONAD Communications Requirements," 1 January 1972 (51.2 X 57).

<u>Facility</u>	<u>Operational Dates</u>
JCS Alerting Network	Nov 70
JCS Emergency Message Automatic Transmission System	Dec 70
NORAD Forward Automated Reporting System	Jul 71
Surveillance-Tactical Reporting System	Aug 71
Automated Missile Warning Teletype System	1 Sep 71
General Purpose P-1 (Flash) Automatic Voice Network (440L)	13 Sep 71
BMEWS Voice Seizure Circuits	Clear and Thule -- 5 Oct 71 Flyingdales -- 23 Dec 71
Preset conference bridge for Missile Attack Warning Data Forward Tell	11 Oct 71 -- less CINCPAC and CF Warning Centre
Minimum Essential Emergency Communications Network	Nov 71
CCOC/NCOC-ALCOP Continuity Alarm Circuits	1 Feb 72

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SECTION V - ALTERNATE SPACE
DEFENSE CENTER

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(S) Representatives of Hq NORAD, ADC, Naval Space Surveillance (NAVSPASUR) System, and 14th Aerospace Force made a study during 1970 of the requirements for an Alternate Space Defense Center (ASDC). Currently, backup computer facilities for the SDC were provided by ADC at the

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Ent AFB computational facility and by NAVSPASUR, Dahlgren, Virginia. As a result of the study, a decision was made by CINCNORAD to establish the ASDC at the USAF Space Surveillance Facility, Eglin AFB, Florida, and to reaffirm the requirement for provision by NAVSPASUR of backup computational facilities for the Space Defense Center and for the ASDC.¹

(S) Hq NORAD tasked ADC on 1 December 1970 to establish an ASDC at the USAF Space Surveillance Facility that would provide the capability for continuity of operations of all essential functions.² When the NCOC function was transferred to the ALCOP at Malmstrom, or as otherwise directed, Hq NORAD stated, the SDC function would be transferred to the ASDC. Hq NORAD also tasked NAVSPASUR on 1 December 1970 to provide compatible backup data computational facilities for both the SDC and the ASDC.³ *Declass*

(S) ADC issued the first activation plan for the ASDC on 31 March 1971 which indicated a planned attainment of Initial Operational Capability (IOC) on 1 July 1971 and Final Operational Capability (FOC) on 31 December 1972. The IOC date was not met, however, and at the end of CY 1971 was tentatively scheduled for the January-February 1972 period.⁴ The system had not proven to be satisfactory during testing held in December. The requirement for provision of backup computational facilities for the SDC at Ent AFB had not been changed by ADC at year's end. *Declass*

1. NPPG-D, "NORAD/CONAD Studies Since 1 Jan 67," 1 November 1971, p. 44 (710).
2. Ltr, Hq NORAD to USAF ADC, "Alternate Space Defense Center (U)," 1 December 1970 (51 X 228).
3. Ltr, Hq NORAD to NAVSPASUR, "Alternate Space Defense Center (U)," 1 December 1970 (51 X 228).
4. Interview, Mr. L. H. Buss with Lt Col N. F. Reed, NOOP, 21 December 1971.

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SECTION VI - NORAD/CONAD AIRBORNE COMMAND
POST AND DATA PROCESSING CENTER (NACP)

(S) CINCONAD submitted a requirement to the JCS in January 1969 for an airborne command post to provide greater command and control survivability. A NORAD Qualitative Requirement (NQR 2-69) was submitted to the JCS on 15 March 1969 in support of the requirement. The NQR was also sent to the Chief of the Defence Staff for information. The JCS requested additional information and a draft NORAD Operational Employment Concept (NOEC) was submitted in September 1969. The JCS validated the general concept for planning purposes on 23 December 1969. Validation of specific requirements was deferred pending further review.

(S) The JCS asked USAF to comment on the feasibility of using a single aircraft to fulfill jointly the requirements for NORAD and Strategic Air Command (SAC). USAF replied that the C-5/747 class aircraft was technically capable of satisfying the NORAD/SAC requirements. USAF also stated that Hq NORAD data processing requirements were beyond the current state-of-the-art. Hq NORAD advised the JCS in June 1970 that a reduced computer processing speed was possible by using dual processors.

(S) Hq NORAD superseded NQR 2-69 with NQR 2-71 for an NACP, 22 April 1971, and issued NOEC 2-71 for an NACP, 22 April 1971, in support of the NQR. NQR 2-71 documented a requirement for an NACP to provide continuity of the NORAD/CONAD command and control system in the face of a concerted attack. The NACP would provide an alternate for the present or programmed, fixed ground command and control facilities. NQR 2-71 stated that the mission of the NACP was to provide a survivable NORAD/CONAD Command and Control Center to assume the minimum essential functions of CINCNORAD/CINCONAD in the event the NCMC was incapacitated. Transfer of operational control from the NCOC could be ordered any time the NACP was operational at the discretion of the Commander-in-Chief. The NACP was described in the NQR as a basic off-the-shelf multi-engine jet aircraft modified to accomplish the NORAD/CONAD mission. The aircraft had to be capable of remaining airborne for 12 or more hours with an in-flight refueling capability to extend on-station time to 72 hours.

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USAF ADC would operate and maintain the aircraft and associated communication and data processing equipment. The NQR called for three aircraft, one on alert at all times, one on standby, and one available for maintenance. Two or more operating bases were envisioned. Peterson Field, Colorado, would be the primary base and would provide alert and maintenance facilities. An alternate base or bases would be selected in the central CONUS.

(S) NOEC 2-71 stated that during peacetime the following general operational configurations were envisaged:

1. NCOC active, NACP on ground alert with command and control systems active and data base being updated.
2. NCOC active, NACP airborne with command and control systems active and data base being updated.
3. NACP on ground alert or airborne, acting as NCOC and interfacing with higher, lateral, and subordinate units during scheduled periods when the NACP assumes actual operational command of the NORAD system.
4. NACP on ground alert or airborne, acting as NCOC with the subordinate Region Control Centers only for exercises and training. The NCOC retains control of the actual defense situation.

During wartime, the NACP would be airborne with all systems active, ready to immediately assume the NCOC role.

(S) The JCS had not validated the specific NACP requirements by the end of CY 1971.

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COMMAND AND CONTROL FACILITIES

	1 JANUARY 1971	1 JULY 1971	31 DECEMBER 1971
CONAD/NORAD COC:	1	1	1
ALCOP:			
CONAD	1	1	1
NORAD			1
SPACE DEFENSE CENTER:	1	1	1
REGION CONTROL CENTERS:	8	8	8
BUIC NORAD CONTROL CENTERS:	14	14	14
MANUAL NORAD CONTROL CENTERS:	5	5	5
SAM FIRE COORDINATION CENTERS:	15	12	12

WARNING DISSEMINATION SYSTEMS

	1 JANUARY 1971	1 JULY 1971	31 DECEMBER 1971
NORAD ATTACK WARNING SYSTEM:	1	1	1
NORAD AUTOMATED FORWARD TELL OUTPUT TO CANADA:	1	1	1
NORAD FORWARD AUTOMATED REPORTING SYSTEM:	1	1	1
NORAD VOICE ALERT SYSTEM:	1	1	1
NUCLEAR, BIOLOGICAL AND CHEMICAL WARNING AND REPORTING SYSTEM:	1	1	1

SOURCE: NORAD Forces and Program Change Summary.

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CHAPTER VIII

EXERCISES AND EVALUATIONS

SECTION I - LIVE EXERCISES

SNOW TIME EXERCISES

(U) Six NORAD-Strategic Air Command (SAC) SNOW TIME¹ exercises were held during CY 1971 under the provisions of NORAD Operation Order (OPORD) 371N-71, 30 June 1970.² Hq NORAD's objectives in these exercises, as stated in the OPOED, were to

accomplish NORAD system training and examine defensive equipments, tactics and procedures in a range of battle situations that are both challenging and representative of probable Soviet attack patterns with an ultimate goal of improving NORAD system effectiveness.

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1. (U) SNOW TIME is an acronym for SAC/NORAD Operational Weapons Tests Involving Military Electronics. These exercises had been held since 1963; for information on previous exercises, see CONAD Command History, 1970, pp. 128-131.
 2. (U) OPOED 371N-71 had originally applied to FY 1971 exercises only, but was extended until an OPOED for FY 1972 exercises was published (expected in early CY 1972).

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SAC's objectives were to "evaluate and develop tactics in a realistic environment and to exercise and train specific elements of SAC offensive forces using realistic penetration tactics." In addition to the bomber force provided by SAC, USAF ADC, CF ADC, and Tactical Air Command¹ provided strike and support aircraft for the exercise.

(U) The exercises held during 1971 were as follows:²

<u>SNOW TIME</u>	<u>Date</u>	<u>Participating Regions</u>
71-4-C	16-17 Feb	23d, 24th
71-5-W/A	20-21 Apr	24th, 25th, 26th, Alaskan
71-6-W	15-16 Jun	24th, 25th, 26th
72-1	24-25 Aug	20th, 22d, 23d
72-2	19-20 Oct	24th, 26th
72-3	7-8 Dec	21st, 22d

(U) These exercises were considered by Hq NORAD to have been successfully conducted.³

(U) SAC/NORAD Agreement. A revised "SAC/NORAD Command Agreement for SNOW TIME Exercises" was published on 15 April 1971. The agreement had been revised and updated every two years since originally being published in 1963. The 1971 Agreement included CF ADC for the first time and placed it in the SNOW TIME management

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1. (U) TAC participation in SNOW TIME started with the last exercise held during CY 1971.
 2. NOPS Historical Reports, CY 1971, (959.3).
 3. NOPS Historical Report, January-February 1971 (959.3); Ibid., July-August 1971; Ibid., November-December 1971.

structure. CF ADC was represented on the three exercise management organizations: the Joint Policy Committee, the SNOW TIME Analysis Committee, and the Joint Operations Task Force (JOTF).

(U) The 1971 Agreement authorized 19 manpower spaces for the JOTF, the only one of the three organizations manned full time. Hq NORAD filled 13 spaces on the JOTF (4 USAF, 4 USA, 4 U.S. civilian, and 1 CF); SAC had the remaining six spaces, one of which, an Air Force 06, was the director.¹ Twelve of the Hq NORAD spaces were J-3 authorizations; one space was an augmentation from J-5 (civilian, Directorate of Analysis, Assistant DCS/Plans).² No change had been made by the end of CY 1971.

AMALGAM ARROW EXERCISES

(U) NORAD OPORD 372N-71, "Live Air Defense Exercises," 1 April 1970, required a series of training exercises, nicknamed AMALGAM ARROW, to be held in two or more regions at a time under the same exercise conditions as a NORAD operational evaluation. Two AMALGAM ARROW exercises were held in CY 1970 (71-1 and 71-2). Six were held in CY 1971:³

1. AMALGAM ARROW 71-3 - 6 January 1971, 25th and 26th Regions. A high abort rate of target aircraft reduced the effectiveness of this exercise.⁴

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1. SAC/NORAD Command Agreement for SNOW TIME Exercises, 15 April 1971 (604).
 2. Hq NORAD/CONAD JTD, 1 July 1971 (3).
 3. (U) AMALGAM ARROW exercises were numbered on a fiscal year basis.
 4. NOPS Historical Report, January-February 1971 (959.3).

2. AMALGAM ARROW 71-4 - 18 March 1971, 23d and 24th Regions. Insufficient target aircraft were available to fully exercise both regions, so emphasis was placed on the 23d Region which had been hampered by bad weather during SNOW TIME 71-4-C.1

3. AMALGAM ARROW 71-5 - 24 June 1971, 21st and 22d Regions. Effective training for the 22d Region was provided, but quality was reduced in the 21st Region by the loss of 26 of a scheduled total of 63 target aircraft due to bad weather at staging bases, aborts, and aircraft non-availability.2

4. AMALGAM ARROW 72-1 - 1 September 1971, 24th and 25th Regions. A low abort rate of target aircraft contributed to the successful conduct of this exercise.3

5. AMALGAM ARROW 72-2 - 5 November 1971, 20th and 21st Regions. The exercise was conducted successfully following a 24-hour delay caused by bad weather.4

6. AMALGAM ARROW 72-3 - 16 December 1971, 25th and 26th Regions. The 25th Region received minimal training because of extremely cold weather which contributed to an abnormally high abort rate.5

SECTION II - NORAD REGION OPERATIONAL EVALUATIONS

AMALGAM MUTE EXERCISES

(U) Hq NORAD periodically made operational evaluations of its regions and their subordinate units. These

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1. NOPS Historical Report, March-April 1971 (959.3).
 2. Ibid., May-June 1971 (959.3).
 3. Interview, Mr. D. W. Shircliffe with Major J. R. Bell, NOPS, 8 December 1971.
 4. NOPS Historical Report, September-October 1971 (959.3).
 5. Ibid., November-December 1971 (959.3).

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evaluations, nicknamed AMALGAM MUTES, were conducted under procedures set forth in NORAD Regulation 55-13. Exercise conditions were to be as realistic as peacetime would permit so that proper evaluations could be made. A faker strike force of electronic countermeasures (ECM)-equipped aircraft from SAC, USAF ADC, and CF ADC provided realism by performing probable tactics of a Soviet bomber force. Scripted inputs simulated such events as nuclear detonations and missile attacks. Hq NORAD published a report of each evaluation which included CINCNORAD's rating (outstanding, satisfactory, or unsatisfactory) of the region and its units.

(U) Hq NORAD conducted seven evaluations during 1971 as follows:¹

<u>AMALGAM MUTE</u>	<u>Date</u>	<u>Region</u>
71-2-E (R)	11-15 Jan	20th
72-1-A	19-23 Jul	Alaskan
72-1	24-25 Aug	21st
72-1-R	21-22 Sep	23d
72-2	18-21 Oct	25th
72-21-R	5 Nov	21st
72-3	6-10 Dec	20th

(U) Hq NORAD informed the regions that after 1 August 1971 operational evaluations would be on a "no-notice" basis and would usually be held with SNOW TIME exercises, but they might also be conducted as separate exercises or in lieu of any scheduled NORAD exercises. AMALGAM MUTES 72-1, 72-2, and 72-3 were held in conjunction with similarly-numbered SNOW TIME exercises; MUTE 72-1-R was held as a separate exercise; and MUTE 72-21-R was held with AMALGAM ARROW 72-2.2

1. NOPS Historical Reports, CY 1971 (959.3).
2. Msg, CINCNORAD to AIG 952, et al., NOET-R 191915Z March 1971 (600 X 604); Msg, CINCNORAD to AIG 952, NOPS 022245Z April 1971 (600).

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SECTION III - COMMAND POST EXERCISES

AMALGAM FAIRPLAY 71

(U) NORAD OPOD 370N-70, "Command Post Exercise FAIRPLAY 1971," 1 September 1970, stated that the exercise was designed to provide CINCNORAD with a simulated situation depicting a massive attack which required exercising command and control procedures throughout the NORAD system. FAIRPLAY 71 was to be a three-part exercise; the first part was held in October 1970.¹

(S) FAIRPLAY 71-2/HIGH HEELS 71. The second part of FAIRPLAY 71 was conducted 27 January to 7 February 1971 along with the JCS world-wide command-post exercise, HIGH HEELS 71. The scenario depicted a deteriorating situation which brought U.S., NATO, and Communist interests into direct conflict. A crisis quickly built up in Europe, leading to tactical nuclear war between NATO and Warsaw Pact nations and, shortly thereafter, to a world-wide, general war. The scenario then depicted a massive attack on North America.²

(U) Hq NORAD conducted its play of the exercise in three phases: pre-battle, air battle, and reconstitution. All exercise objectives were accomplished.³ General Seth J. McKee participated throughout the exercise.

(U) FAIRPLAY 71-3. The third part of FAIRPLAY 71, scheduled for June 1971, was cancelled because of modification work being done to facilities and equipment in the NORAD COC.⁴

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1. CONAD Command History, 1970, p. 137.
 2. NOPS Historical Report, January-February 1971 (959.3); NORAD Operation Order 373N-71, 15 November 1970 (603.6).
 3. NOPS Historical Report, January-February 1971 (959.3).
 4. Ibid., May-June 1971 (959.3).

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AMALGAM AMAZON EXERCISES

(U) AMALGAM AMAZONS were synthetic exercises designed mainly to train general officers in succession to command and in the functions required of the Commander-in-Chief in his battle position at the NORAD COC. These exercises also provided training to senior command post officers in pre-hostility decision making. Other key participants in these exercises included the command posts of the JCS, the Canadian Defence Staff, and SAC.

~~(S)~~ Three AMAZON exercises were held during 1971. The first, AMAZON 71-4, was conducted on 16 March with General McKee, Lieutenant General E. M. Reyno, Deputy CINCNOAD, and the Hq NORAD Battle Staff participating. The scenario focused on the possibility of a pre-emptive missile attack on North America.¹ The objectives of the exercise were successfully completed and Hq NORAD informed the participants of the significant problem areas. One of the problems was poor conferencing capability of the secure voice communications which had caused General McKee to end the preceding AMAZON (71-3, 24 November 1970) prematurely.² To correct this problem, wide-band circuits were installed by early December 1971 at the National Military Command Center (NMCC); the Alternate NMCC; and the command posts of CINCNOAD, CINCSAC, CINCLANT, and the Canadian CDS. Tests of secure voice conferencing were to be made by Hq NORAD starting on 1 February 1972.³

(U) AMAZON 71-5, scheduled for 18 May, was cancelled because of modification work being done in the NORAD COC.⁴

1. NOPS Historical Report, March-April 1971 (959.3).
2. (U) For information on AMAZON 71-3, see CONAD Command History, 1970, p. 139; Msg, CINCNOAD to NMCC/NMCS, et al., NOET-S 022045Z June 1971 (603.7).
3. (U) Interview, Mr. D. W. Shircliffe with Lt Col M. E. Sayers, NELC, 25 January 1972.
4. NOPS Historical Report, May-June 1971 (959.3).

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AMALGAM FAIRPLAY 72

(U) Hq NORAD issued Change 1 to OPORD 370N-70 on 6 September 1971, which extended the provisions of the order to include FY 1972 FAIRPLAY Exercises. This change did not alter the basic design concept of the exercises, but a special note was added to the Concept of Operations that the broad purpose of FAIRPLAY 72 was two-fold: "To train Command Center and Staff personnel in executing emergency procedures in an escalating crisis situation and to review the adequacy of existing emergency procedures, plans, current procedures, available facilities, and accurate reporting."

(U) FAIRPLAY 72-1. The first part of FAIRPLAY 72 was conducted 11-17 September 1971, using exercise materials from the cancelled exercise, FAIRPLAY 71-3.¹ The exercise featured a low key intelligence buildup, an A-day air battle, a reconstitution period, and an A-day + 1 air battle followed by another reconstitution period. All exercise objectives were accomplished.²

(U) FAIRPLAY 72-2. The second part of FAIRPLAY 72 was conducted 28 November to 3 December 1971. SLBM Detection and Warning sites participated by providing taped inputs for the first time. In conjunction with this exercise, a Satellite Intercept System exercise was held (see ARLBERG TERROR Exercises, page 175). FAIRPLAY objectives were met, but an exercise design fault created a lack of realism in communications play. Action was being taken by the Hq NORAD staff to enhance communications play in all synthetic exercises.³

1. (U) FAIRPLAY was normally a three-part exercise but the use of exercise materials from the cancelled exercise of FY 1971, allowed the scheduling of a four-part FAIRPLAY for FY 1972. FAIRPLAY 72-3 and 72-4 were to be held in March and June 1972, respectively. (Msg, Hq NORAD to AIG 952, et al., NOET-S, 151800Z October 1971 (603.6).)
2. NOPS Historical Report, September-October 1971 (959.3).
3. Ibid., November-December 1971 (959.3).

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(S) AMAZON 72-1 was held on 28 September with Lieutenant General Thomas K. McGehee, USAF ADC Commander, participating as Acting CINCNOAD. All training objectives were accomplished successfully; however, secure voice communications were unsatisfactory, as noted above, and did not allow proper command and control interface among the command posts.¹ At the request of Major General W. K. Carr, Hq NORAD DCS/Operations, AMAZON 72-1 was re-run with only NCOC participation on 2 November to provide additional training and orientation for the NORAD Battle Staff. Major General O. B. Johnson, USAF ADC DCS/Materiel, participated as Acting CINCNOAD.²

(U) AMAZON 72-2 was conducted on 16 November 1971 with participation by General McKee. This was the first NORAD-wide exercise in which personnel at the BMEWS sites played an active, dynamic role. Previously, BMEWS participation had been limited to scripted, stereotyped inputs. The exercise was conducted successfully.³

SECTION IV - SATELLITE INTERCEPT SYSTEM EXERCISES

DEPLOYMENT EXERCISE

(S) The Program 437 Satellite Intercept System (SIS) was phased down on 1 October 1970 to a 30-day recall status (Chapter VI). Launch crews were moved from the SIS site at Johnston Island, to Vandenberg AFB, California, and the nuclear warheads were stored

1. NOPS Historical Report, September-October 1971 (959.3); Msg, CINCNOAD to NMCC, et al., NOET-S 122200Z November 1971 (603.7).
2. NOPS Historical Report, November-December 1971 (959.3).
3. Ibid.

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at Nellis AFB, Nevada. A care-taker detachment of military and contractor personnel remained on Johnston Island.

(S) CINCONAD OPLAN 3010, 15 April 1971, required that the SIS be capable of attaining a Satellite Readiness Condition (SATCON) 3 alert commitment¹ at Johnston Island within 30 days after receipt of an implementation order. CINCONAD directed a training deployment (without movement of nuclear warheads) on 1 November 1971 to Johnston Island. Launch crews were in place 8 November. System Readiness Exercise ARLBERG TERROR 72-1F, conducted on 27 November, verified the system's capability to react within 30 days as required. Launch crews returned to Vandenberg AFB on 4 December 1971.²

SYSTEM READINESS EXERCISES

(S) Five types of system readiness exercises (SREs) were prescribed for the SIS by OPLAN 3010 to be conducted by the CONAD COC/SDC with either the 10th Aerospace Defense Squadron training facility, Vandenberg AFB, or with the launch complex at Johnston Island. Type I was a live launch; Types II and III were simulated launches. Type IV was a simulated, walk-through/talk-through exercise and Type V was a special exercise requested by a component command for training, test or evaluation requirements. All SREs were given the nickname ARLBERG TERROR.

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1. (S) SATCON 3 (exercise term POP FLY) was a readiness condition which could be sustained indefinitely and represented the capability to react to an engagement order in not more than 24 hours with two missiles.
 2. NOPS Historical Report, November-December 1971 (959.3); Msg, SDC to 14 AF, COSC-OC 270950Z November 1971 (229.1); Interview, Mr. D. W. Shircliffe with Captain J. P. Rhude, COPS, 26 January 1972.

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(S) ARLBERG TERROR exercises were held in CY 1971 only during the practice deployment in November and December. No Type I exercise was conducted. Seven Types II through IV exercises were held. The exercise designations, dates and types were as follows:¹

ARLBERG TERROR	Date	Exercise Type:		
		II	III	IV
72-1A	16 Nov			X
72-1B	18 Nov			X
72-1C	20 Nov			X
72-1D	23 Nov		X	
72-1E	25 Nov		X	
72-1F	27 Nov	X		
72-1G	1 Dec			X

The last exercise, 72-1G, was conducted with AMALGAM FAIRPLAY 72-2. The primary objectives of these exercises were considered to have been met.²

1. NOPS Historical Report, November-December 1971 (959.3).
2. Interview, Mr. Shircliffe with Captain J. P. Rhude, COPS, 26 January 1972.

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CHAPTER IX
OVERFLIGHT AND
IDENTIFICATION MATTERS

OVERFLIGHT BY COMMUNIST
COUNTRY CIVIL AIRCRAFT

GUIDANCE ON FLIGHT PLAN DEVIATION

(S) Hq CONAD sought guidance from the JCS on the procedures to follow if civil aircraft of Communist countries making an authorized overflight of the U.S. deviated from their flight plan without a valid reason. The matter was referred to the National Security Council's Interdepartmental Committee on Internal Security (ICIS), whose recommendations were forwarded by the JCS to CINCONAD in September 1970 for comment. The ICIS recommended procedures were as follows:¹

Deviation From Cleared IFR Route During Overflights of U.S. Territory. In the event that such an aircraft, while over U.S. territory, deviates from its cleared route for a non-emergency reason . . . :

1. FAA shall immediately communicate with the aircraft, notify it of the deviation and advise it to return to the cleared route.

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1. Msg, JCS to CINCONAD, 1562, 212204Z September 1970 (200 X 420).

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2. In the event that the aircraft fails to obey the request to return to the cleared route, FAA shall immediately notify CONAD of the circumstances.

3. Upon receipt of such notification from FAA, CONAD shall immediately dispatch aircraft to intercept the foreign aircraft and attempt to lead it back to the cleared route.

4. If the foreign aircraft fails to return to its cleared route after being intercepted, the foreign aircraft should be kept under surveillance until it lands or departs U.S. airspace, or until additional measures are authorized by higher authority.

(S) Objections were raised to Items 3 and 4 of these procedures.¹ Hq CONAD stated that it was not capable under all circumstances of complying with the requirement in Item 3 because of radar and interceptor force reductions. Hq CONAD advised the JCS that these reductions had degraded the capability to detect, track, and intercept aircraft within or approaching all CONUS airspace. "This degradation is most critical," Hq CONAD stated, "in the southern approaches to the U.S. as well as the interior CONUS, where radar and interceptor resources are virtually nonexistent." Therefore, it was recommended that Item 3 be amended to indicate that CONAD would respond immediately "if disposition of available resources permit." The objection to Item 4 was to the vagueness of the phrase ". . . until additional measures are authorized by higher authority." Hq CONAD recommended establishment of definite courses of action and identification of the "higher authority" in order to expedite the decision process and to eliminate any possibility of misunderstanding.

1. Msg, Hq CONAD to JCS, COAD-E 252220Z September 1970 (420).

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(S) The JCS provided final guidance in October 1970, but implementation had to await the signing of a DOD/FAA Memorandum of Understanding. Item 3 was changed as Hq CONAD had recommended. However, Item 4 was not made more definitive because more stringent action, other than intercept and escort, against a foreign civil aircraft might have international repercussions. Also, the "higher authority" was not identified. DOD and FAA agreed to the procedures and the Memorandum of Understanding was forwarded to Hq CONAD in June 1971.¹

CONAD REGULATION 55-47

(S) Procedures and responsibilities were published in CONAD Regulation 55-47, "Overflights of the United States by Civil Aircraft of Communist and Communist-Dominated Countries (U)," 31 August 1971.² The procedures were as follows:

If a Communist civil aircraft, while over U.S. territory, deviates in excess of FAA criteria from its cleared route for a nonemergency reason . . . :

1. The FAA will immediately communicate with the aircraft, notify it of the deviation and advise it to return to the cleared route.

2. In the event the aircraft fails to obey the request to return to the cleared route, the FAA will immediately notify CONAD of the circumstances.

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1. Interview, Mr. D. W. Shircliffe with Lt Col W. S. Christian, Jr., 23 May 1972.
 2. (S) The regulation applied to aircraft of Albania, Bulgaria, Communist China, Cuba, Czechoslovakia, East Germany, Hungary, North Korea, North Vietnam, Outer Mongolia, Poland, Romania, and the Soviet Union.

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3. Upon receipt of such notification from the FAA, CONAD will, if disposition of available resources permits, immediately dispatch aircraft to intercept the foreign aircraft, and attempt to lead it back to the cleared route. In the event CONAD is unable to take immediate intercept action, close coordination will be maintained between CONAD and the FAA and, if, or when the foreign aircraft enters an area where a CONAD intercept capability exists, CONAD will immediately dispatch aircraft and lead it back to the cleared route.

4. If the foreign aircraft fails to return to its cleared route after being intercepted, surveillance of the foreign aircraft will be maintained by both CONAD and the FAA, to the limits of system capability, until it lands or departs U.S. airspace, or until additional measures are authorized. Additional measures authorized will be passed to the interceptor by any available communications.

The regulation also provided procedures for conduct of intercept and escort missions. CONAD Region Commanders were instructed to assure that actions more stringent than intercept and escort were not to be attempted without specific direction of higher authority.

(S) The responsibilities in CONAD Regulation 55-47 included the following:

1. The FAA, by agreement with the DOD concerning the arrival of these aircraft, will keep CONAD advised:

a. Of all flight movement data, as far in advance as possible.

b. When such aircraft fails to comply with the regulations of the FAA Administrator pertaining to security control of air traffic.

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c. When such aircraft makes any deviation in excess of FAA criteria from a cleared route.

2. CONAD will:

a. Provide the FAA with penetration and route instructions for all Communist-Bloc aircraft, to the extent lawful and feasible, so as to avoid military sensitive areas.

b. Provide surveillance of foreign aircraft while operating over U.S. territory within the limits of CONAD radar coverage. The procedures contained in NORAD Regulation 55-11, Initiation and Flight Following of Tracks Classified "Special (S)," apply.

c. Conduct intercept and escort missions on such aircraft if disposition of available resources permits, when notified by the FAA that a deviation from the approved flight plan has occurred.

CUBAN CIVIL AIRCRAFT FLIGHT
TO NEW ORLEANS

FLIGHT SUMMARY

(U) The Havana, Cuba, Air Traffic Control Center filed a flight plan with the FAA at 7:50 A.M., EDT,¹ 26 October 1971, for an aircraft identified as "Cubana Special One." The flight plan stated that this aircraft -- a Russian-built AN-24 transport -- would depart Havana at 9:00 A.M. that morning for New Orleans, Louisiana.²

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1. (U) All times given are in Eastern Daylight Time.
 2. (U) This short notice of an intended flight over U.S. airspace ignored an FAA requirement for advance notice of at least five days. Proper advance notice would allow the FAA to coordinate such flights with all concerned governmental agencies.

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The FAA's Miami Air Route Traffic Control Center (ARTCC) informed the 20th NORAD Region Control Center at 8:25 A.M. of the proposed flight; the NORAD COC was informed by the Air Force Command Post at 8:30 A.M. 20th Region personnel made repeated telephone calls to ARTCCs in Atlanta, Houston, and Miami to get further information about the flight, and particularly, whether the aircraft had departed Havana. However, departure could not be confirmed. Shortly before 11:00 A.M., the Houston ARTCC informed the 20th Region that an aircraft identifying itself as "Cubana 877" was approaching New Orleans Moisant International Airport and requesting landing instructions. The aircraft landed at 11:17 A.M.¹

(U) The aircraft carried 21 Cuban nationals who were planning to attend a conference of the International Society of Sugar Cane Technologists. However, the State Department had refused in September to grant visas to the Cubans, so they were confined to quarters during their stay. The aircraft and its passengers returned to Cuba on 5 November 1971. NORAD radar (EC-121 aircraft on Station 50 between Florida and Cuba and ground radar at NAS Key West) tracked the aircraft on its return flight.²

CONGRESSIONAL INVESTIGATION

(U) The Investigating Subcommittee of the House Armed Services Committee, under the chairmanship of F. Edward Hebert (D.-LA), held hearings in November and December 1971 to investigate the incident. General Seth J. McKee testified before the Subcommittee on 9

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1. Msg, 20th NR to CINCNORAD, NHCR 042115Z November 1971 (420); U.S. Cong., House of Reps, Report on Cuban Plane Incident at New Orleans, 3 January 1972, Armed Services Investigating Subc, U.S. House of Reps, 92d Cong, 1st Session.
 2. Cong Report on Cuban Plane Incident, as in previous note; Msg, Key West MNCC to Hq NORAD, 060015Z November 1971 (200).

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November.¹ The Subcommittee's investigation report, dated 3 January 1972, stated that, because of economy reasons, detection and intercept capabilities had deteriorated and that the existing U.S. air defense "is virtually useless -- it is more of a concept than an actuality." The report noted the existence of a 1,500 mile gap along the southern CONUS perimeter, between Florida and California, which "is virtually devoid of military surveillance and air defense command and control." The report went on to state that such incidents (MIG-17 landing in Florida in 1969² and this landing in New Orleans) "demonstrate that any foreign power can, at will, violate the southern U.S. airspace without detection or interception." The report included two recommendations to the Secretary of Defense to correct the deficiencies:

1. Accelerate the upgrading of existing outmoded and ineffective continental air defenses by inclusion of the Airborne Warning and Control System (AWACS), the Over-the-Horizon Backscatter Radar (OTH-B), and the Improved Manned Interceptor (IMI).

2. Utilize, as an interim measure for southern air defenses, that OTH-B system presently available to provide detection and surveillance capabilities.³

STUDY OF SOUTHERN CONUS AIR DEFENSE

(S) The JCS informed CINCONAD in January 1972 that the Joint Staff had been tasked to study alternatives for

1. (U) Other witnesses called to testify included Admiral Thomas H. Moorer, Chairman JCS; Dr. Thomas P. Quinn, Office of Naval Research; and Mr. Kenneth M. Smith, Deputy Administrator, FAA.
2. (U) For details of the MIG-17 incident, see CONAD Command History, 1969, pp. 128-130.
3. (U) Certain military and civilian witnesses testified, the report stated, that an OTH-B radar was available to provide a detection capability along the southern perimeter.

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establishing an air defense surveillance and intercept capability across the southern CONUS perimeter. The JCS requested CINCONAD to provide at least two alternative proposals as inputs for the study. CINCONAD's proposals were to be forwarded by 1 February 1972.¹

SOVIET INCURSION OF ATLANTIC
COASTAL ADIZ

(S) On 27 October 1971, the day following the Cuban flight to New Orleans, two Soviet TU-95 bomber aircraft entered the Atlantic Coastal ADIZ on a flight to Cuba.² Radar of the 21st NORAD Region detected the aircraft, but no intercept action was taken because the tracks faded. The tracks were picked up by the 20th Region, but intercept action was not taken because the Region was advised that U.S. Navy F-4 aircraft from the U.S.S. Saratoga had intercepted and identified the aircraft.³

(S) CINCNORAD notified the 20th, 21st, and 22d Regions on 20 November that another such flight might be made within the next few days. CINCNORAD directed the commanders of these regions to prepare their

1. Msg, Hq CONAD to ADC, COOP 241705Z January 1972 (420 X 302.1).
2. Msg, CINCNORAD to CINCLANT, NOPS 190030Z November 1971 (654 X 200).
3. (S) Information on these tracks was not passed to the Atlantic Command (LANTCOM). At a meeting, held in December 1971 between Hq NORAD and LANTCOM representatives, requirements and procedures were agreed upon for reporting to CINCLANT those unknown airborne tracks detected by NORAD within coastal identification zones. It was also agreed that CINCLANT would provide reports to Hq NORAD on Soviet flights that were outside NORAD's detection coverage. (Msg, CINCNORAD to CINCLANT, NOPS 190030Z November 1971 (654 X 200); Msg, CINCNORAD to CINCLANT, NOPS 221915Z December 1971 (200)).

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forces and to take aggressive action to intercept these aircraft if they penetrated the ADIZ. However, normal rules of engagement and identification procedures would be in effect and there was to be no harassment.¹ As anticipated, two Soviet BEAR D aircraft (used by Soviet Naval Aviation for electronic reconnaissance) penetrated the Greenland-Iceland-United Kingdom Line on 25 November and were reported heading southwest at 29,000 feet at a speed of 410 knots. Battle staffs were called to duty at the Region Control Centers and plans implemented for intercept actions.² Based upon an estimated time of possible ADIZ penetration, the 22d Region manned Strategic Orbit Points (STOPS), as called for under NORAD OPLAN 304N-70 (see Chapter IV, Soviet Aircraft Identification - 22d NR, p. 89), with F-106s and CF-101s; the 20th and 21st Regions manned STOPS with F-106s. In addition, the 20th Region used EC-121 aircraft to man three seaward Airborne Early Warning and Control stations off Virginia, North Carolina, and Florida. However, these Soviet aircraft did not enter the ADIZ. No other Soviet aircraft were detected entering the ADIZ on flights to Cuba by the end of CY 1971.³

AIR DEFENSE IDENTIFICATION ZONE (ADIZ) AGREEMENTS

CINCLANT-CINCNOAD AGREEMENT

(U) The 1969 agreement with Commander-in-Chief, Atlantic (CINCLANT) for identification of CINCLANT aircraft operating in the Atlantic and Gulf of Mexico ADIZ

1. Msg, CINCNOAD to 22 NR, et al., NHCR 200050Z November 1971 (420 X 302.12).
2. Msg, 22NR to CINCNOAD, 22OPS151, 261515Z November 1971 (420); Msg, 21 NR to CINCNOAD, 21NOPS, 261605Z November 1971 (420); Msg, 20 NR to CINCNOAD, 20 DO, 251800Z November 1971 (420 X 302.12).
3. Interview, Mr. D. W. Shircliffe with Major R. M. Adams, NOPS, 19 May 1972.

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was out of date because of NORAD reconfigurations. With CINCLANT concurrence, Hq NORAD revised the agreement to show the current NORAD structure and unit locations.¹ The revised agreement was issued in NORAD Regulation 55-26, 18 October 1971.

CINCPAC-CINCNOAD AGREEMENT

(U) Hq NORAD advised Commander-in-Chief, Pacific (CINCPAC), in December 1970, that agreements between CINCPAC operational elements and NORAD regions on identification of naval aircraft operating in the Pacific coastal ADIZ, had become invalid because of NORAD region reconfigurations. Consequently, these agreements needed to be updated. However, Hq NORAD recommended that a single (CINCPAC-CINCNOAD) agreement be developed to provide for identification of all naval aircraft operations in the Pacific Coast ADIZ.²

(U) CINCPAC concurred and directed Commander-in-Chief Pacific Fleet to meet with Hq NORAD representatives. A proposed agreement, forwarded by Hq NORAD to CINCPAC, had not been signed by the end of CY 1971.³

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1. Ltr, Hq NORAD to CINCLANT, "Revised CINCLANT-CINCNOAD Memorandum of Agreement for ADIZ Operations (U)," 2 April 1971 (654); Ltr, CINCLANT to CINCNOAD, "CINCLANT-CINCNOAD Memorandum of Agreement for ADIZ Operations," 13 September 1971 (654).
 2. Msg, Hq NORAD to CINCPAC, NOAD-E 312140Z December 1970 (200 X 654).
 3. Msg, CINCPAC to CINCPACFLT, CINCNOAD, 080638Z January 1971; Interview, Mr. Shircliffe with Major R. M. Adams, NOPS, 3 February 1972.



APPENDICES

APPENDIX I

NORAD/CONAD OPERATING COSTS
(in Millions)

	FY 1971 (Actual)	FY 1972 (Programmed)
NORAD:		
U.S. (See CONAD, below, for cost breakdown):	\$1,119.5	\$1,128.0
CANADA:		
Air Defense	122.5	115.0
Space Defense	.4	.4
Command Support	17.7	21.2
TOTAL CANADA	140.6	136.6
TOTAL NORAD	1,260.1	1,264.6
CONAD:		
Air Defense	573.6	574.6
Space Defense	151.2	192.7
Command Support	394.7	360.7
TOTAL CONAD	1,119.5	1,128.0

SOURCE: Directorate of Financial Management, DCS/Plans and Programs, Hq NORAD.

APPENDIX II

GLOSSARY OF ABBREVIATIONS

AB	Air Base
ABM	Anti-Ballistic Missile
AC&W	Aircraft Control and Warning
ADA	Air Defense Artillery
ADC	Aerospace Defense Command (USAF); Air Defence Command (CF)
ADC CC	Aerospace Defense Command Computer Center
ADC RMC	Aerospace Defense Command Resource Management Center
ADC SC	Aerospace Defense Command Support Center
ADIZ	Air Defense Identification Zone
ADS	Aerospace Defense Squadron
ADW	Air Defense Wing
ADWC	Air Defense Weapons Center
AEW	Airborne Early Warning
AEW&C	Airborne Early Warning and Control
AFB	Air Force Base
AFCC	Alternate Fire Coordination Center
AFCS	Air Force Communications Service
AFRCE	Air Force Regional Civil Engineers
AFS	Air Force Station
AFSC	Air Force Systems Command; Air Force Speciality Code
AK	Alaska
ALCOM	Alaskan Command
ALCOP	Alternate Command Post
ANG	Air National Guard
ANMCC	Alternate National Military Command Center
ANR	Alaskan NORAD Region
AOB	Augmentation Operating Base
ARADCOM	Army Air Defense Command
ARNG	Army National Guard
ARPA	Advanced Research Projects Agency
ARTCC	Air Route Traffic Control Center
AS	Air Station
ASC	ARADCOM Support Center
ASDC	Alternate Space Defense Center
AUTOVON	Automatic Voice Network
AWACS	Airborne Warning and Control System
AW(F)	All Weather (Fighter)
AZ	Arizona

BMD	Ballistic Missile Defense
BMDC	Ballistic Missile Defense Center
BMEWS	Ballistic Missile Early Warning System
BNCC	BUIC NORAD Control Center
BSSC	Battle Staff Support Center
BUIC	Backup Interceptor Control
CA	California
CADIN	Continental Air Defense Integration North
CADIZ	Canadian Air Defense Identification Zone
CANFORCEHED	Canadian Forces Headquarters
CC	Control Center
CCOC	CONAD Combat Operations Center
CCTV	Closed Circuit Television
CDS	Chief of Defence Staff (Canada)
C&E	Communications and Electronics
CF	Canadian Forces
CF ADC	Canadian Forces Air Defence Command
CFB	Canadian Forces Base
CF Hq	Canadian Forces Headquarters
CFS	Canadian Forces Station
CG ARADCOM	Commanding General Army Air Defense Command
CIIC	CONAD Intelligence and Indications Center
CINC	Commander-in-Chief
CINCAL	Commander-in-Chief, Alaska
CINCLANT	Commander-in-Chief, Atlantic
CINCNORAD	Commander-in-Chief, North American Air Defense Command
CINCONAD	Commander-in-Chief, Continental Air Defense Command
CINCPAC	Commander-in-Chief, Pacific
CINCREDB	Commander-in-Chief, U.S. Readiness Command
CINCSAC	Commander-in-Chief, Strategic Air Command
CINCSTRIKE	Commander-in-Chief, U.S. Strike Command
CMC	Cheyenne Mountain Complex
COC	Combat Operations Center
COEC	CONAD Operational Employment Concept
CONAD	Continental Air Defense Command
CONARC	Continental Army Command

CONUS	Continental United States
CP	Command Post
CQR	CONAD Qualitative Requirement
CR	CONAD Region
CSA	Combat Support Aircraft
CY	Calendar Year

D	Democrat
CA	Department of the Army
DCS/ . . .	Deputy Chief of Staff/ . . .
DE	Deactivation (Activity Code)
DEFCON	Defense Readiness Condition
DEW	Distant Early Warning
DOB	Dispersed Operating Base
DOD	Department of Defense
DSP	Defense Support Program

EAN	Emergency Action Notification
EBS	Emergency Broadcast System
ECCM	Electronic Counter-Countermeasures
ECM	Electronic Countermeasures
EOC	Emergency Operational Capability
EQ	Re-equipment (Activity Code)
ERD	Equipment Readiness Date
ESD	Electronic Systems Division
EVIL	Elevation versus Integrated Log

FAA	Federal Aviation Administration
FCC	Fire Coordination Center
FIS	Fighter Interceptor Squadron
FL	Florida
FOBS	Fractional Orbital Bombardment System
FOC	Final Operational Capability
FORSTAT	Force Status
FY	Fiscal Year

G-I-UK	Greenland-Iceland-United Kingdom
GS	General Schedule

HE	High Explosive
Hq	Headquarters

IAP	International Airport
IC	Interim Capability
ICIS	Interdepartmental Committee on Internal Security
ID	Identification
IFR	Instrument Flight Rules
IMI	Improved Manned Interceptor
IOC	Initial Operational Capability
JCS	Joint Chiefs of Staff
JOTF	Joint Operations Task Force
JPC	Joint Policy Committee
JPMR	Joint Projected Manpower Requirements
JTD	Joint Table of Distribution
LA	Louisiana
LANTCOM	Atlantic Command
LERTCON	Alert Condition
MA	Massachusetts
MCC	U.S.-Canadian Military Cooperation Committee
MCP	Military Construction Program
MDC	Missile Direction Center
MEECN	Minimum Essential Emergency Communications Network
MFR	Memorandum for Record
MI	Michigan
MITRE	Massachusetts Institute of Technology Research and Engineering (Corporation)
MN	Minnesota
MNBA	Minimum Normal Burst Altitude
MNCC	Manual NORAD Control Center
MOB	Main Operating Base
MOSS	Modification of SLBM Software
MST	Mountain Standard Time
MT	Montana
MVAS	Modified Voice Alert System
NACP	NORAD Airborne Command Post and Data Processing Center
NADOP	North American Aerospace Defense Objectives Plan

NAS	Naval Air Station
NATO	North Atlantic Treaty Organization
NAVSPASUR	Naval Space Surveillance System
NAWS	NORAD Attack Warning System
NBC	Nuclear, Biological, Chemical
NCA	National Command Authorities
NCMC	NORAD Cheyenne Mountain Complex
NCOC	NORAD Combat Operations Center
NCS	NORAD Computer System
ND	North Dakota
NEA	Nuclear Employment Authority
NEACP	National Emergency Airborne Command Post
NFARS	NORAD Forward Automated Reporting System
NM	Nautical Miles
NMCC	National Military Command Center
NOCOPS	NORAD Combat Operations System
NOEC	NORAD Operational Employment Concept
NORAD	North American Air Defense Command
NQR	NORAD Qualitative Requirement
NR	NORAD Region
NY	New York
OL	Operating Location
OMB	Office of Management and Budget
OP	Normal Operations (Activity Code)
OPLAN	Operation Plan
OPORD	Operation Order
OPSTAR	Operational Status Reporting System
OR	Oregon
OSD	Office of the Secretary of Defense
OSST	Operational Site System Testing
OTH	Over-the-Horizon
OTH-B	Over-the-Horizon Backscatter
OTH-F	Over-the-Horizon Forward Scatter
PBD	Program Budget Decision
PD	Peak Detector
R	Receiver
RA	Regular Army
RAD	Requirements Action Directive
RADC	Rome Air Development Center

RAF	Royal Air Force
RCC	Region Control Center
RCVW	Readiness Attack Carrier Air Wing
RO	Deployment (Activity Code)
ROC	Required Operational Capability
ROCC	Region Operations Control Center
SAC	Strategic Air Command
SAGE	Semi-Automatic Ground Environment
SALT	Strategic Arms Limitation Talks
SAM	Surface-to-Air Missile
SAM-D	Surface-to-Air Missile Development
SARAH	Semi-Automatic Range and Height
SATCON	Satellite Readiness Condition
SATCU/ASTRA	Semi-Automatic Threshold Control Unit/Automatic Strobe Tracking
SCC	Space Computational Center
SDC	Space Defense Center
SEWS	Satellite Early Warning System
SIS	Satellite Intercept System
SLBM	Sea-Launched Ballistic Missile
SM	Staff Memorandum
SMAMA	Sacramento Air Materiel Area
SMD	System Management Directive
SNOR	Semi-Automatic Threshold Control Unit Normalization Receiver
SNOW TIME	SAC/NORAD Operational Weapons Tests Involving Military Electronics
SOUTHCOM	Southern Command
SPADATS	Space Detection and Tracking System
SRE	System Readiness Exercise
STOPS	Strategic Orbit Points
STRIKECOM	Strike Command
T	Transmitter
TAC	Tactical Air Command
TFS	Tactical Fighter Squadron
TR/EX	Training/Exercises (Activity Code)
UCP	Unified Command Plan
UDL	Unit Distribution List
UE	Unit Equipment
U.S.	United States
USA	United States Army

USAF	United States Air Force
USAF ADC	United States Air Force Aerospace Defense Command
USARAL	United States Army Alaska
USN	United States Navy
USS	United States Ship
USSR	Union of Soviet Socialist Republics
VAS	Voice Alert System
VT	Vermont
WA	Washington
WI	Wisconsin
WY	Wyoming

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CONAD COMMAND *History (U)*

1972

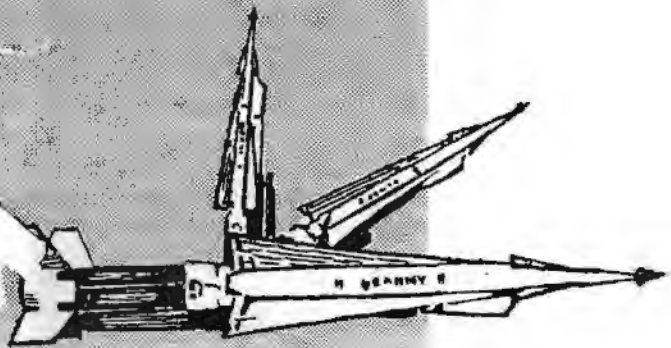
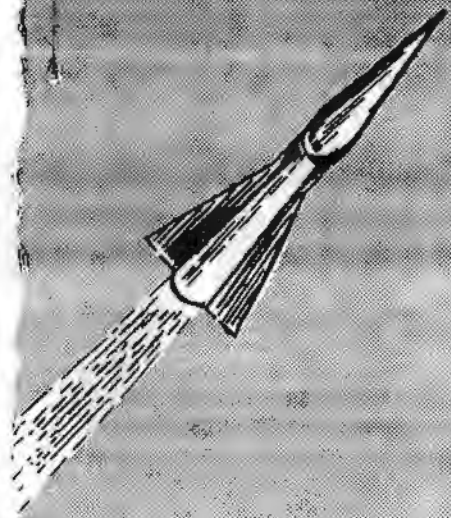
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NORTH AMERICAN AEROSPACE DEFENSE COMMAND

12 Aug 99

MEMORANDUM FOR N/HO

Attn: Command Historian (Dr. Fuller)

FROM: N/J3

SUBJECT: Declassification Review of CONAD Command History

1. The CONAD command history for the year 1972 has been reviewed in its entirety by the appropriate divisions within J3 to determine possible declassification. The J3 action officer for this tasking also coordinated with other agencies including N/J5 and N-SPJ1 who had responsibilities for policy and personnel related portions of the document. After a thorough review of the command history document, the following items were determined to be areas that must remain at their present classification levels due to their relevance to current NORAD doctrine:

a. Chapter III, Section II, pp 58-59 (Project Pocket Veto). Information contained in this section remains classified based on current applicability.

b. Chapter V, Section I, p 102, para 2, and p 103, para 1. Information contained in these paragraphs remains classified based on systems capabilities/limitations and reporting locations/procedures that have current applicability.

c. Chapter V, p 106. Displays a graphic that has current applicability.

d. Chapter V, Section II, p 114, para 1 & 2 (Background), and p 116-117, para 1 & 2 (Improved Attack Assessment Program). Information discusses classified program capabilities and assessment procedures that have current applicability.

2. The CONAD Command History (U), dated 1972, is declassified with the exception of the above stated sections. If you have any questions, please contact MAJ Gladney, 554-5370.

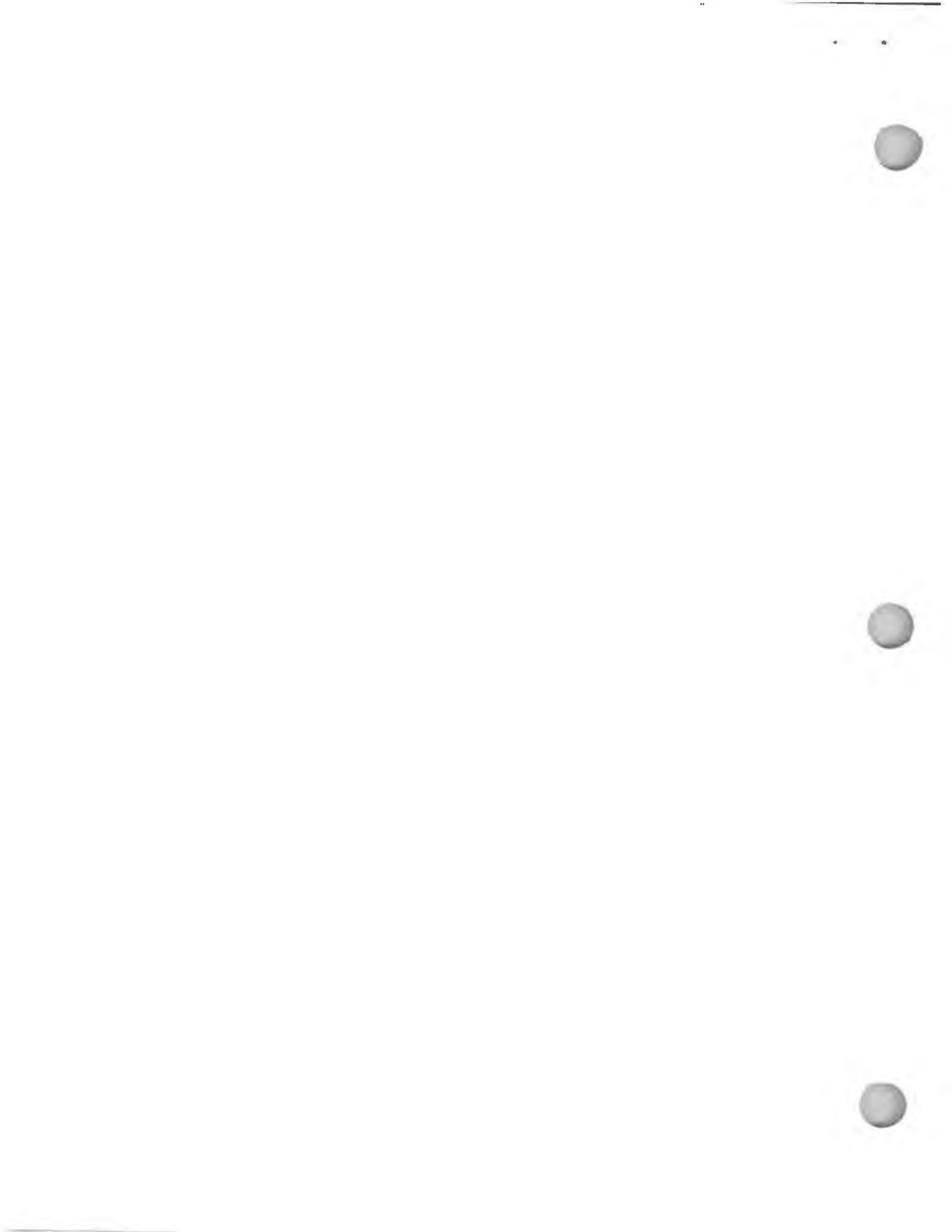
R. F. SMITH
Colonel, USAF
Vice Director of Operations

Attachment:
History, CONAD 1972 (S)

FOR THE COMMON DEFENCE



POUR LA DEFENSE COMMUNE



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CONTINENTAL AIR DEFENSE COMMAND

COMMAND HISTORY (U) 1972

1 JULY 1973

COMMAND HISTORY
SECRETARY, JOINT STAFF
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**General Seth J. McKee, USAF, Commander-in-Chief, North American Air Defense Command/
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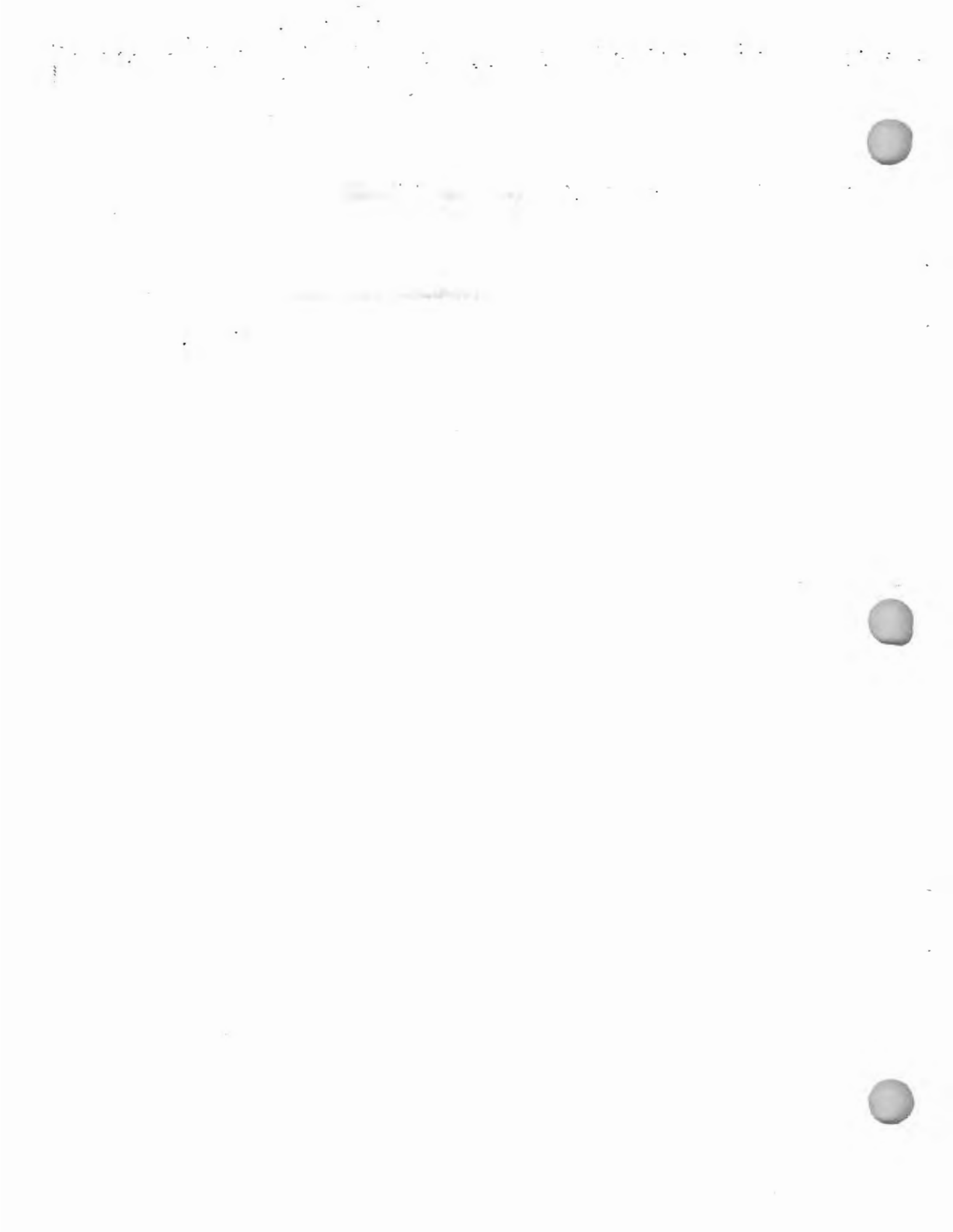
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CHAPTER I

MANNING AND ORGANIZATION

NORAD/CONAD JOINT TABLE OF DISTRIBUTION (JTD)
AUTHORIZATIONS

(U) The total authorized U.S. and Canadian Forces (CF) personnel for NORAD/CONAD Headquarters (Hq) and regions was 1,672 as of 31 December 1971. There was a decrease of 152 spaces (145 in the headquarters and 7 in the regions) by 31 December 1972, reducing the total to 1,520 (see table next page and headquarters and region manning sections).

HEADQUARTERS MANNING SUMMARY

(U) The 31 December 1971 headquarters authorized strength was 986, consisting of 952 U.S. and 34 CF spaces.¹ There was a net reduction of 145 authorized spaces in the headquarters by 31 December 1972, lowering the total authorized spaces to 841. U.S. spaces decreased by 150 (952 to 802) and CF spaces increased by 5 (34 to 39). The U.S. manpower reductions and the CF manpower additions to the headquarters total are summarized below:

1. Three CF spaces were shifted from the regions to the headquarters and three USAF spaces were moved from the headquarters to the regions (see

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1. (U) Hq NORAD's Annual Manpower Submission (FY 1973-77) did not request any change in U.S. spaces for FY 1973 for the headquarters. The JCS approved the FY 1973 manning proposal in February 1972. Ltr, Hq NORAD to JCS, "NORAD/CONAD Annual Manpower Submission (FYs 73-77)," 23 December 1971 (3X4 - Command History archive file numbers); Msg, JCS to CINCONAD/CINCNORAD, 7313, 092313Z February 1972 (3X4).

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(U) NORAD/CONAD HEADQUARTERS AND REGION
 AUTHORIZED MANPOWER SPACES

	<u>31 December 1971</u>	<u>31 December 1972</u>
HEADQUARTERS	986 (34 CF)	841 (39 CF)
REGIONS		
20th	53	53
21st	47 (12 CF)	65 (30 CF)
22d	269 (210 CF)	264 (210 CF)
23d	86 (46 CF)	74 (36 CF)
24th	107 (46 CF)	109 (43 CF)
25th	81 (44 CF)	72 (35 CF)
26th	43	42
Region Total	<u>686 (358 CF)¹</u>	<u>679 (354 CF)¹</u>
AGGREGATE TOTAL	1,672 (392 CF)	1,520 (393 CF)

1. (U) The Alaskan Region is not included because personnel were assigned to perform the dual role of supporting Commander-in-Chief, Alaska, and CINCNORAD functions, and were not included in the NORAD/CONAD JTD authorizations.

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page 13). This changed the headquarters total as of 1 July 1972 to 949 U.S. and 37 CF spaces.

2. One CF 06 space was moved from the regions to the headquarters to fill a requirement in DCS/Operations, effective 10 August 1972 (see page 17). One CF 05 space was added to the headquarters to serve as Executive to the Deputy Commander-in-Chief, effective 1 September 1972. The addition of these two spaces raised the CF authorization to 39.

3. U.S. spaces were reduced by 147, lowering U.S. space authorizations to 802. A revised JTD, dated 1 December 1972, reflected this change.

(U) The JCS approved the new U.S. manning for the headquarters on 20 December 1972. The 1 December 1972 JTD listed 802 U.S. spaces and 39 CF spaces for a total of 841. This remained the authorized strength at the end of CY 1972.

HEADQUARTERS MANPOWER REDUCTION AND REORGANIZATION

(U) Commander-in-Chief, Continental Air Defense Command (CINCONAD) directed a reduction in the headquarters manpower strength of 15 percent and an attendant reorganization. CINCONAD desired to save funds and streamline the headquarters. It was found in a study that, with reorganization, a 15 percent reduction could be made without impairing the ability of the headquarters to carry out its mission-essential functions.

(U) The impact of a 15 percent cut was evaluated first in March 1972 when it was felt that there might be a requirement to provide savings to keep the Backup Intercept Control (BUIC) Centers from being closed (pages 16 and 157). CINCONAD directed a follow-on study by each staff section of the means to make a reduction of 15 percent by effective reorganization. The results of the study were approved by the Chief of Staff as a basis for further study. It was concluded at this time that further study was called for to determine if additional savings and staff organizational refinements were possible.

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(U) The Chief of Staff laid down the guidelines for a study effort on 26 April 1972.¹ An Ad Hoc Committee was convened under the Assistant DCS/Plans and Programs, Brigadier General Lynn W. Hoskins, Jr., USA, with technical guidance from DCS/Personnel. The study group began work on 24 May and completed its study report on 13 June 1972.

(FOUO) The group set out to accomplish the following:²

"1. Confirm the previously identified 15 percent manpower reduction.

"2. Recommend reorganization of the staff where appropriate.

"3. Determine if duplication of effort existed between headquarters staff sections and between Hq NORAD/CONAD and the Component Commands."

The findings of the study group were as follows:

"1. The NORAD/CONAD organization was compared with the organization of unified commands and found to be more 'streamlined' than most.

"2. The 15 percent manpower reduction identified can be achieved with limited impact on the ability of the NORAD/CONAD staff to perform its mission. The reduced capability will require greater dependence on the components for support.

"3. No substantive reorganization was considered desirable unless a 15 percent personnel reduction is imposed. In that

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1. DF, NHCS to NOPS, "Manpower Reductions," 26 April 1972 (3).
 2. Memo for C/S from Chmn, Hq CONAD Phase II Manpower Study, "Report of Headquarters CONAD Phase II Manpower Study," 13 June 1972 (3).

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case, some reorganization would be necessary. Minor internal organizational changes are recommended to streamline the headquarters.

"4. While there was some similarity of functions and titles between NORAD and components, no real duplication was found; e.g., personnel, manpower, intelligence, and the analysis functions of the components were all found to be service-oriented activities and not duplications of NORAD/CONAD functions."

(U) CINCONAD approved a 15 percent manpower reduction on 2 October 1972 following extensive staffing of the study report.¹ The Chief of Staff instructed the staff to implement the reduction and reorganization.²

(U) The entire reduction and reorganization was incorporated into a revised Hq NORAD/CONAD JTD dated 1 December 1972. It was submitted to the JCS for approval on 22 November 1972.³ Hq CONAD informed the JCS in this submission that it had made an internal management review to identify possible savings and had found that it could cut 147 authorizations (60 officer, 62 enlisted, and 25 civilian). This amounted to 15.5 percent of the current Hq CONAD JTD authorizations (949). In regard to the reductions, Hq CONAD said that:

"1. All mission essential functions can be effectively accomplished within the remaining available authorized manpower resources.

"2. There is no significant change or impact on service balance.

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1. Memo, C/S to CINCNORAD, "Manpower Reductions," 19 September 1972 (3).
 2. DF, CHCS to Staff, "Manpower Reductions," 2 October 1972 (3).
 3. Ltr, Hq NORAD to JCS, "Changes to Headquarters NORAD/CONAD JTD," 22 November 1972 (3).

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"3. The average of the grades eliminated equate favorably to the average of this headquarters.

"4. Personnel turbulence and the impact of PCS costs will be minimized by reducing the assigned strength over the next ten months. In this regard, cancellation of some personnel requisitions has already been initiated.

"5. Fewer than ten civilian employees will be separated by Reduction-in-Force actions."

(U) Hq CONAD also provided for the establishment of an Office of the Inspector General (IG), which was directed by the JCS (page 9), in the proposed revised JTD.

(U) A summary of the manpower and organizational changes proposed was provided the JCS and is included below in part (also see table, page 8):

1. Command Section. The Command Flight Section was realigned to the Unit Detail Listing of the 1151st USAF Special Activities Squadron (Hq Command).

2. Office of the Inspector General. This new function was added in accordance with JCS directive. All authorizations were realigned from DCS/Operations, Assistant for Evaluation, except for one USA 07.

3. Directorate/Public Affairs. Four authorizations were deleted. The Press and Photo Branch and the Radio and TV Branch were deleted and their functions incorporated within the Public Information Division.

4. Directorate/Protocol. One authorization was deleted.

5. Secretary, Joint Staff. Nine authorizations were deleted. Minor reorganization actions were made in consolidating branches and sections within the Administrative Communications Division and the Directorate/Audio-Visual Services.

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6. Deputy Chief of Staff/Personnel (J-1). Three authorizations were deleted. Two divisions under the Directorate/Manpower and Organization were deleted and their functions absorbed within the directorate.

7. Deputy Chief of Staff/Intelligence (J-2). Thirty-nine authorizations were deleted. Reorganization actions eliminated the Security Branch, Aerospace and Naval Capabilities Branch, and Nuclear and Electronics Warfare Capabilities Branch. The functions of these branches were absorbed within the Special Security Office and the Threat Capabilities Division.

8. Deputy Chief of Staff/Operations (J-3). Fifty-four authorizations (including the Assistant for Evaluation spaces) were deleted. Numerous internal reorganizations were made including the establishment of a Directorate/Command and Control, a Directorate/Combat Operations (redesignated Command Directors) and a Directorate/Standardization and Simulation. A Navy 06 position was established as Executive Officer/Special Assistant Naval Operations to the DCS/Operations.

9. Deputy Chief of Staff/Logistics (J-4). One authorization was deleted.

10. Deputy Chief of Staff/Plans and Programs (J-5). Thirty-four authorizations, including the AF 06 CONAD Liaison Officer position, were deleted. The Data Support Division and War Gaming Division were consolidated under the Directorate/War Gaming. The Processing Branch and the Utility/NOCOPS Support Branch were deleted and their functions incorporated into the Advanced Systems Division and the Maintenance and Modification Division, respectively.

11. Deputy Chief of Staff/Communications and Electronics (J-6). Seven authorizations were deleted. The Electronics Systems Division and the Countermeasures and Identification Division were deleted and their functions absorbed by the Directorate/Electronics.

(U) The JCS approved the reduction and reorganization on 20 December 1972.¹

1. Msg, JCS to CINCONAD/CINCNOAD, 202210Z December 1972 (3).

HEADQUARTERS CONAD 15 PERCENT MANPOWER REDUCTION

	U.S. Manpower Authorizations <u>1 July 1972</u>	U.S. Manpower Authorizations <u>31 December 1972</u>	<u>Difference</u>
Command Section	19	11	-8
Inspector General	--	13	+13
Dir/Public Affairs	21	17	-4
Dir/Protocol	9	8	-1
Secretary, Joint Staff	62	53	-9
DCS/Personnel	21	18	-3
DCS/Intelligence	257	218	-39
DCS/Operations	283	229	-54
DCS/Logistics	9	8	-1
DCS/Plans and Programs	224	190	-34
DCS/Communications and Electronics	<u>44</u>	<u>37</u>	<u>-7</u>
TOTALS	949	802	-147

SOURCE: Directorate of Manpower and Organization, DCS/Personnel.

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INSPECTOR GENERAL

(U) The Secretary of Defense stated in a memo to the Chairman of the JCS that he had decided that the inspection responsibilities of the JCS had to be strengthened and expanded throughout the unified/specified command structure.¹ He directed that an Office of Inspector General operate within the Organization of the JCS, in each unified and specified command headquarters, and, where appropriate, in each subordinate joint command headquarters. The Secretary stated that the responsibility of the Inspector General would not be limited to their headquarters but should extend throughout the command. The Secretary directed that the Inspectors General of unified/specified commands be directly responsible to their commanders-in-chief and to the Secretary of Defense through the Chairman of the JCS.

(U) The JCS informed unified and specified commanders that IG functions were to be established within existing manpower resources except for the general/flag officer for the IG (normally to have a Service affiliation different than that of the commander).

(U) The mission of the IG was to be two-fold:²

"1. To assist the commander of the unified command in establishing effective command and control, high standards of overall performance, and optimum operational security.

"2. To provide factual reports and evaluations on matters relating to command and control, joint operational readiness, and operational security as required by the JCS or the Secretary of Defense."

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1. Memo for the Chmn JCS from the Secretary of Defense, "Expansion of Inspectors General Activities," 7 November 1972.
 2. DF, CAPM to COPS, CPAP, "Establishment of Inspector General Function," 13 November 1972 (3).

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(U) Hq CONAD determined that the responsibilities and functions of the IG were similar to those currently charged to and performed by the Assistant for Evaluation, DCS/Operations.¹ For this reason, Hq CONAD proposed to the JCS on 22 November 1972 to use the authorizations of the Assistant for Evaluation to establish its IG Office. Hq CONAD proposed a total staff of 14 for the IG function--12 military spaces (11 U.S. and 1 CF) and 2 civilian spaces. Hq CONAD informed the JCS on 13 December that it did not have a requirement for and did not recommend an IG at joint subordinate commands (regions).²

(U) Hq NORAD pointed out to the JCS in a message on 19 December that the Hq CONAD IG would have the dual function of being the Hq NORAD IG also.³ The JCS had not made a decision on this matter, however, by the end of CY 1972.

(U) The JCS approved on 20 December 1972 the 13 U.S. spaces for the Hq CONAD IG functions, but held in abeyance approval of establishment of the IG Office.⁴ Approval of the latter had not been given by the end of CY 1972.

ANG MANPOWER AUTHORIZATIONS

(U) Air National Guard (ANG) fighter-interceptor squadrons by 1972 comprised such a large part of the air defense force that Hq NORAD felt a need for having two ANG officers on its staff. Commander-in-Chief, North American Air Defense Command (CINCNORAD) and the ANG Director, Major General I. G. Brown, had discussed the matter at the NORAD Commander's Conference

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1. (U) The Organization and Functions Book, Hq NORAD/CONAD, 1 December 1972, listed evaluation as one of the functions of the IG.
 2. Msg, Hq CONAD to JCS, CAMO 131100Z December 1972 (4).
 3. Msg, Hq NORAD to JCS, NOPS 192030Z December 1972 (3).
 4. Msg, JCS to CINCONAD/CINCNORAD, 202210Z December 1972 (3).

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in November 1971. General Brown had suggested that a request be sent to him so that he could personally attend to it.

(U) Before a request was sent to General Brown, the NORAD Judge Advocate advised that the statute governing the matter (Title 10, U.S. Code, Section 265) stipulated that the Armed Forces could have officers of its reserve components on active duty at the seat of Government or at command headquarters responsible for reserve affairs to participate in preparing and administering policies and regulations affecting reserve forces. It was the opinion of the Judge Advocate that authorization of the positions for Hq NORAD/CONAD under this statute was doubtful.

(U) CINCNORAD asked General Brown's assistance in initiating action to have two ANG officers (a colonel and lieutenant colonel) assigned. He said he would be willing to convert two NORAD JTD positions to provide the authorizations.¹ However, CINCNORAD pointed out the problem of assigning reserve component officers to a unified command under Public Law 265.

(U) The National Guard Bureau (NGB) forwarded the request to the Air Force.² The Air Force advised the NGB that the Air Force Judge Advocate had concluded that assignment under the 265 statute was possible only if the officers were used as stipulated under this statute (preparing and administering the policies and regulations affecting the reserve components) and were not concerned with supervisory or operational matters. The Air Force said it would have no objection to assignment of the officers to Hq NORAD provided they were ordered to active duty for the primary purpose contemplated under 10 USC 265 and that the positions and grades were offset by one-for-one trade offs of active duty JTD positions.³

1. Ltr, Gen McKee to Gen Brown, 15 February 1972 (3).
2. Ltr, NGB to AF, "Request for Establishment of Statutory Tour Positions (U)," 27 April 1972 (3).
3. Ltr, AF to NGB, "Request for Establishment of Statutory Tour Positions (Your ltr, 27 Apr 1972)," 16 May 1972 (3).

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(U) General Brown forwarded the Air Force letter to CINCNORAD and pointed out that it was essential that the job descriptions and organizational placement clearly show advisory duties for the ANG officers.¹ Accordingly, the request was submitted to the National Guard Bureau on 29 September with job descriptions and an organizational chart showing that the two positions would be used only as advisors on ANG matters.² Hq NORAD proposed that both ANG positions be placed in DCS/Operations (J-3). In a separate letter, the JCS were advised of the request and provided the job descriptions and organizational chart.³

(U) Approval had not been received by the end of CY 1972 for the two ANG authorizations.⁴

REGION MANNING SUMMARY

(U) The 31 December 1971 NORAD/CONAD region JTD authorizations totalled 686, consisting of 328 U.S. and 358 CF spaces.⁵ The 31 December 1972 region authorizations totalled 679, a reduction of 7 spaces. U.S. spaces decreased by 3 (328 to 325) and CF spaces decreased by 4 (358 to 354). These changes resulted from the following actions:

1. Three CF spaces were realigned to the headquarters from the regions and three USAF spaces were moved from the headquarters to the regions

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1. Ltr, Gen Brown to Gen McKee, 14 August 1972 (3).
 2. Ltr, Hq NORAD to Ch, NGB, "Request for Establishment of ANG Positions (U)," 29 September 1972 (3).
 3. Ltr, Hq NORAD to JCS, "Establishment of ANG Positions (U)," 4 October 1972 (3).
 4. Interview, Mr. L. H. Buss, Command Historian, with Major J. R. Smith, NAMO, 3 January 1973.
 5. (U) The Annual Manpower Submission (FY 1973-77) did not request any additional spaces for the regions. The JCS approved the region manning for FY 1973 on 9 February 1972. (See Footnote 1, page 1.)

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(page 14). This shift changed the total to 331 U.S. spaces and 355 CF spaces (686).

2. Five CF spaces were added to the 24th Region authorization for the Alternate Command Post (ALCOP) (page 15). This addition and the shift listed in item 1 were reflected on the 1 July 1972 region JTD. The region totals at that time were 331 U.S. spaces and 360 CF spaces (691).

3. Six U.S. and six CF spaces were cut as a result of the phase-down of the BUIC NORAD Control Centers (page 16) and standardization of region manning and organization. This reduction and realignment of spaces was shown on Change C2 to the 1 July 1972 region JTD, dated 1 December 1972. This changed the totals to 325 U.S. spaces and 354 CF spaces (679).

(U) This total for the regions remained the authorized strength at the end of CY 1972.

REGION CF CONTROL CENTER SPACES

(U) Hq NORAD decided in 1971 to shift some CF personnel spaces from the 23d, 24th, and 25th Regions to the 21st Region.¹ The boundaries of each of these regions included some Canadian territory. The 21st NORAD Region (NR) included the least territory and no CF spaces had been allocated for the 21st NR control center when the regions were established in 1969. The 23d, 24th, and 25th Regions each had 28 CF spaces in their control centers (7 officers and 21 enlisted) and each was to be reduced 7 spaces (1 officer and 6 enlisted). This would result in there being 21 spaces available for realignment. Eighteen of these spaces were to go to the 21st NR control center (3 officers and 15 enlisted) and 3 CF enlisted spaces were to be moved to Hq NORAD for the Combat Operations Center.

1. (U) For background, see CONAD Command History, 1971, pp 7-9.

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(U) National Defence Headquarters (ND Hq)¹ approved this redistribution of CF spaces on 10 January 1972. The shift was made effective 1 February 1972 (1 July 1971 Region JTD Amendment 02A).

(U) Hq NORAD then advised the JCS that because of the transfer of these three CF enlisted spaces to the headquarters (which were assigned to the NORAD Combat Operations Center (NCOC) Duty Crews), three USAF enlisted spaces from the NCOC Duty Crews could be made available to the regions for use as Exercise Simulation Supervisors.² Hq NORAD had asked the JCS for six spaces in 1971 so as to assign one Simulation Supervisor to each region. The JCS validated the requirement; however, budgetary and manpower constraints precluded an increase in the total authorizations. The JCS approved the realignment of these three USAF spaces from the headquarters to the regions effective 1 July 1972.³ One space each was assigned to the 20th, 24th, and 25th Regions. The three remaining positions (21st, 23d, and 26th Regions) were provided on 1 December 1972 from within NORAD authorizations.

NORAD ALCOP MANNING

(U) The 24th NR was designated the NORAD ALCOP effective 22 December 1971. The 24th CONAD Region (CR) had been designated the CONAD ALCOP on 11 March

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1. (U) Effective 2 October 1972, Canadian Forces Headquarters (CF Hq) was disbanded, National Defence Headquarters (ND Hq) was designated, and functions and responsibilities of CF Hq were assigned to ND Hq. To avoid confusion, the term National Defence Headquarters (ND Hq) is used throughout this history. (Source: Msg, CANFORCEHED, 212030Z September 1972 (1)).
 2. Ltr, Hq NORAD to JCS, "Additional Manpower for the NORAD Regions (U)," 28 April 1972 (3X4).
 3. Msg, JCS to CINCONAD, 5768, 151628Z May 1972 (3X4).

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1970. A total of 29 U.S. manpower spaces was transferred in 1971 to the 24th CR (27 from the headquarters and 1 each from the 20th and 26th Regions) for use in manning the CONAD ALCOP. A NORAD ALCOP Study Group determined in 1971 that 5 CF authorizations, in addition to the 29 U.S. spaces already allocated to the 24th Region, were required for the NORAD ALCOP.¹

(U) ND Hq was asked by Hq NORAD to provide the five CF authorizations.² Hq NORAD pointed out that these authorizations would be in addition to the 29 U.S. spaces already allocated. Hq NORAD requested one CF 05 (which would serve as the Assistant Director of the NORAD ALCOP), one E-7 and three E-5s. ND Hq advised on 26 April that the five CF positions were authorized.³ This brought the ALCOP manning to 34 spaces which were shown in the 1 July 1972 24th Region JTD.

(U) While this action was underway, Hq NORAD asked the JCS to upgrade the ALCOP Director from 05 to 06 and the five ALCOP Command Directors from 03 to 04.⁴ Hq NORAD explained that on the basis of discussions with Canada it was determined that upgrading of the ALCOP Director was warranted and that mature judgment was required on the part of the Command Directors.

(U) The 06 upgrading would be accomplished by downgrading a headquarters 06 position to 05 and upgrading the region position from 05 to 06. Also, one region Command Director space had already been upgraded from 03 to 04 so only four Command Director

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1. DF, NAPM to NHCS, "Canadian Force Manpower for the NORAD ALCOP (U)," 3 January 1972 (4X51.2).
 2. Ltr, Hq NORAD to CDS, "Canadian Forces Manpower for the NORAD ALCOP (U)," 11 January 1972 (4X51.2).
 3. Msg, CANFORCED to CINCNORAD, 261450Z April 1972 (4).
 4. Ltr, Hq NORAD to JCS, "Upgrading Action for Selected NORAD ALCOP Manpower Authorizations (U)," 17 February 1972 (4X51.2).

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positions would have to be upgraded. The JCS approved the changes on 14 March 1972. The changes appeared in the 1 July 1972 24th Region JTD.

(U) Four Army officer spaces were added to the 24th Region for the ALCOP to meet a requirement for Army spaces, effective 10 August 1972. These spaces became available as a result of manpower space reductions from Backup Intercept Control (BUIC) phase down (see following section). This brought the authorized manning for the ALCOP to 38. This was shown on Change C2 to the 24th Region JTD, dated 1 December 1972.

(U) The 24th Region also requested that six E-7 positions in the ALCOP be upgraded to E-8 and position titles be changed to reflect current job requirements. The basis for this request was the ever-expanding requirements on the ALCOP which resulted in increased personnel responsibilities calling for higher experience levels. Five of the E-7 positions were upgraded from shift supervisor to Assistant Command Director, E-8. This change was shown in the 1 December 1972 JTD. The sixth E-7 position, Aircraft Control and Warning Technician, was not upgraded because of lack of justification.

BNCC MANPOWER REDUCTION AND REGION STANDARDIZATION

(u) ~~(S)~~ Eleven of the 12 CONUS BUIC NORAD Control Centers (BNCCs) were reduced to semi-active status on 1 November 1972 and one of the two Canadian BNCCs was to be placed on the same status 1 April 1973 (Chapter VI). There were 31 NORAD JTD manpower spaces authorized the regions for the 12 BNCCs to become semi-active.¹ Hq NORAD deleted 19 of these 31 BNCC spaces effective 10 August 1972. Seven of the 19 spaces were placed back in the regions in different skills to meet priority requirements, making a net reduction of 12 spaces (6 USAF and 6 CF) in the region total.

(U) This reduction and realignment became part of an effort to standardize region organization and

1. DF, NAPM to NHCS, NHCR, "BUIC III Authorizations at 20th and 23d NORAD Regions (U)," 15 August 1972 (54X4).

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manning. This involved extensive shifting of spaces and also realigning of grades and staff sections (see table on page 18). Hq NORAD incorporated all the changes into a revision to the region JTD, dated 1 December, and submitted it to the JCS on 19 December 1972.¹

(U) The changes included the following:

1. One Army officer and one Air Force enlisted space were removed from each of four regions (20th, 23d, 25th, and 26th) making a total of eight spaces (four Army and four Air Force).

2. The above eight spaces were used as follows:

a. The four Army spaces were moved to the 24th Region for the ALCOP.

b. Three of the four Air Force spaces were used to assign an Exercise Simulation Specialist to the 21st, 23d, and 26th Regions.

c. The remaining Air Force space was deleted.

3. Five Air Force officer positions were deleted from the 22d NORAD Region (NR) because of the BNCC phase down.

4. Six CF officer spaces were deleted--three from the 23d NR, one from the 24th NR, and two from the 25th NR as a result of the BNCC phase down. Five of these spaces were returned to the Canadian Forces and one (CF 06) was realigned to Hq NORAD. ND Hq approved this realignment on 26 July 1972.²

5. One Army 04 Public Affairs Officer space was added to the 21st NR, the only region not having

1. (U) The JCS approved the revised region JTD on 26 January 1973. (Msg, JCS to CINCNORAD/CINCONAD, 9076, 261637Z January 1973 (4)).

2. NAPM Historical Report, September-October 1972 (959.1).

CY 1972 GAIN/LOSS OF MANPOWER SPACES
BY REGION/FUNCTION

Region	RCC ¹ Realignment		ALCOP ¹		BNCC ¹ Phase Down		Public Affairs		Operations and Plans		Exercise and Analysis		Net Change		Overall Change
	CF	US	CF	US	CF	US	CF	US	CF	US	CF	US	CF	US	
	20th					-2				+1		+1	0	0	
21st	+18							+1		-1			+18		+18
22d					-5									-5	-5
23d	-7				-3	-2							-10	-2	-12
24th	-7		+5	+4	-1							+1	-3	+5	+2
25th	-7				-2	-2				+1		+1	-9		-9
26th						-2						+1		-1	-1
TOTALS	-3		+5	+4	-6	-13		+1		+1		+4	-4	-3	-7

1. RCC - Region Control Center; ALCOP - Alternate Command Post; BNCC - BUIC NORAD Control Center

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a NORAD JTD Public Affairs space. The Public Affairs authorizations in the other CONUS regions were downgraded from 05 to 04.

6. Grades and AFSCs in the CONUS region Directorates of Exercise and Analysis and Operations and Plans were realigned to achieve a better distribution of skills and service balance.

7. Directors of Administration and Personnel in the CONUS regions were made dual-status to the USAF Aerospace Defense Command (ADC) Air Divisions.

8. The Nuclear, Biological and Chemical and Reports Division, which had been under the Directorate of Operations and Plans, Deputy for Operations, was established as a directorate under the Deputy for Operations.

CIVILIAN MANNING

(U) Status. U.S. civilian authorizations totalled 265 (233 in the headquarters and 32 in the regions) and CF civilian authorizations totalled 6 (1 in the headquarters and 5 in the regions) as of 31 December 1971. U.S. civilian authorizations were down to 240 (208 in the headquarters and 32 in the regions) as of 31 December 1972. CF civilian authorizations had not changed.

(U) Civilian Grade Control. A U.S. civilian employee grade control program was launched in 1971. This stemmed from a Presidential directive to executive departments and agencies to implement actions to control General Schedule (GS) civilian grade escalation and reduce the average grade level. The Secretary of Defense directed the Air Force to reduce average GS civilian grades by at least 0.1 by end FY 1972 and another 0.1 by end FY 1973. Hq Command, USAF, advised Hq CONAD that the base period from which average grades had to be reduced was 30 June 1971.

(U) In 1972, Hq Command, USAF, delayed the date for meeting each 0.1 reduction 1 year, thus providing a measure of relief from the initial requirement.¹

1. NAPM Historical Report, March-April 1972 (959.1).

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Hq Command extended the first reduction of 0.1 in the average grade level to end FY 1973 and the second reduction to end FY 1974. Hq Command stipulated, however, that the end FY 1972 average grade level could not exceed the end FY 1971 level. The average GS grade for Hq CONAD and the regions at the end of FY 1971 was 7.7769. Grade average was down to 7.7734 as of the end of FY 1972. The lower average was due to a number of vacancies including one GS-14, one GS-13, and one GS-12, as of 30 June 1972, and the temporary appointment of two GS-1 civilians by this date.¹

(U) The required average grade and the CONAD average grade by fiscal year are shown below:

	<u>Required Average GS Grade</u>	<u>CONAD Average GS Grade</u>
End FY 1971	----	7.7769
End FY 1972	7.7769	7.7734
End FY 1973	7.6769	
End FY 1974	7.5769	

(U) The average grade had dropped to 7.7400 by the end of December 1972. This reduction resulted from the loss of highly-graded employees and the hiring of lower-grade employees (e.g., loss of a GS-12 from DCS/Intelligence and GS-8 from Directorate/Audio-Visual Services and the hiring of a GS-3 in DCS/Plans and Programs).

(U) Civilian Hiring and Promotion Freeze. The President imposed a freeze on all federal civilian

-
1. (U) Grade average was determined by dividing the total number of grade points of the civilians assigned to the headquarters and regions (i.e., the total number of GS-15s plus the total number of GS-14s, etc.) by the total number of GS civilians assigned. There were 256 civilians assigned to the headquarters and the regions as of 30 June 1972 with a total of 1,990 grade points. This made an average of 7.7734. There were 250 civilians assigned as of 31 December 1972 with a total of 1,935 grade points, making an average of 7.7400. (NAPM Historical Report, November-December 1972 (959.1)).

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hiring and grade-to-grade promotions effective 11 December 1972. The President stated that this freeze would remain in effect until the new budget was transmitted to Congress in January 1973. Exceptions were to be permitted only in cases where the actions were essential to preserve human life and safety, to protect property, to preserve the continuity of government or for emergency situations. All exceptions had to be approved on a case-by-case basis by the Office of Management and Budget.

REVIEW OF OFFICER POSITIONS

(u) ~~(S)~~ Requirement. The House Appropriations Committee, as part of its hearings on the FY 1973 budget, requested data from the Secretary of Defense in December 1971 on officer requirements of each Service, particularly high-ranking officers. In addition, Senator John C. Stennis (D-MS) suggested for consideration by the Secretary a 25 percent reduction in general and flag officers. The Secretary of Defense directed a DOD-wide review with emphasis on two areas: the impact of a 25 percent cut in general and flag officers from end FY 1971 levels and a comparison of officers in the grades 06 and 05 in FY 1963 and FY 1973.

(u) ~~(S)~~ General Officer Review. The JCS directed CINCONAD on 28 December 1971 to provide a position description and a data sheet on each U.S. general officer authorization in the headquarters and regions, and to assess the impact of a 5, 10, or 25 percent cut in general officers and identify which positions would be cut under each percentage.¹ There were 20 U.S. general officer positions, 11 in the headquarters and 9 in the regions, in the command. CINCONAD, General Seth J. McKee, replied on 26 January 1972. He stated that no region general officer positions could be lost because of command and control responsibilities and interfaces with Canada. He listed four headquarters brigadier general positions to be withdrawn under the three proposed reductions: one position if a 5 percent cut was imposed, two if a 10 percent cut was

1. Msg, JCS to Unified Commands, 5149, 282333Z December 1971 (3).

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imposed, and all four if a 25 percent cut was imposed.¹
The following positions were tabbed:

5 percent reduction - Assistant DCS/Plans and Programs, J-5, USA 07.

10 percent reduction - Previous position and Assistant DCS/Operations for Operations, J-3, USAF 07.

25 percent reduction - Previous two positions and Assistant DCS/Plans, J-5, USAF 07, and DCS/Communications and Electronics, J-6, USA 07.

(u) ~~(S)~~ General McKee stated that he could neither recommend nor indorse economic motives which would withdraw any of his general officers needed to perform the NORAD/CONAD mission. He said that to be responsive to his mission it was necessary that he be authorized general officers as subordinate commanders and have a staff directed by senior officers with wide experience in aerospace defense, proven managerial competence, and exceptionally mature judgment of the type usually found only at the general officer level. The JCS did not respond to this submission which was to be used in the overall DOD review.

(u) ~~(S)~~ Review of 06 and 05 Authorizations. The JCS directed CINCONAD on 4 January 1972 to provide data on 06 and 05 authorizations in the headquarters and regions and to estimate the impact of a reduction to earlier levels.² General McKee replied on 28 January 1972 that the command had reduced 06s by 25 percent and 05s by 7 percent in the preceding 10 years and that a further cut at this time would have a most harmful impact on the command's capabilities.³ CINCONAD said he strongly urged that no reduction be imposed but rather that the command be allowed to make selective cuts when and if the mission permitted. The JCS did not respond to this submission either. It was to be used in the DOD review.

1. Ltr, CINCONAD to JCS, "OSD Review of General/Flag Officer Positions (U)," 26 January 1972 (3).
2. Msg, JCS to CINCONAD, 1077, 042355Z January 1972 (3).
3. Ltr, CINCONAD to JCS, "Review of 06 and 05 Authorizations (U)," 28 January 1972 (3).

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NORAD EMBLEM AND MEDALLION

(U) The Air Force, acting as Executive Agent for NORAD, approved a NORAD Emblem for command use in 1957. The Emblem was subsequently modified somewhat but the changes were never submitted for approval. A NORAD Medallion carrying the Emblem was developed and authorization for its wear was first stated in NORAD Regulation 35-7, 13 September 1961. The NORAD Medallion had never been approved by the JCS either.

(U) During 1972, Hq NORAD undertook to rectify this lack of official approval of its Emblem and Medallion. Hq NORAD proposed approval of the changes to its Emblem in a letter to the JCS on 3 July 1972.¹ The changes made since the basic design was approved by Air Force in 1957 were slight. The JCS replied on 31 July, referencing Hq NORAD's letter, that: "The NORAD Organization Emblem and Medallion, with the changes outlined in the reference, is approved."

(U) NORAD Regulation 35-7, 15 August 1972, authorized military personnel assigned to NORAD JTD positions and those who were dual status to NORAD JTD positions to wear the Medallion. Wearing it was optional.

DCS/OPERATIONS (J-3) REORGANIZATION

(U) March 1972. DCS/Operations discontinued the Directorate of Command and Control and transferred its functions and personnel within J-3 so as to better align and clarify functions effective 15 March 1972 (Amendment 07, 15 March 1972, to the 1 July 1971 Hq JTD).

(U) An 06 space had been authorized as the Director of Command and Control. This authorization was used to upgrade the Director of the Alternate Command Post, 24th Region, from 05 (see page 15).

1. Ltr, Hq NORAD to JCS, "NORAD Organization Emblem and Medallion," 3 July 1972 (3).

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(U) December 1972. A major reorganization of DCS/Operations accompanied the 15 percent manpower reduction. The changes were incorporated into the revised JTD dated 1 December 1972, approved by the JCS on 20 December.

(U) The primary changes were as follows (see charts, page 25): (1) Vice DCS/Operations for Combat Operations. The Directorate/Cheyenne Mountain Complex (CMC) was redesignated Deputy/CMC; the Directorate/Operations and Training was abolished and the Directorate/Standardization and Simulation established; the Command Directors were established; a Directorate/Command and Control was established; and the Directorate/Battle Staff Support Center (BSSC) was transferred to the Vice DCS/Operations for Operations. (2) Vice DCS/Operations for Operations. The Assistant for Evaluation was abolished (the spaces were used to establish the IG function) and the Directorate/BSSC was added. (3) DCS/Operations. The Executive Officer position (AF 05) under the DCS/Operations was changed to Executive Officer/Special Assistant for Naval Operations (N 06).

NEW DEPUTY CINCNORAD

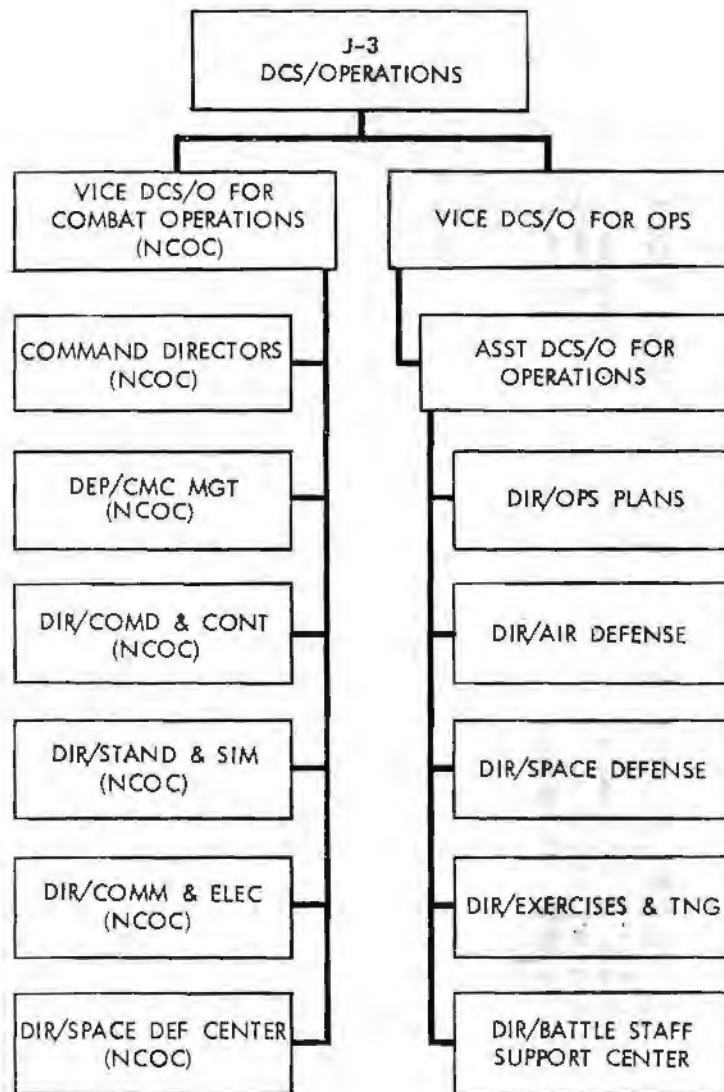
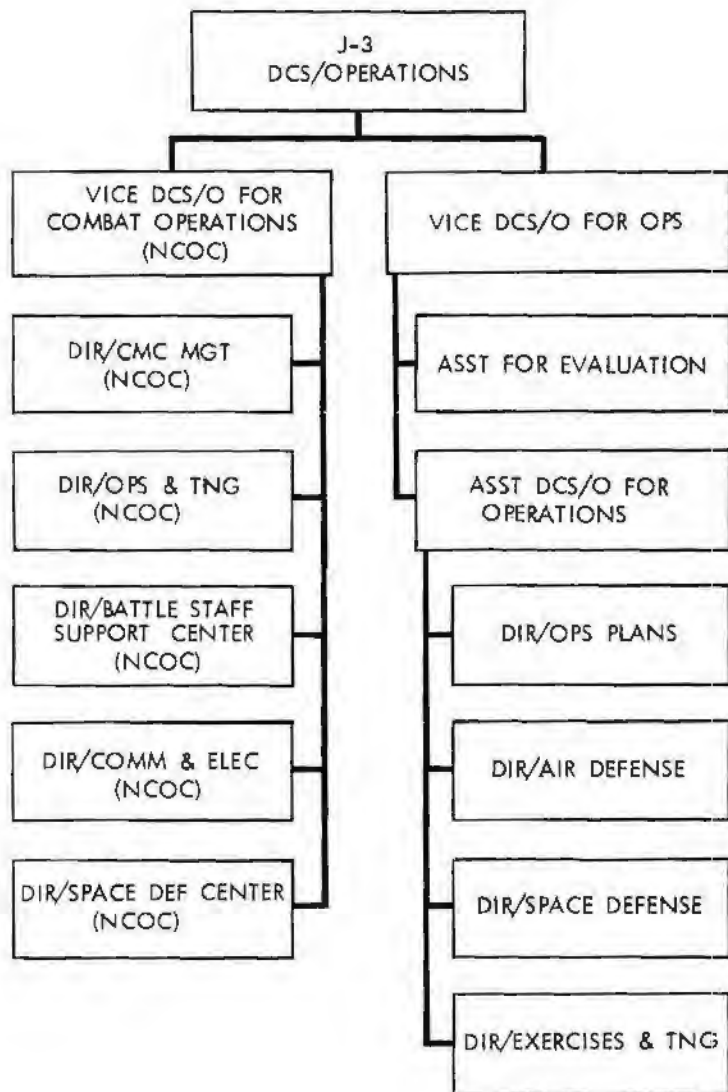
(U) Lieutenant General R. J. Lane, CF, replaced Lieutenant General Edwin M. Reyno, CF, as Deputy CINCNORAD on 1 September 1972. General Reyno had served as Deputy CINCNORAD since September 1969.

HQ NORAD/CONAD

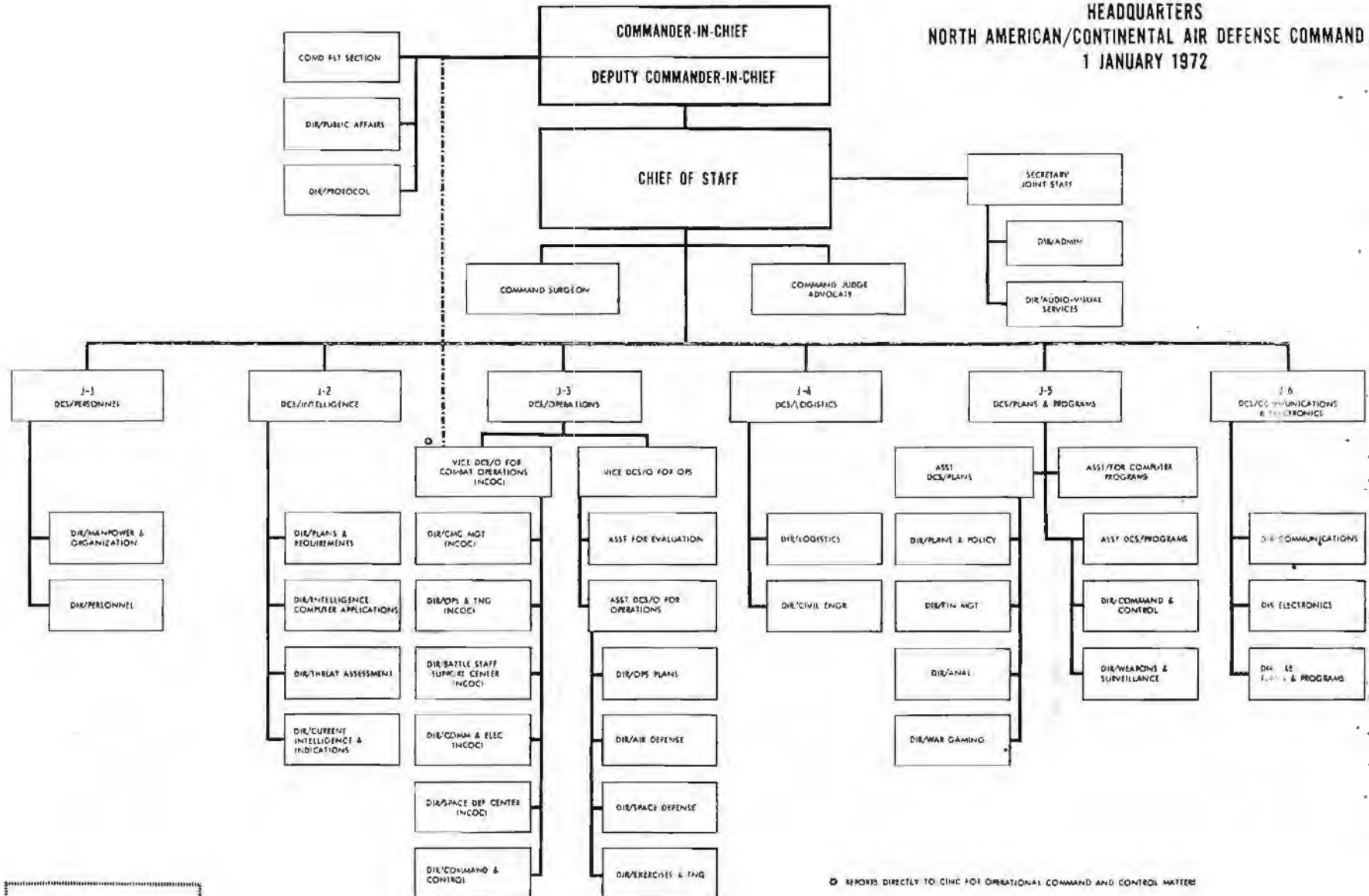
DCS/OPERATIONS ORGANIZATION

1 JULY 1972 JTD

1 DECEMBER 1972 JTD



HEADQUARTERS
NORTH AMERICAN/CONTINENTAL AIR DEFENSE COMMAND
1 JANUARY 1972

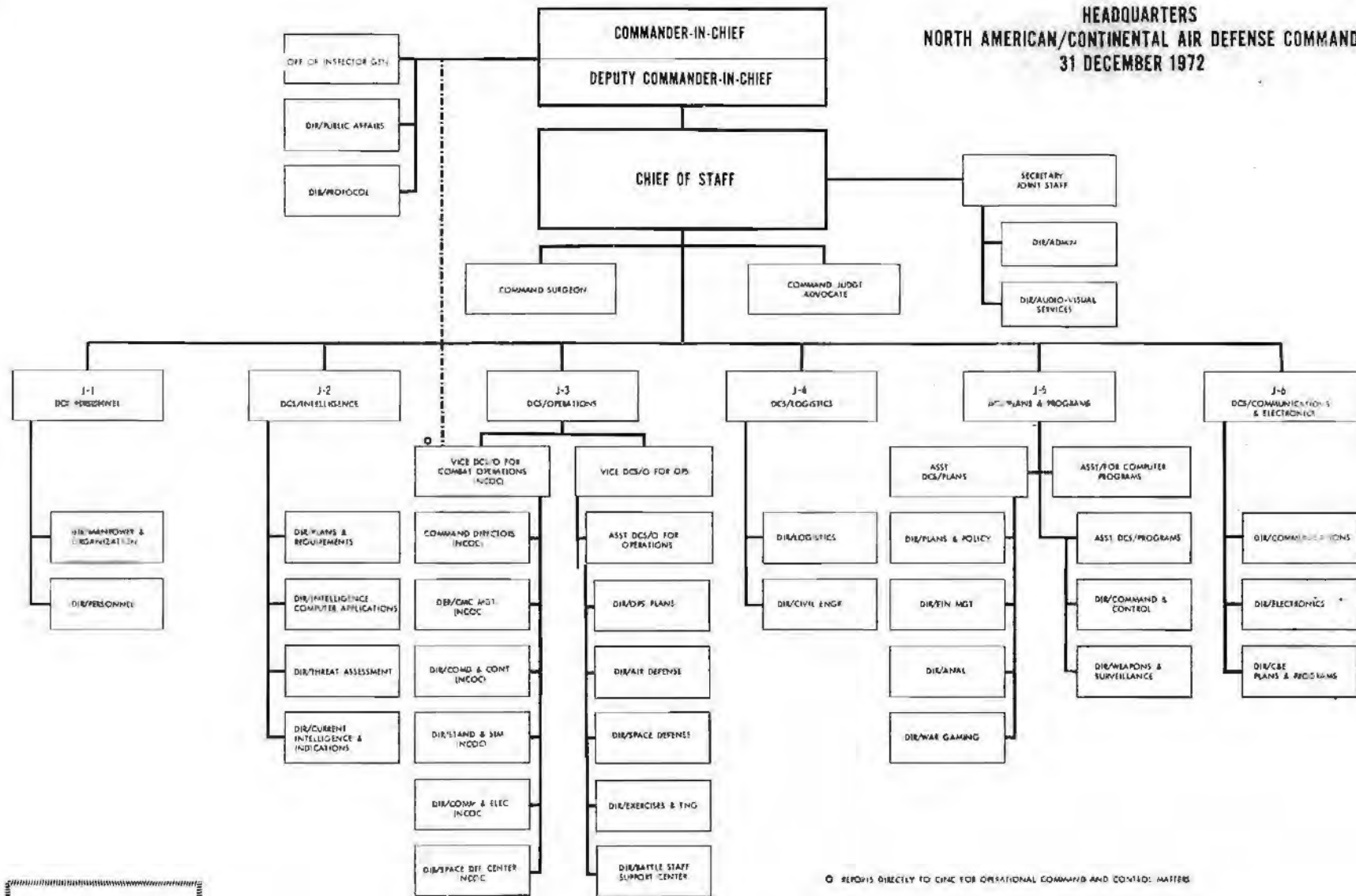


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LIASON AGENCIES
OF WARNING & LIASON OFFICER
FEDERAL AVIATION ADMIN (FAA)
STAFF WEATHER OFFICER (NHWO)
OFFICE OF CIVIL DEFENSE (OCD)
DEPT OF TRANSPORT
(CANADA DOT)

○ REPORTS DIRECTLY TO CINC FOR OPERATIONAL COMMAND AND CONTROL MATTERS

HEADQUARTERS
 NORTH AMERICAN/CONTINENTAL AIR DEFENSE COMMAND
 31 DECEMBER 1972

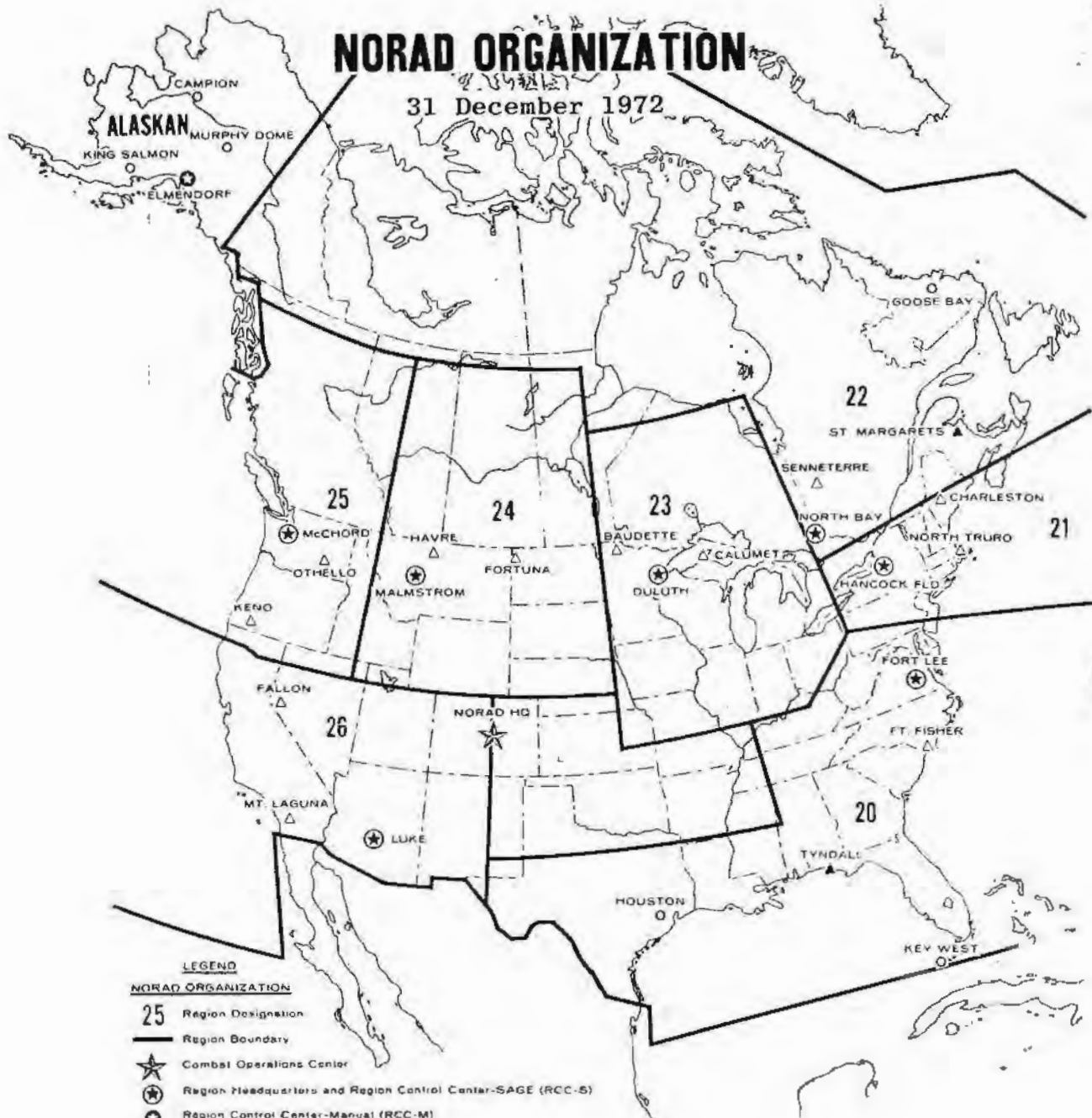


○ REPORTS DIRECTLY TO CINC FOR OPERATIONAL COMMAND AND CONTROL MATTERS

EXHIBIT AGENCIES
 1. AIR FORCE
 2. AIR NATIONAL GUARD
 3. AIR FORCE RESERVE
 4. AIR FORCE AUXILIARY
 5. AIR FORCE ROTARY CLUB
 6. AIR FORCE OFFICERS ASSOCIATION
 7. AIR FORCE WOMEN'S ASSOCIATION
 8. AIR FORCE YOUTH CENTER
 9. AIR FORCE GOLF AND COUNTRY CLUB
 10. AIR FORCE HONORARY SOCIETY
 11. AIR FORCE MUSEUM
 12. AIR FORCE NATIONAL ASSOCIATION
 13. AIR FORCE NATIONAL INSTITUTE
 14. AIR FORCE NATIONAL MUSEUM
 15. AIR FORCE NATIONAL SOCIETY
 16. AIR FORCE NATIONAL TRUST
 17. AIR FORCE NATIONAL YOUTH CENTER
 18. AIR FORCE NATIONAL YOUTH CENTER
 19. AIR FORCE NATIONAL YOUTH CENTER
 20. AIR FORCE NATIONAL YOUTH CENTER

NORAD ORGANIZATION

31 December 1972



- LEGEND**
- NORAD ORGANIZATION**
- 25 Region Designation
 - Region Boundary
 - ★ Combat Operations Center
 - ⊛ Region Headquarters and Region Control Center-SAGE (RCC-S)
 - ⊙ Region Control Center-Manual (RCC-M)
 - ▲ NORAD Control Center Base III (ACTIVE)
 - △ NORAD Control Center Base III (SEMI-ACTIVE)
 - NORAD Manual Control Center

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NORAD COMMANDERS

31 December 1972

HEADQUARTERS NORAD
Gen Seth J. McKee USAF

US ARADCOM
Ent AFB, Colorado
Lt Gen R. T. Cassidy USA

USAF ADC
Ent AFB, Colorado
Lt Gen T. K. McGehee USAF

CF ADC
CFB North Bay, Ontario
Maj Gen N. L. Magnusson CF

ALASKAN NORAD REGION
Elmendorf AFB, Alaska
Lt Gen J. C. Sherrill USAF

20TH NORAD REGION
Fort Lee AFS, Virginia
Brig Gen J. M. Fogle USAF

21ST NORAD REGION
Hancock Field, New York
Maj Gen J. L. Price USAF

22D NORAD REGION
CFB North Bay, Ontario
Maj Gen N. L. Magnusson CF

23D NORAD REGION
Duluth IAP, Minnesota
Maj Gen T. H. Barfield USA

24TH NORAD REGION
Malmstrom AFB, Montana
Maj Gen W. S. Harrell USAF

25TH NORAD REGION
McChord AFB, Washington
Maj Gen J. K. Gamble USAF

26TH NORAD REGION
Luke AFB, Arizona
Brig Gen J. E. Paschall USAF

NORAD/CONAD MANPOWER AUTHORIZATIONS ¹

	31 Dec 1971	30 Jun 1972	31 Dec 1972
CONAD Hq and Rgns	1,280	1,280	1,127
ADC Regular	45,097	42,125	38,264
ADC National Guard	15,800	16,867	18,379
ADC Total	60,897	58,992	56,643
ARADCOM ² Regular	8,295	8,279	8,254
ARADCOM National Guard	4,478	4,485	4,495
ARADCOM Total	12,773	12,764	12,749
NAVSPASUR ²	120	120	120
Alaskan Region	2,131	2,103	2,088
Augmentation M-Day Assignees	4,007	3,279	3,067
CONAD Total	81,208	78,538	75,794
CF - NORAD Hq and Rgns	392	397	393
CF ADC	12,489	11,534	11,479
NORAD Total	94,089	90,469	87,666

1. SOURCES: 31 December 1971 - NORAD Forces and Program Change Summary (NFPCS), 1 February 1972; 30 June 1972 - NFPCS, 1 September 1972; 31 December 1972 - NFPCS, 1 January 1973.

2. ARADCOM-Army Air Defense Command; NAVSPASUR-U.S. Naval Space Surveillance System.

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CHAPTER II

GENERAL PLANS AND POLICY

SECTION I - FORCES

CONUS AIR DEFENSE OBJECTIVES

(u) (S) A Secretary of Defense Memorandum, "Planning and Programming Guidance (PPG) for FY 1974-78," 9 March 1972, stated new force sizing objectives for CONUS air defense. The following guidelines were provided:

"Strategic defense /force/ planning should . . . be based upon the maintenance of a CONUS air defense posture, consisting of existing and modernized forces, to satisfy the following objectives:

"a. Providing a defense of the U.S. against a small bomber attack with one or two days strategic warning.

"b. Providing, as a minimum, a surface-to-air missile defense of Washington, D.C.

"These objectives should be given primary importance in planning our CONUS air defense forces. The forces required to accomplish these objectives should also have the inherent capability to perform peacetime surveillance and identification operations. Other air defense objectives /i.e., objectives

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stated in 1971¹ should be given a secondary role in planning these forces and these secondary objectives are not to be used as a basis for determining required force levels."

MODERNIZED CONUS AIR DEFENSE FORCE STUDY

(u) ~~(S)~~ The JCS directed CINCONAD to provide a study on the modernized CONUS air defense force.² The need for modernized and survivable air defense components was to be considered in the context of the force planning objectives outlined in the Secretary of Defense PPG for FY 1974-78 (above). The JCS explained that the assumption should be made that current air defense force sizing objectives would not change significantly (i.e., defense against a small bomber attack with one or two days strategic warning). Another assumption was that the CONUS anti-ballistic missile (ABM) defense would be limited to two sites in accordance with the U.S.-USSR Treaty for Limitation of ABM Systems (Chapter V).

(u) ~~(S)~~ The completed study was submitted to the JCS on 14 August 1972.³ The study's conclusions, derived from war gaming and analysis, are quoted below in part:

"1. Current systems are not capable of denying damage from a small sophisticated attack in the 1977-85 time frame.

"2. The modernized and survivable air defense components, especially improved surveillance and command and control systems, are required to satisfy the modified air defense objectives.

1. CONAD Command History, 1971, pp 29-30.
2. Msg, JCS to CINCONAD, DJS Sends, 9397, 22 July 1972 (657).
3. Ltr, Hq CONAD to JCS, "Modernized CONUS Air Defense Force Study (U)," 14 August 1972 (657).

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"3. Early tactical warning is essential to trigger the defense forces in order to effectively defend against a small bomber attack.

"4. The most significant increase in total effectiveness is achieved with the introduction of the AWACS /Airborne Warning and Control System/.

"5. Current interceptors do not have the capability to fully exploit the advantage of AWACS' extended surveillance/command/control coverage. However, the introduction of IMI /Improved Manned Interceptor/ with its improved range took full advantage of AWACS capabilities . . . and the kill effectiveness of the area weapons increased significantly.

"6. The contribution of SAM-D /Surface-to-Air Missile-Development/ to the overall air defense mission is in direct proportion to the numbers of area defense leak-throughs penetrating terminally defended areas.

"7. OTHB /Over-the-Horizon Backscatter radar/, AWACS, IMI and SAM-D provide essential complementary capabilities.

"8. The surveillance radars of the FAA/NAS /Federal Aviation Administration/National Airspace System/ should be integrated into the modernized air defense system.

"9. A vigorous research and development program is supported for air defense components other than those under development; however, no reorientation of programs currently under development is required.

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"10. Canadian participation in achieving sovereignty of North American air space and air defense is essential. Air defense effectiveness would be degraded in the modernized era without Canadian participation in the acquisition and operation of the modernized components.

"11. Limiting damage from small attacks with limited forces is a difficult objective to accomplish. The small attack could be generated covertly, could be directed against any area of North America, and could come from any direction. Thus the forces must be sized and deployed so that a small sophisticated attack could be countered in any area with the force available in that area."

(u) ~~(S)~~ The following force level was recommended in the study as that which would best satisfy the force planning objectives:

- 4 OTHB Radars (By FY 78)
- 35 UE AWACS (By FY 78)
- 3 UE AABNCP /Advanced Airborne Command Post/ (By FY 77)
- 11 Squadrons of IMI (By FY 80)
- 10 Squadrons of F-106 (By FY 80)
- 54 SAM-D Fire Units (By FY 83)

It was also recommended that Canada participate in the planning and operation of the modernized air defense force since the NORAD concept envisioned the use of Canadian resources, airspace and territory.

(u) ~~(S)~~ The JCS submitted to the Secretary of Defense on 14 September 1972 its recommendations on a modernized air defense force based on the modified air defense objectives established by the Secretary of Defense. The JCS recommendations included the following:

1. Modernization of the air defense forces should continue.

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2. A force of 4 OTHB radars, 25 AWACS aircraft, 6 to 8 IMI squadrons, 10 F-106 squadrons, and 48 SAM-D missile fire units would meet the modified air defense objectives. This force, with augmentation aircraft, would be able to counter a small sophisticated attack during the 1977-85 period at a prudent level of risk.

3. A force of 4 OTHB radars, 46 AWACS aircraft, 11 IMI squadrons, 10 F-106 squadrons, and 67 SAM-D units would provide a high level of capability to deny damage from a small attack.

4. Negotiations with Canada should encourage Canadian participation in the modernized force.

(U) Hq CONAD had not been advised of any further action on its study or the JCS recommendations by the end of CY 1972.¹

NORTH AMERICAN AEROSPACE DEFENSE OBJECTIVES PLAN
(1975-1982) (NADOP 75-82)

(u) (~~S~~) General. In the Commander's Foreword to NADOP 75-82, 15 September 1972, General Seth J. McKee urged that the NORAD mission be revised formally to reflect the broader mission of aerospace defense. He pointed out that CINCNORAD's responsibility had evolved, since it was originally assigned, to include global aerospace surveillance and related early warning and attack assessment. Canadian and U.S. forces under NORAD were participating in varying degrees in these activities even though NORAD's formal mission still specified "air defense."

(u) (~~S~~) General McKee noted that the U.S.-USSR Treaty on Limitation of ABM Systems (May 1972) provided for review by both parties in five years and every five years thereafter and did not apply to the People's Republic of China (see Chapter V). For these reasons, he endorsed continued effort in ballistic missile intercept research to guard against technological surprise by any adversary. He pointed out that the

1. Interview, Mr. Buss with Colonel P. E. Jones, CPPL, 10 January 1973.

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limitation on ballistic missile defense systems placed greater emphasis on global surveillance for treaty verification and for provision of tactical warning.

(u) (X) CINCNOAD also pointed out that the U.S.-USSR agreement to limit strategic offensive missiles increased the importance of air defense to preclude the enemy from having the option of a relatively unopposed bomber attack. It was essential, he stated, to continue development and deployment of modernized air defense systems.

(u) (X) Summary of Recommendations. NADOP 75-82 major recommendations were as follows:

"a. Ballistic Missile Defense (BMD).

"(1) Deploy the SAFEBUARD system with two sites, with IOC at Grand Forks by FY 75, and IOC for the National Command Authority (NCA) complex by FY 78 or as soon as reasonably attainable.

"(2) Continue research and prototype development of the Site Defense (SD) system so as to provide an option for deployment if required.

"(3) Continue research actions for boost and midcourse BMD systems which could lead to an early deployment if required.

"b. Air Defense.

"(1) Develop and deploy an Improved Manned Interceptor (IMI) with an IOC in FY 77.

"(2) Approve CONUS deployment of Surface-to-Air Missile Development (SAM-D) with an IOC in FY 81.

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"(3) Acquire dedicated C-130 Combat Support Aircraft (CSA) in FY 73 to support air defense airlift requirements.

"c. Space Defense.

"(1) Develop and deploy a responsive, ground-based high-altitude, non-nuclear antisatellite system with an IOC in FY 76.

"(2) Develop and deploy a co-orbital and/or fly-by satellite inspection and negation system.

"(3) Approve research and development to provide a satellite intercept capability for BMD systems.

"d. Command and Control.

"(1) Approve deployment of the Airborne Warning and Control System (AWACS) with an IOC of FY 77 and a force level of 35 aircraft.

"(2) Develop an Advanced Airborne Command Post (AABNCP) for NORAD with an IOC in late FY 76.

"(3) Retain existing ground environment control systems until AWACS is deployed and demonstrates its operational capability.

"(4) Approve eight Region Operations Control Centers (ROCCs) with an IOC of FY 78 to be used as a ground interface with the AWACS Region Control Centers (RCCs).

"(5) Establish an automated Operational Status Reporting (OPSTAR) System with supporting communications equipment to allow near real-time reporting and display of NORAD resources.

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"e. Surveillance and Warning.

"(1) Expand the deployment of the Satellite Early Warning System (SEWS) to two satellites and associated ground station equipment for the Eastern Hemisphere with an IOC of FY 75. Retain the 474L Ballistic Missile Early Warning System (BMEWS), the 474N Sea-Launched Ballistic Missile (SLBM) detection and warning system and the 440L Over-the-Horizon Forward Scatter (OTHF) radar until their individual functions of surveillance, tactical warning, and attack assessment are performed by a follow-on system(s).

"(2) Deploy a minimum of four phased-array long-range radars with an IOC of FY 75 to provide early warning and attack assessment against the Soviet Sea-Launched Ballistic Missile (SLBM) threat.

"(3) Continue improvement of the Space Detection and Tracking System (SPADATS) to include the development and deployment of an electro-optical sensor with an IOC of FY 75.

"(4) Continue development of additional methods for improving the mission/threat assessment capability utilizing present sensor data.

"(5) Approve research and development for midcourse ballistic missile and satellite tracking surveillance system utilizing long-wave infrared (LWIR) sensors.

"(6) Develop and deploy four (180 degree) Over-the-Horizon Backscatter (OTHB) radars with IOCs of three in FY 77 and one additional radar in FY 78.

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"(7) Develop and deploy an automatic Chemical Warning System in FY 75, an automatic Nuclear Warning System in FY 77, and an automatic Biological Warning System in FY 81."

AIR DEFENSE REDUCTIONS

FY 1972-73

(u) ~~(S)~~ General. Decisions were made by higher authority to reduce air defense force levels in FY 1972-73 as follows: 4 F-106 squadrons were to be transferred from the regular force to the Air National Guard (ANG), the 5 CONUS and 2 Canadian BOMARC squadrons were to be eliminated, 11 CONUS Backup Intercept Control (BUIC) centers and 1 Canadian BUIC center were to be reduced in status, and U.S. manned interceptor alert was to be cut 50 percent and flying hours cut 13 percent.

(u) ~~(S)~~ Canadian BOMARC and BUIC. The planned inactivation of the two Canadian BOMARC squadrons was announced by the Canadian Government in its White Paper on Defence, August 1971.¹ National Defence Headquarters (ND Hq) advised Hq NORAD on 9 December 1971 that the two squadrons would drop operational status on 31 March 1972 (page 98). ND Hq advised that one of its two BUIC centers would be placed on semi-active status 1 April 1973 (page 157).

(u) ~~(S)~~ CONUS BOMARC and BUIC. Phase out of the five CONUS BOMARC squadrons was part of a package reduction directed by Program Budget Decision (PBD) 294, 9 December 1971 (reaffirmed by PBD 294R, 28 December 1971). PBD 294 also directed inactivation of the 12 BUIC centers in the CONUS and reduction of U.S. manned interceptor alert by 50 percent and flying hours by 13 percent in FY 1973. The concept for air defense stated by PBD 294 was that the forces remaining after this cut would provide the

1. CONAD Command History, 1971, pp 39-43.

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capability to defend against a small attack (about 10 bombers) after one day of warning; and support world-wide air defense contingency requirements.

(u) (X) The programmed CONUS BUIC center inactivation was modified. The JCS informed Hq CONAD on 5 June 1972 that the 12 BUIC centers were to be retained: 1, at Tyndall AFB, Florida, on active status, and 11 on semi-active status (page 98). Also, it was reaffirmed that the CONUS BOMARC squadrons were to phase out (page 157).

FY 1974

(u) (X) Another reduction in the fighter-interceptor force was proposed by USAF for FY 1974. USAF Program Objective Memorandum FY 1974-78, 30 May 1972, proposed transfer of another regular F-106 squadron to the ANG and, at the same time, inactivation of an ANG F-102 squadron. However, the Secretary of Defense directed in a Program Change Memorandum, dated 31 August 1972, retention of the current force mix and level of interceptors.

SECTION II - MISSION

UNIFIED COMMAND PLAN

(u) (X) The JCS requested CINCONAD's recommendations in 1970 for a revision to the Unified Command Plan (UCP) then in force, dated 20 November 1963. CINCONAD recommended three changes:¹ CINCNOAD's mission statement be revised to include the functional responsibility for missile defense, CINCONAD's mission be changed from "air defense" to "aerospace defense," and CINCONAD's responsibility for air defense of bases in Greenland be deleted.

-
1. (U) The provisions of the 1963 UCP pertaining to CONAD and the changes recommended by CINCONAD are detailed in CONAD Command History, 1970, pp 3-8.

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(U) CINCONAD's recommended revisions were considered by the JCS but not accepted.¹ The JCS issued a revised UCP (dated 30 June 1971) with an effective date of 1 January 1972. The new UCP did not change the responsibilities of CINCONAD--the wording pertaining to CONAD was identical to that in the 1963 UCP.²

NORAD AGREEMENT

(u) (S) The NORAD Agreement was concluded on 12 May 1958 and provided that NORAD would be maintained for a period of 10 years or such shorter period as agreed by both countries. The U.S. and Canada agreed in 1968 to continue the NORAD Agreement for 5 years effective 12 May 1968. The agreement would expire on 12 May 1973. Another continuance of the original agreement or a new agreement was necessary to keep NORAD in existence.

(u) (S) In preparation for new government-to-government negotiations, both the JCS and the Chief of the Defence Staff (CDS) requested CINCNORAD to submit comments and recommendations on the agreement that he felt should be considered. CINCNORAD submitted the following eight recommendations to the JCS and CDS on 23 May 1972:³

"1. The NORAD Agreement be amended to provide for a binational approach to Aerospace Defense rather than sole Air Defense. NORAD would then become the North American Aerospace Defense Command.

1. CPAP Historical Report, May-June 1972 (959.5).
2. (u) (S) The new UCP disestablished the U.S. Strike Command and established in its place the U.S. Readiness Command. The Pacific Command was assigned all islands in its water areas including the Aleutians, but responsibility for air defense of the Aleutians remained under CONAD.
3. Ltr, CINCNORAD to JCS, "Renewal of the NORAD Agreement (U)," 23 May 1972 (2.5).

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"2. The 1968 caveat of the NORAD Agreement relating to Canadian participation in an active ballistic missile defense be eliminated.

"3. The command and control principles contained in the NORAD Agreement remain unchanged.

"4. The duration of the future NORAD Agreement be 10 years while retaining the right of either nation to request a review of the Agreement at any time, along with the provisions for termination with one year notice by either country.

"5. Both countries make an early announcement of their intention to renew the NORAD Agreement in 1973 so that joint U.S.-Canadian long range planning can embrace the appropriate aspects of aerospace defense.

"6. The basic provisions of the Canada-United States Agreement on Emergency Consultation remain the same.

"7. Consideration be given to making the General Conditions in paragraph 9 of the Agreement on Emergency Consultation a part of the text of the renewed NORAD Agreement.

"8. Negotiations be undertaken to grant CINCNORAD the authority for cross-border deployment of nuclear armed interceptors and their associated support at DEFCON 3 when he deems this action necessary."

(u) (S) At the 130th Meeting of the Permanent Joint Board on Defense (PJBD), 13 June 1972, the U.S. Section Chairman advised the Board that it was understood that the JCS and CDS would use CINCNORAD's recommendations as a point of departure for further discussions on renewal. The Chairman of the JCS recommended to the

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Secretary of Defense in August that the existing agreement be extended for 2 years so that Canada and U.S. positions on modernized force development could be established prior to negotiation of a new agreement.

(u) (X) At the 131st Meeting of the PJBD, 17-21 October 1972, the U.S. Section Chairman informed the Board that the U.S. State and Defense Departments were prepared to negotiate extension of the agreement for 2 years. Such an extension, the U.S. Chairman stated, would permit both countries to attain more viable positions on an agreed air defense concept and force levels. The Canadian Chairman agreed with this approach, stating that he would give a more formal and definitive expression of the Canadian Government's views at the February 1973 meeting of the Board. This remained the status at the end of CY 1972.

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CHAPTER III

AIR DEFENSE SENSORS

SECTION I - GROUND-BASED RADAR

FORCE STATUS

(U) The NORAD ground-based radar network had 99 long range radar (LRR) sites and 31 Distant Early Warning (DEW) Line sites at the end of CY 1971. Six LRRs (in the southern defense) were added to the system during 1972 (page 55). This resulted in there being 105 LRRs (see map following and table at end of chapter) and 31 DEW Line sites as of 31 December 1972. The 105 LRRs included 64 in the CONUS, 28 in Canada, and 13 in Alaska. The 64 CONUS sites consisted of 41 ADC radars,¹ 18 ADC/Federal Aviation Administration (FAA) joint-use radars, and 5 FAA radars.

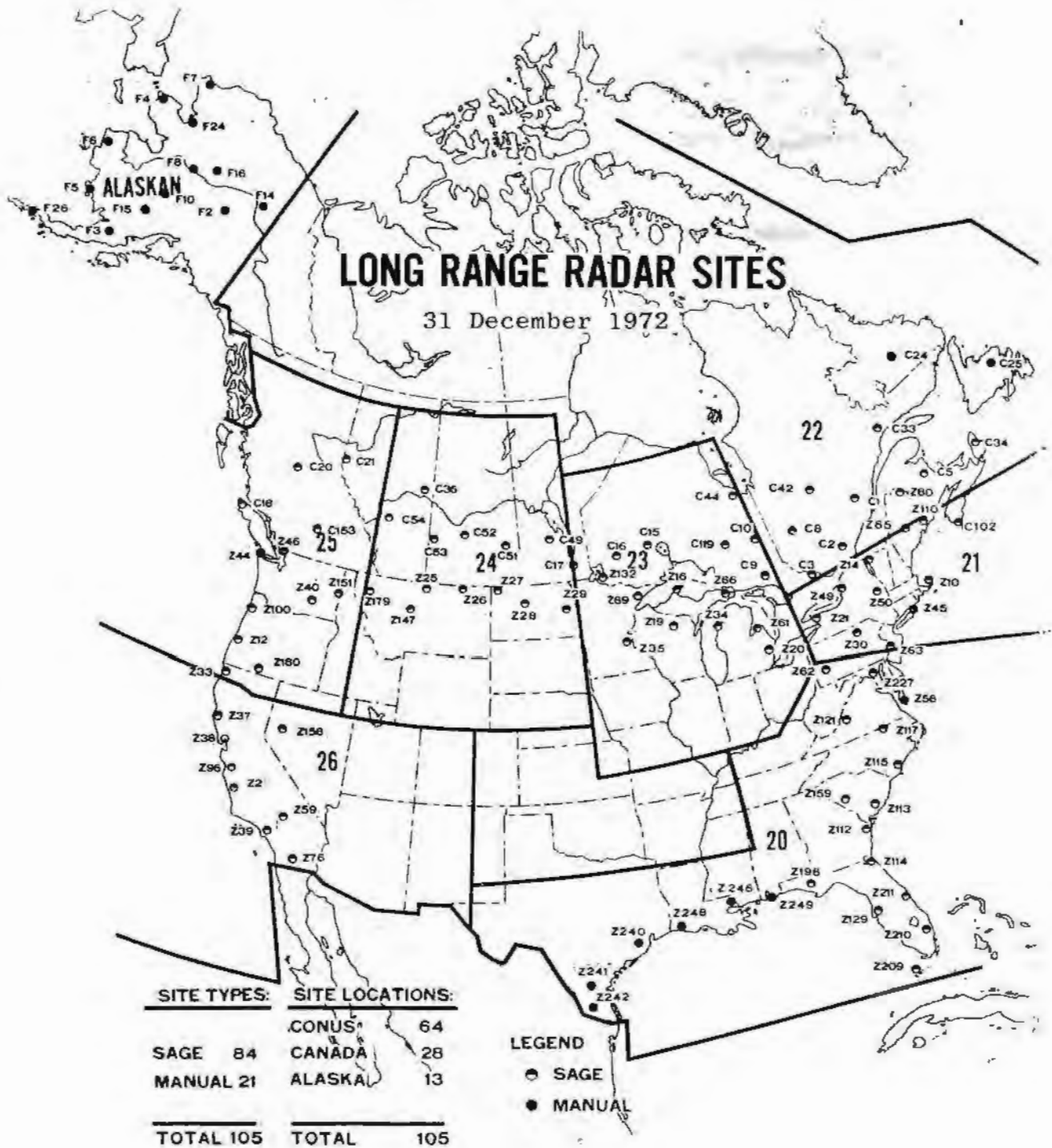
CHICAGO FAA RADAR

(U) ~~(S)~~ Hq NORAD directed ADC in May 1971 to study ways to improve the Semi-Automatic Ground Environment (SAGE)/Backup Intercept Control (BUIC) radar coverage of the Chicago air defense artillery area.² Coverage had been reduced in June 1969 when ADC site, Z-31, Arlington Heights AFS, Illinois, was closed because

1. (U) The Tactical Air Command (TAC) began operating a mobile radar (TPS-43) on 31 December 1972 at Z-248, a newly established site at Lake Charles, LA. TAC was to continue operation of this radar until ADC could get its radar equipment installed and operational.
2. Ltr, Hq NORAD to ARADCOM, ADC, "Chicago FAA Radar (U)," 26 May 1971 (302.1).

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of budget cuts. Hq NORAD stated that because of deficient coverage the 23d NORAD Region (NR) was unable to provide timely information to the Chicago Army Air Defense Command Post (AADCP). Hq NORAD suggested two ways to improve coverage: SAGE/BUIC interface between the 23d NR and either the Army's FPS-69 surveillance radar at the Chicago AADCP or the FAA's Air Route Surveillance Radar at Chicago. ADC was directed to study these suggestions and submit recommendations.

(u) (X) ADC advised that neither alternative could be accomplished immediately.¹ The Air Force had no spare radar data processor (AN/FYQ-47) to tie in the Army radar and the cost was prohibitive (\$50,000 to \$100,000) to install the right radar data processor to tie in the FAA radar at this time. However, ADC had learned that the FAA radar was to be moved about 25 miles and that the FAA had an FYQ-47 data processor available to install at the time of relocation. FAA would fund the major portion of this equipment change. If Hq NORAD approved, ADC would make arrangements with the FAA to tie the radar to the air defense system after relocation.

(u) (X) Hq NORAD requested comments from the 23d NR on ADC's proposal. The region concurred,² and Hq NORAD directed ADC "to make provisions and agreements with FAA and 23d Air Division to interface the Chicago FAA radar, when relocated, with the 23d NRCC and BNCCs."³

(U) The FAA was to relocate the radar when funds were available. No date had been set by the end of 1972.⁴

1. Ltr, ADC to Hq NORAD, "Chicago FAA Radar (Your Ltr, 26 May 1971, same subject) (U)," 20 December 1971 (302.1).
2. DF, NOOP to NOPS, "NORAD Identification in the Chicago Area (U)," 1 February 1972 (302.1).
3. Ltr, Hq NORAD to ADC, "Chicago FAA Radar (U)," 3 February 1972 (302.1); (U) NRCC-NORAD Region Control Center, BNCC-BUIC NORAD Control Center.
4. Interview, Mr. David W. Shircliffe, Historian, with Major R. M. Adams, NOPS, 31 January 1973.

RETENTION OF MANUAL MAPPING EQUIPMENT

(u) ~~(S)~~ The 21st NR brought a matter to Hq NORAD's attention that could degrade the ability of SAGE/BUIC radars to perform their mission.¹ This was removal from operation of the OA-1638 manual mapping equipment which was used to mask out radar clutter. This equipment, along with AN/FST-2s (radar data processing and transmitting equipment), was being replaced at radars throughout the SAGE/BUIC system with modernized equipment, termed the AN/FYQ-47 Transmitting Set, Coordinate Data (generally referred to as the Common Digitizer). Replacement was scheduled to be completed during CY 1972. The 21st NR believed that the manual mapper was more effective than the FYQ-47 in reducing radar clutter. The 21st recommended that the manual mappers be kept in storage at the radars until testing determined the impact of their removal from operations.

(u) ~~(S)~~ Hq NORAD informed USAF ADC and the 21st NR in February 1972 that it approved retention of the manual mappers in storage until the impact of their removal was determined.² Also, USAF ADC was authorized to correspond directly with other agencies, including CF ADC, on this matter. At this time, FYQ-47s were in operation at about 20 radars and manual mapping equipment had been physically removed from 4 sites. To stop further removal, USAF ADC and CF ADC placed a hold order on removal of this equipment from the other sites.³

(u) ~~(S)~~ USAF ADC, in September 1972, submitted a Required Operational Capability (ROC 12-72) to Hq USAF for approval. The ROC stated that:⁴

1. Ltr, 21st NR to Hq NORAD, "Retention of Operational Equipment (U)," 29 December 1971 (302.1).
2. Ltr, Hq NORAD to ADC, "Retention of Manual Mappers (U)," 23 February 1972 (302.1); Ltr, Hq NORAD to 21st NR, "Retention of Manual Mappers (U)," 23 February 1972 (302.1).
3. DF, NOOP to NOPS, "Retention of Manual Mappers (U)," 22 February 1972 (302.1).
4. ADC ROC 12-72, "Manual Mapping Capability Addition to the AN/FYQ-47 (U)," 11 September 1972 (NELC ROC File).

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"Experience now available with the FYQ-47s in an operational status indicates a serious operational deficiency exists without a capability similar to that provided by the OA-1638 manual mapper. In order to . . . effectively function in controlling data, a manual mapping capability is essential."

(u) (X) Two solutions were proposed. The preferred solution (solution "a") was to modify the FYQ-47's radar console unit to allow operators to perform manual mapping. The second, but less desirable, solution (solution "b") was to reinstall OA-1638 manual mappers and provide interface with the FYQ-47s. There were several disadvantages in using the OA-1638, however, such as age (12-15 years) of the equipment, the requirement of a separate logistic and technical order support system, special training, and technical problems.

(u) (X) Hq NORAD commented to ADC that solution "a" should satisfy the operational capability for manual mapping.¹ In place of solution "b", Hq NORAD recommended the following solution:

"1. Improvement of presently installed electronic processing devices and the possible incorporation of new processing techniques for the elimination of clutter.

"2. Additional consideration should be given to improvement of Automatic Clutter Elimination (ACE) as used in the AN/FYQ-47 Common Digitizer."

(U) No action had been taken on the ROC by Hq USAF as of 31 December 1972.²

1. Ltr, Hq NORAD to ADC, "Required Operational Capability (ROC) for a Manual Mapping Capability Addition to the AN/FYQ-47 (ADC ROC 12-72) (U)," 30 October 1972 (302.1).
2. Interview, Mr. Shircliffe with Lt Col F. L. Severance, NEEC, 5 February 1973.

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SECTION II - SYSTEM IMPROVEMENTS

AIR DEFENSE OF THE SOUTHERN U.S.

(U) Background. A Cuban passenger aircraft flew from Havana to New Orleans, Louisiana, in October 1971, without being detected until it neared Moisant International Airport and requested landing instructions. This was the second such incident in 2 years. A defecting Cuban Air Force pilot had flown an armed MIG-17 from Santa Clara, Cuba, to Homestead AFB, Florida, in October 1969 and landed near the plane of President Richard M. Nixon.¹ The Investigating Subcommittee of the House Armed Services Committee held hearings on the 1971 incident. Its report, dated 3 January 1972, stated that for reasons of economy, detection and intercept capabilities had deteriorated and the existing U.S. air defense "is virtually useless--it is more of a concept than an actuality." The report noted the existence of a 1,500 mile gap between Florida and California that was "virtually devoid of military surveillance and air defense command and control." The report stated that these aircraft incidents showed that "any foreign power can, at will, violate the southern U.S. airspace without detection or interception." Included in the report were recommendations to the Secretary of Defense to correct the deficiencies.

(u) ~~(S)~~ The concern expressed in the Subcommittee's report was shared by the Department of Defense (DOD). A memorandum, dated 19 January 1972, from the Assistant Secretary of Defense (Systems Analysis) to the JCS, requested that a study be made to investigate alternative actions for improving air defense of the southern perimeter. Initial study results were to be forwarded to DOD by 15 February 1972.²

1. (U) For additional details on these flights, see CONAD Command History, 1971, pp 182-184; and CONAD Command History, 1969, pp 128-130.
2. Interview, Mr. Shircliffe with Major D. P. Gilhooly, COPS, 11 September 1972.

(u) (S) The JCS informed CINCONAD about this study on 21 January and directed that proposals be submitted by 1 February 1972 for a surveillance and intercept capability across the southern perimeter, based on the following guidance.¹ For surveillance, at least two alternatives were to be considered: (1) a minimum, austere manual system utilizing established sensors (including FAA radars) to the maximum extent possible; and (2) a semi-automated system that would utilize present air defense and/or FAA computers for data tell. Hq CONAD was to determine alternative deployments and types of fighter interceptors in the southern United States that could perform the daily identification function and limit damage, in a crisis, from deliberate or unauthorized small attacks. Permanent redeployment of regular fighter forces was not to be considered.

(u) (S) CINCONAD Recommendations. Hq CONAD sent ADC information on the study and directed that proposals be submitted to assist in answering the request.² ADC provided inputs to Hq CONAD on 29 January 1972.³ CINCONAD's proposals were sent to the JCS on 31 January.⁴ CINCONAD recommended a two-phase buildup:

1. Phase I.

a. Command, Control, and Surveillance. Manual Ground Control Intercept (GCI) facilities would be established at three FAA Air Route Traffic Control Centers (ARTCCs) at Houston and Fort Worth, Texas, and Albuquerque, New Mexico. The Houston and Fort Worth GCIs would report to the 20th CONAD Region (CR) and the Albuquerque GCI to the 26th CR. Eight

1. Msg, Hq CONAD to ADC, COOP 241705Z January 1972 (420X302.1).
2. Ibid.
3. Ltr, ADC to Hq CONAD, "Air Defense of Southern United States (U)," 29 January 1972 (657).
4. Ltr, CINCONAD to JCS, "Air Defense of the Southern United States (U)," 31 January 1972 (657).

FAA radars would be used (five in the 20th CR and three in the 26th CR) for surveillance. Military height finders would be installed at each FAA radar.

b. Fighter Interceptor Forces. ADC's Air Defense Weapons Center, Tyndall AFB, Florida, would maintain two F-106s on 5-minute alert. Air National Guard (ANG) squadrons, currently assigned an air defense mission, were to place two F-102s on 5-minute alert at six bases in Louisiana, Texas, New Mexico, and Arizona.

c. Estimated Cost and Operational Date. The estimated initial cost was \$3.8 million and the annual recurring cost \$4.8 million. Phase I could be operational 1 year after it was approved.

2. Phase II.

a. Command, Control, and Surveillance. A Region Control Center (RCC) would be established at Ellington AFB, Texas, which would provide a semi-automated capability by using two BUIC GSA-51 computers. FAA radars associated with the Houston and Fort Worth ARTCCs would be data-tied to this RCC, thereby allowing the closure of the manual GCI facilities established in Phase I. The FAA radars associated with the Albuquerque ARTCC would be data-tied to the 26th RCC and the Phase I GCI closed. The number of radars would increase from 8 for Phase I to 13 (12 FAA and 1 new ADC site at Ozona, Texas).

b. Fighter Interceptor Forces. As in Phase I, the Air Defense Weapons Center would maintain two F-106s on 5-minute alert. However, the ANG would maintain alert at six bases with F-101s, instead of the F-102s proposed in Phase I. This would be accomplished by assigning three non-ADC ANG squadrons in the southern area an air defense mission and replacing their aircraft with F-101s. These three squadrons would maintain alert at five bases. A fourth ANG squadron, the air defense training unit at Ellington AFB, already equipped with F-101s, would maintain alert at its home base (this squadron would receive additional F-101s so as to carry on training).

c. Estimated Cost and Operational Date.
The estimated initial cost for Phase II was \$35 million and the annual recurring cost \$16 million. Phase II could be operational in about 4 years.

(U) CINCONAD recommended in the letter forwarding these proposals to the JCS that:

"reconsideration be given to deferment of the defense cuts contained in PBD 294.¹ It appears incongruous that we could be tearing down our systems looking northward against the major threat and simultaneously adding the southern defenses."

(u) (X) JCS Study. In a memorandum of 14 February 1972, the JCS forwarded proposed plans to the Secretary of Defense for improving air defense along the southern perimeter.² CINCONAD's proposal for Phase I, termed the Austere Alternative by the JCS, was forwarded without any significant changes. CINCONAD's Phase II, termed the Semi-Automated Alternative, was forwarded with command, control, and surveillance arrangements left intact. However, the conversion of three ANG squadrons to F-101s was not considered cost effective and was dropped. The fighter deployment was the same in both JCS proposed alternatives, that is, the Air Defense Weapons Center would maintain two F-106s on alert and the ANG would maintain two F-102s on alert at each of six bases.

(u) (X) The JCS advised the Secretary of Defense that both alternatives were austere and would meet only those objectives pertaining to unauthorized overflight and damage limiting from small attacks. Radar coverage would have low altitude deficiencies and the FAA radars had no electronic counter-countermeasure capability and were located for surveillance of domestic air routes rather than detection of aircraft approaching

1. (U) Program Budget Decision (PBD) 294 is discussed in Chapters II, IV and VI.
2. Interview, Mr. Shircliffe with Major D. P. Gilhooly, COPS, 11 September 1972.

the southern border. The JCS stated that first priority should be given to the Gulf Coast because the main air threat to the southern CONUS was from aircraft based in Cuba.

(u) (~~s~~) Approval of Austere Alternative. The JCS advised CINCONAD on 26 May that the Austere Alternative (CINCONAD's Phase I), with certain modifications, had been approved and was to be operational by June 1973.¹ Detection, interception, and identification capability was to be provided that would restrict unauthorized penetration of U.S. airspace by unsophisticated aircraft. First priority would be given to protecting airspace sovereignty along the Gulf Coast. In times of crisis, the system could be strengthened by deploying additional forces to the southern perimeter. Funding was to come from currently approved air defense resources or from programs of lesser priority than air defense. Costs for the system were to be about \$10 million for FY 1973 and a total cost of about \$35 million through FY 1977.

(U) The JCS directed CINCONAD to participate with the Air Force in the development and acquisition of the southern perimeter command and control system and to plan to assume operational control of the forces provided.² Further, CINCONAD was to establish appropriate boundaries to delineate geographical areas of operational responsibility for CONAD region commanders. Currently, western Louisiana and practically all of Texas were outside of CONAD region boundaries.

(u) (~~s~~) Hq USAF tasked ADC to work with Hq CONAD on system configuration, to coordinate with the FAA on costs and working arrangements, and to submit an operational employment plan on the system to Hq USAF for approval.³ Additional guidance, given for development of this plan by Hq USAF, covered the following:

1. Msg, JCS to CINCONAD, 9978, 262254Z May 1972 (657).
2. ibid.
3. Msg, CSAF to ADC, et al., X00 311240Z May 1972 (657).

1. Establishment of command and control facilities.
2. Deployment of military long range radars on the Gulf Coast to supplement FAA coverage and provide contiguous radar coverage against aircraft at 4,000 feet and higher.
3. Installation of military height finder radars at FAA sites in the system.
4. Placement on 5-minute alert of two ADC F-106s at Tyndall AFB and two ANG F-102s at each of three bases.

(U) Operational Employment Plan. ADC's plan, dated 23 June, was approved by CINCONAD on 27 June 1972.¹ The plan provided for establishment of one Manual CONAD Control Center (MCCC) collocated with the ARTCC at Houston, reporting to the 20th CR.² Radar coverage along the Gulf Coast would be provided by five FAA radar sites in Louisiana and Texas and two military sites which were to be established near Mobile, Alabama, and Lake Charles, Louisiana. These seven sites would be tied to the Houston MCCC. In the Southwest, three FAA sites in Arizona, New Mexico, and Texas would be tied to the 26th RCC, Luke AFB, Arizona. One military height finder radar was to be installed at each of the 10 sites. These sites were as follows:

1. 20th NORAD/CONAD Region.

<u>SITE</u>	<u>LOCATION</u>
Z-240 (FAA)	Ellington AFB, TX
Z-241 (FAA)	Lackland AFB, TX
Z-242 (FAA)	Oilton, TX
Z-243 (FAA)	Odessa, TX
Z-246 (FAA)	Slidell, LA
Z-248 (ADC)	Lake Charles, LA
Z-249 (ADC)	Dauphin Island, AL

1. Memo, DCS/Operations, CONAD, to Chief of Staff, "Air Defense of the Southern United States," 3 July 1972 (657).
2. Interview, Mr. Shircliffe with Major D. P. Gilhooly, COPS, 19 September 1972.

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2. 26th NORAD/CONAD Region.

<u>SITE</u>	<u>LOCATION</u>
Z-244 (FAA)	El Paso, TX
Z-245 (FAA)	Silver City, NM
Z-247 (FAA)	Phoenix, AZ

(U) Interceptors were to be maintained on 5-minute alert at bases along the southern perimeter (see Chapter IV).

(U) Gulf Coast Segment Becomes Operational. The operational date for the southern air defense facilities, as previously noted, was June 1973. However, planning changed and the JCS advised CINCNOAD¹ on 11 July 1972 that USAF had been directed to have the Gulf Coast portion of the system, except for the two military radar sites, in operation by 6 October 1972.² This required establishment of a Manual NORAD Control Center (MNCC) at the Houston ARTCC; use of four FAA radars; two interceptors on 5-minute alert at Tyndall AFB, Ellington AFB, and NAS New Orleans; and communications to link these elements together. USAF directed ADC to have these facilities ready to operate on schedule.³ The two military radar sites, Z-248, Lake Charles, Louisiana, and Z-249, Dauphin Island, Alabama, were to be operational by 31 December 1972. Implementation of the remainder of the system was to continue with June 1973 as the target date for full operational capability.

(U) ADC proceeded to implement these instructions and revised its Operational Employment Plan

1. (U) Planning information on this matter was released by the JCS to CINCNOAD in June 1972. Planning was then to be handled as a NORAD action. (Msg, Hq NORAD to 20 NR, 26 NR, NOAD 192145Z June 1972 (657)).
2. Msg, JCS to CINCNOAD, 1009, 111550Z July 1972 (657).
3. Msg, ADC to 20 AD, et al., XPAS 172225Z July 1972 (657); Msg, ADC to CSAF, et al., CC 202025Z July 1972 (657).

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accordingly. USAF, which had previously approved the plan in principle, gave its final approval of the plan, subject to certain amendments, in September 1972.¹ The amendments, among other things, provided for deployment of radars to Z-248 and Z-249. For Z-249, an FPS-93 long range search radar and an FPS-6 long range height finder radar were to be installed and operational by 31 December 1972. One of each of these radars was to be installed at Z-248; however, USAF would task the Tactical Air Command to provide interim radar coverage at Z-248, using a mobile TPS-43 radar, from 31 December 1972 until ADC's radars were ready for operation.

(U) Hq NORAD revised the 20th NR geographical boundary to include the Gulf Coast portion of the southern perimeter area (see map following). CINC-NORAD directed the region to assume responsibility for this area to the limits of radar surveillance and weapons control capability effective 6 October 1972.² The 20th NR established the Houston MNCC effective 1700Z 6 October, and assumed responsibility for air defense of the newly assigned area.³ For intercept/identification missions, the Houston MNCC was to initiate scramble of interceptors on alert at Ellington AFB and NAS New Orleans; the 20th RCC or the Tyndall BNCC could initiate scramble of interceptors at Tyndall AFB.⁴

(U) The two ADC radar sites, Z-248 and Z-249, became operational on 31 December 1972 as scheduled.⁵

1. Msg, CSAF to ADC, et al., XOO 071642Z September 1972 (657).
2. DF, NOPS to NHCS, NHCR, "Revised Region Area of Responsibility," 2 October 1972; Msg, CINCNOAD to 20 NR, ADC, NHCR 031435Z October 1972 (4X657).
3. Hq 20 NR, Special Order G-34, 4 October 1972 (4).
4. ADC Operational Employment Plan for Air Defense of the Southern United States, Revised 2 October 1972 (657).
5. NOPS Historical Report, November-December 1972 (959.3).

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SOUTHERN AIR DEFENSE FORCES AND FACILITIES ADDED/PROGRAMMED

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26th NORAD REGION

20th NORAD REGION

- LEGEND**
- ★ NORAD REGION CONTROL CENTER (NRCC)
 - ▲ MANUAL NORAD CONTROL CENTER (MNCC)
 - RADAR SITE
 - ☐ FIGHTER INTERCEPTOR ALERT BASE

OPERATIONAL FACILITIES

6 OCT 72: HOUSTON MNCC
RADAR SITES Z-240, Z-241, Z-242, Z-246
ALERT BASES ELLINGTON, NEW ORLEANS, TYNDALL

31 DEC 72: RADAR SITES Z-248, Z-249

PROGRAMMED FACILITIES

JUN 73: RADAR SITES Z-243, Z-244, Z-245, Z-247
ALERT BASE DAVIS-MONTHAN

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These sites and the four FAA radars, Z-240, Z-241, Z-242, and Z-246, accounted for the total of six new radar sites that were added to the NORAD system during 1972. The 20th NR was to be assigned an additional FAA radar (Z-243) and the 26th would be assigned three FAA radars (Z-244, Z-245, and Z-247) in 1973.

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*Still classified
per NJ3, Navg 99
letter*

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1. CONAD Command History, 1971, pp 58-59.
 2. Ibid.
 3. Msg, 671 Radar Sq to ADC, 282020Z April 1972 (302.1); Msg, 671 Radar Sq to ADC, 052020Z May 1972 (302.1).
 4. Pocket Veto Phase II Test Report, October 1972 (NOAD-E Files).

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SECTION III - AIRBORNE EARLY WARNING
AND CONTROL (AEW&C) FORCE

FORCE STATUS

(U) The EC-121 force consisted of one wing, the 552d AEW&C Wing which had two squadrons, the 963d and

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1. Pocket Veto Phase II Test Report, October 1972 (NOAD-E Files).
 2. Ibid., Interview, Mr. Shircliffe with Major R. M. Adams, NOAD-E, 6 February 1973.
 3. Interview, Mr. Shircliffe with Major R. M. Adams, NOAD-E, 6 February 1973.
 4. Ibid.

964th, at McClellan AFB, California. The wing also had three detachments, one at McCoy AFB, Florida; at Keflavik, Iceland; and in the Republic of Korea. The wing had an authorized total of 18 EC-121 aircraft and 6 additional aircraft in a not operationally authorized status, for a total of 24 as of 31 December 1972.¹ The map following shows the location of CONUS AEW&C wartime stations and bases.² Twelve of the wing's aircraft were outside the CONUS-- nine in the detachment in the Republic of Korea and three in Iceland--at the end of CY 1972.

79th AIR FORCE RESERVE SQUADRON

(u) (S) The 79th Military Airlift Squadron, an Air Force Reserve unit based at Homestead AFB, Florida, was redesignated the 79th AEW&C Squadron in 1971.³ This new Reserve squadron was assigned seven EC-121 aircraft and began training under the 552d AEW&C Wing.⁴ The 79th was to be assigned to the 552d upon federal mobilization or when the President ordered the squadron to extended active duty;⁵ however, the 79th was not expected to become operational until about the middle of CY 1973.⁶

(u) (S) The wartime mission of the 79th was to be manning of East Coast stations. Hq NORAD stated that it considered this mission appropriate because

1. Interview, Mr. Shircliffe with Major R. M. Adams, NOAD-E, 6 February 1973.
2. (U) Random manning of peacetime stations ended in 1969. For details, see CONAD Command History, 1969, pp 110-111.
3. (U) This was the first such unit to receive a CONUS AEW&C mission.
4. History of ADC, FY 1971, pp 300-301.
5. ADC SO G-178, 4 August 1971 (728).
6. Msg, Hq NORAD to ADC, et al., NOAD-E 112030Z July 1972 (302.12).

AIRBORNE EARLY WARNING & CONTROL STATIONS

31 December 1972



★ PEACETIME BASE
△ WARTIME BASE
➔ WARTIME STATION

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CONFIDENTIAL

UNCLASSIFIED

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the 552d wing detachment at McCoy had too few aircraft (four) to adequately support the five East Coast stations that would be manned in wartime.¹ Hq NORAD further stated that in peacetime anything beyond random station manning for training was not feasible for the 79th.

1. Msg, Hq NORAD to ADC, et al., NOAD-E 112030Z July 1972 (302.12).

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AIR DEFENSE RADAR AND AEW&C STATIONS

	1 JANUARY 1972		1 JULY 1972		31 DECEMBER 1972	
LONG RANGE RADAR SITES						
CONUS						
USAF ADC	57		57		59	
FAA	1	<u>58</u>	1	<u>58</u>	5	<u>64</u>
CANADA						
CF ADC	28	<u>28</u>	28	<u>28</u>	28	<u>28</u>
ALASKA						
USAF AAC	13	<u>13</u>	13	<u>13</u>	13	<u>13</u>
TOTAL		<u>99</u>		<u>99</u>		<u>105</u>
HEIGHT FINDER RADARS						
USAF ADC	81		81		83	
CF ADC	54		54		54	
USAF AAC	9		9		9	
TOTAL		<u>144</u>		<u>144</u>		<u>146</u>
AEW&C STATIONS						
SOUTHERN FLORIDA	1		1		1	
EAST COAST	4		4		4	
WEST COAST	5		5		5	
TOTAL		<u>10</u>		<u>10</u>		<u>10</u>
DEW LINE STATIONS		<u>31</u>		<u>31</u>		<u>31</u>

SOURCE: NORAD Forces and Program Change Summary (NFPCS); Mr. B. Patterson, ADC/DOKA, 8 February 1973.

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CHAPTER IV

AIR DEFENSE INTERCEPTOR
AND MISSILE FORCE

SECTION I - INTERCEPTOR FORCE

FORCE CHANGES

STATUS SUMMARY

(u) (X) The 31 December 1971 NORAD interceptor force consisted of 15 regular squadrons (11 F-106s, 3 CF-101s, and 1 F-4) and 15 Air National Guard (ANG) squadrons (9 F-102s and 6 F-101s). There were 30 squadrons equipped with aircraft assigned to the NORAD force at the end of CY 1972 (see map following), consisting of 13 regular squadrons (9 F-106s, 3 CF-101s and 1 F-4) and 17 ANG squadrons (9 F-102s, 6 F-101s and 2 F-106s), plus 1 ANG squadron that had no aircraft.

(u) (X) The following changes in the status of the interceptor force occurred in 1972:

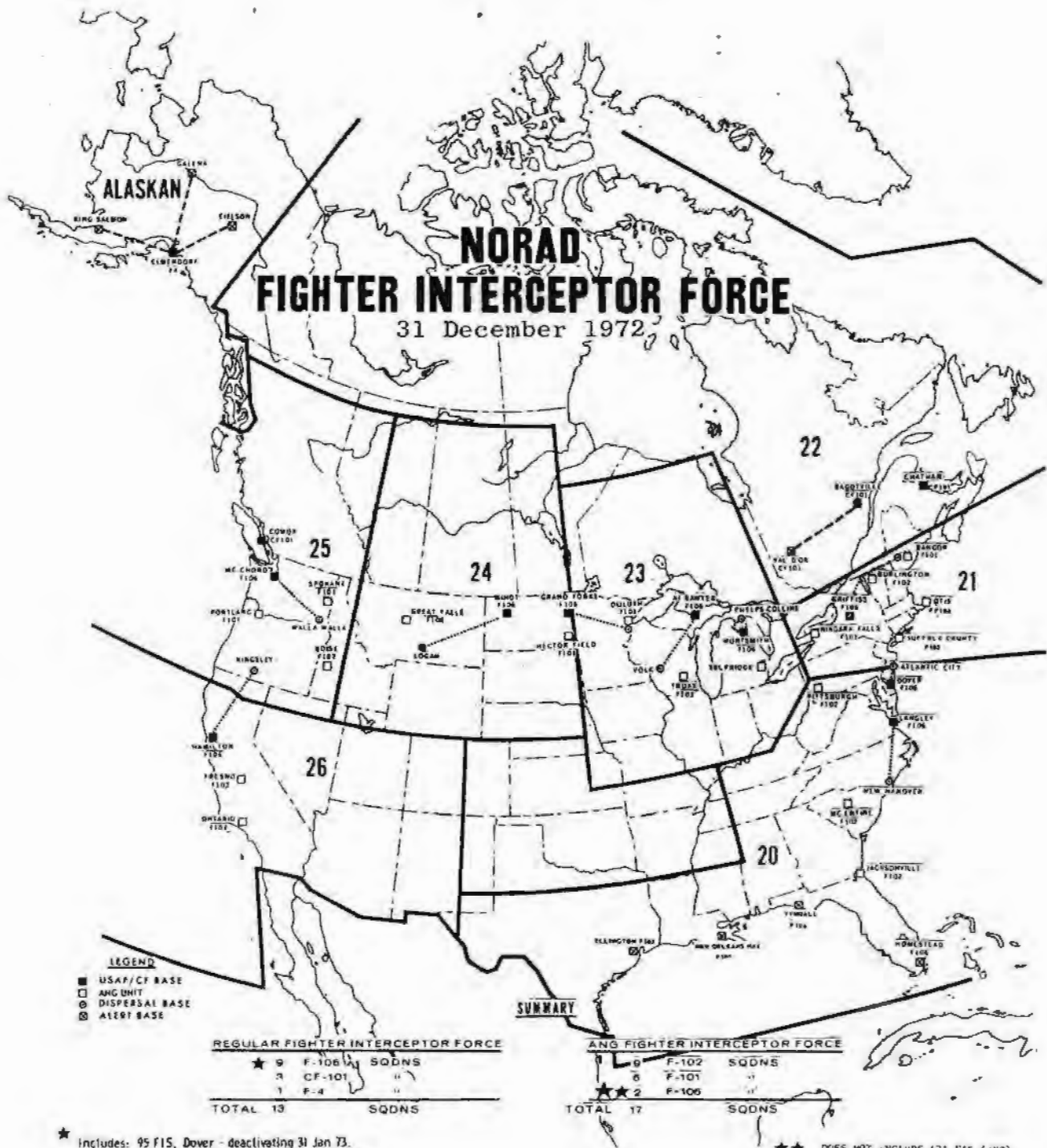
1. Two regular F-106 squadrons (83d and 319th) were inactivated. This decreased the regular squadron total to 13.

2. Two additional regular F-106 squadrons (2d and 95th) were scheduled to be inactivated in FY 3/73. Both were assigned a "DE" Activity Code (In Process of Deactivating) and their Alfa (peace-time) alert requirement was reduced to a 3-hour commitment on 1 October 1972. Both squadrons were available for use by their region commanders if necessary and, therefore, both are included in the NORAD for total for end CY 1972.

3. Two ANG squadrons (101st and 186th) were equipped with F-106s from the inactivated squadrons.

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The 186th was already assigned to air defense and the 101st was added to the NORAD force. This increased the ANG squadrons to 16.

4. A third ANG squadron (102d) was assigned to air defense on 4 December 1972 and began receiving F-102s from the 186th Fighter Interceptor Squadron (FIS), which was converting to F-106s. The 102d FIS had 11 F-102s by end CY 1972. The addition of this squadron increased the NORAD ANG squadrons to 17.

5. A fourth ANG squadron (171st) was added to the NORAD force during July 1972, but had no aircraft by the end of CY 1972. It was scheduled to receive F-106s from the 2d FIS during March 1973.

(u) (S) In addition to the squadrons listed above, there were three alert detachments added on 6 October 1972 in the Southern Defense (pages 49 and 82).

F-106 ANG CONVERSION

(u) (S) FY 1972-1973. The decision was made at USAF/JCS level in 1971 to inactivate four regular F-106 squadrons and transfer the aircraft to the ANG, two in FY 1972 and two in FY 1973. The ADC squadrons involved, the date of release from or reduction of NORAD alert commitment, and the ANG units to receive their aircraft were as follows:

<u>ADC SQUADRONS</u>	<u>RELEASE FROM NORAD ALERT</u>	<u>ANG UNITS</u>
319th FIS, Malmstrom AFB, MT	1 April 1972	186th FIS, Great Falls IAP, MT
83d FIS, Loring APB, ME	1 June 1972	101st FIS, Otis AFB, MA
2d FIS, Wurtsmith AFB, MI	1 October 1972 ¹	171st FIS, ² Selfridge ANGB, MI
95th FIS, Dover AFB, DE	1 October 1972 ¹	119th FIS, ³ Atlantic City Aprt, NJ

1. (u) (S) The NORAD Alfa alert commitment of the 2d and 95th FISS was reduced to 3 hours on this date.
2. (u) (S) NORAD assumed operational control of the 171st FIS on 22 July 1972, however, the squadron did not get its interceptor aircraft during 1972. It was scheduled to receive F-106s during March 1973.
3. (u) (S) The 119th Tactical Fighter Squadron (TFS) was scheduled to be placed under NORAD operational control on 27 January 1973. The squadron would be designated the 119th FIS.

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(U) When the FY 1972-73 conversion was completed, the regular squadrons in the NORAD force would be reduced by 4 and the ANG squadrons increased by 4, leaving the total at 30 (11 regular FISs and 19 ANG FISs). Three of the four ANG units listed above to receive F-106s were newly assigned to air defense. The 101st FIS had been a tactical fighter squadron equipped with F-100s. The 171st was a tactical reconnaissance squadron equipped with RF-101s and the 119th was a tactical fighter squadron equipped with F-105s. The 186th FIS was equipped with F-102s which were going to the 102d FIS, Suffolk County Airport, New York.

(u) (~~S~~) FY 1974. USAF Program Objective Memorandum (POM) FY 1974-78, 30 May 1972, proposed transfer of another regular F-106 squadron to the ANG and inactivation of an ANG F-102 squadron in FY 1974. CINCONAD expressed his objections to this action to the Chairman of the JCS, stating in part that:¹

"I do not support the USAF Program Objective Memorandum (POM) FY 74-78 which proposes transfer of another active F-106 squadron to the ANG, phase out of an F-102 squadron As a consequence, I have separately requested the CSAF to reconsider these proposals in view of their adverse impact on this command's potential for mission accomplishment I consider, as a minimum, seven regular USAF squadrons essential for maintenance of combat readiness for weapons controllers, responsiveness, training, and a base for modernization The proposed transfer of a fifth F-106 squadron to the ANG and the loss of an F-102 squadron would further dilute our ability to perform the air defense mission and would hamper our efforts to divert assets for building up the southern area defense."

1. Msg, CINCONAD to JCS, CPPP 101631Z July 1972 (657).

(S) This F-106 squadron transfer and F-102 squadron inactivation were not approved by the Secretary of Defense, however. In a Program Decision Memorandum dated 31 August 1972, on the USAF POM FY 1974-78, the Secretary directed retention of the current force mix and level of interceptors.

INTERCEPTOR DISPERSAL

USAF ADC DOBs

(u) (S) Background. At the end of CY 1971, ADC had 11 Dispersed Operating Bases (DOBs), one for each of its 11 FISSs. Only one of these DOBs had a full capability, termed Phase III; the other DOBs had a lesser capability, termed Phase I/III. A Phase III DOB normally maintained continuous alert and had sufficient supplies and personnel to support four wartime sorties per aircraft for one-third of the squadron UE. At Phase I/III DOBs, only refueling turnaround and emergency wartime armament were available. Personnel were greatly reduced. No continuous alert was maintained. The one Phase III DOB was Kingsley Field, Oregon, which was the DOB for the 84th FIS, Hamilton AFB, California, and the 190th ANG FIS, Boise Airport, Idaho. The 84th FIS maintained two aircraft on alert at Kingsley Field until 1 July 1972 when alert requirements were lowered (see pages 78 to 82).

(u) (S) Inactivation of CONUS DOBs. Two ADC DOB detachments were inactivated along with the two ADC squadrons (page 66). The inactivated DOB detachments were at Bangor IAP, Maine (Detachment 1, 83d FIS) and Spokane IAP, Washington (Detachment 1, 319th FIS).¹

(u) (S) Bangor IAP was reestablished as a DOB, however, in a move of the 49th FIS DOB detachment from Otis AFB, Massachusetts, on 15 August 1972.² Otis

1. (U) The 319th FIS and Detachment 1 were inactivated 30 April 1972 and the 83d FIS and Detachment 1 on 30 June 1972.

2. ADC SO G-185, 2 August 1972 (728).

AFB was being transferred to the ANG (the base became the Otis Air National Guard Base (ANGB)). Relocation of the 49th FIS's detachment from Otis to Loring AFB, Maine, had initially been programmed.¹ However, CINCONAD objected to having a DOB at Loring because it was a Strategic Air Command (SAC) Base.² Hq USAF approved the use of Bangor IAP instead.³ Thus Otis ANGB and Spokane IAP were eliminated as DOBs.

(u) (S) At the end of CY 1972, nine DOBs remained in the CONUS as shown on the map on the following page. Kingsley Field remained a Phase III DOB and the other DOBs remained in Phase I/III status.

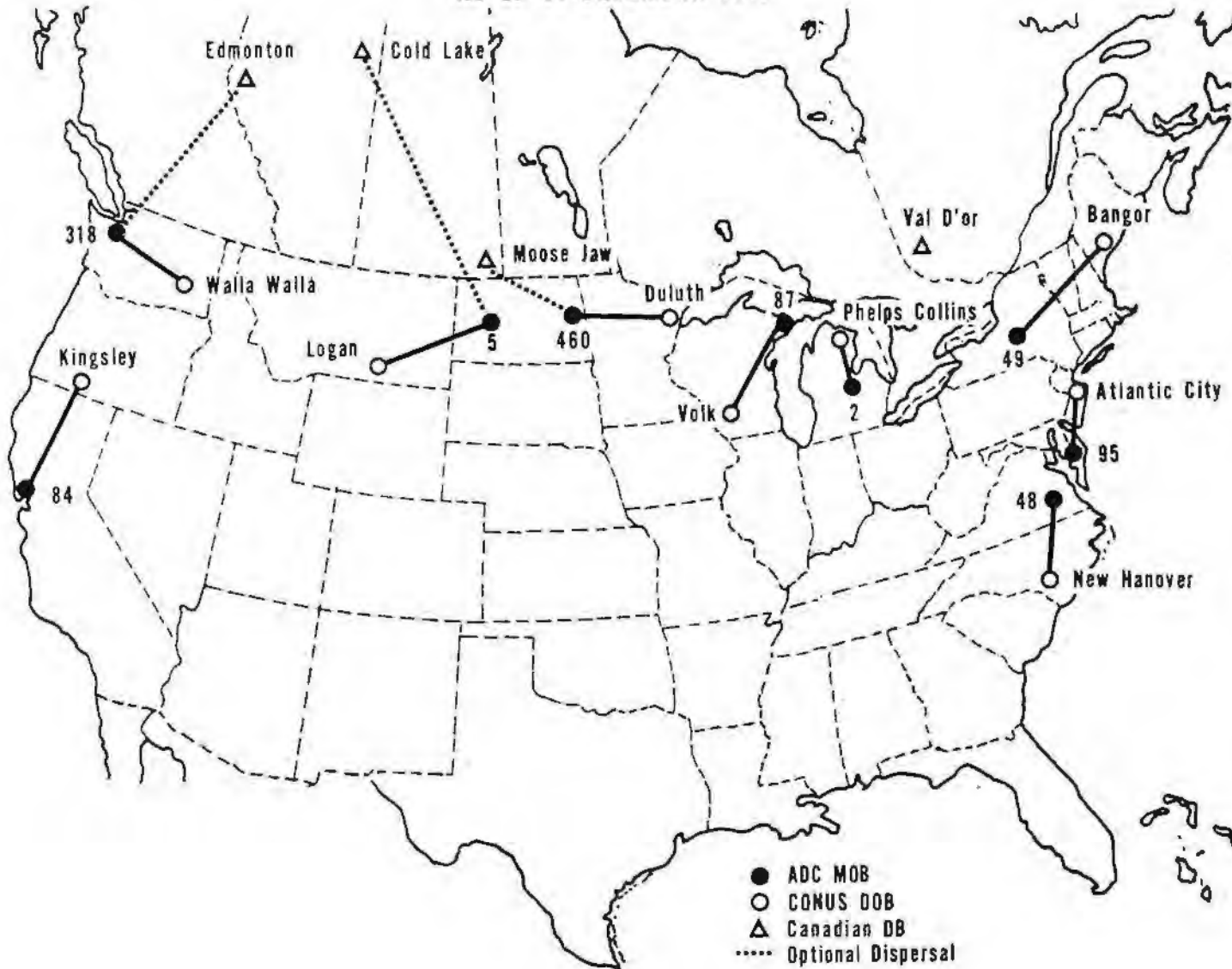
(u) (S) Hq NORAD-Directed DOB Actions. An Ad Hoc Committee at Hq NORAD studied the impact of interceptor reductions on the dispersal program.⁴ CINC NORAD approved a number of actions concerning DOBs and these were forwarded to ADC for implementation.⁵ Hq NORAD directed the following:

1. Each regular ADC squadron was to have a Phase I/III DOB within the CONUS and Kingsley Field was to be changed to a Phase I/III DOB.

2. Numerous Phase I⁶ DOBs were to be designated in the CONUS and ADC was to be tasked to

-
1. USAF PAD 72-4, 1 April 1972.
 2. Msg, ADC to CSAF, XP 221605Z June 1972 (420).
 3. Msg, ADC to CINCONAD, XPC 201550Z July 1972 (420).
 4. Memo, NOPS to CINC, C/S, "Ad Hoc Committee on NORAD Interceptor Force Posture (NOPS Memorandum 25 May 1972)," 28 June 1972 (420).
 5. Ltr, Hq NORAD to USAF ADC, "Ad Hoc Committee on NORAD Interceptor Force Posture," 11 July 1972 (420).
 6. (S) A Phase I DOB would have only fuel, engine start capability and communication to a NORAD command and control facility and was for use in wartime only.

CONUS REGULAR FORCE DISPERSAL PLAN
AS OF 31 DECEMBER 1972



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coordinate with CF ADC to identify Canadian facilities for use as Phase I DOBs.

3. CFS Val d'Or, Quebec, was to remain a Phase III DOB; CFB Edmonton (Namao), Alberta; CFB Cold Lake, Alberta; and CFB Moosejaw, Saskatchewan, were to be designated as Phase I DOBs.

4. When the 2d FIS was phased out, its DOB (Phelps-Collins AFB, Michigan) was to be used by the 87th FIS. The latter's DOB (Volk Field, Wisconsin) was to be used by the 460th FIS and its DOB (Duluth IAP) was to be closed.

(u) (X) ADC's Commander, Lieutenant General Thomas K. McGehee, provided the status of the NORAD-directed actions on 27 December, noting that he had delayed decisions on these matters in hopes that the fiscal situation would improve. It had not, however. General McGehee stated the following:¹

1. Each ADC F-106 squadron had a Phase I/III DOB except for the 84th FIS which had to retain a Phase III DOB at Kingsley Field.

2. ADC's divisions were identifying numerous Phase I DOBs for inclusion in NORAD directives.

3. ADC was reconfirming with the Air Staff the need for Canadian Phase I DOBs and requesting that the issue be part of the agenda for the next meeting of the Permanent Joint Board on Defense in February 1973.

4. Phelps-Collins would have to be inactivated along with the 2d FIS, and the 460th FIS DOB would have to remain at Duluth IAP because of the fiscal situation.

ANG DISPERSAL

(u) (X) Five ADC ANG squadrons (four in high threat target areas and one, the 190th, Boise, Idaho, behind the radar coverage) were assigned dispersal bases.

1. Ltr, ADC to CINCNORAD, "Ad Hoc Committee on NORAD Interceptor Force Posture," 27 December 1972 (420).

CINCNORAD OPORD 3000, 15 June 1972, directed four of these squadrons to maintain dispersal plans which provided for movement of eight interceptors each to the designated dispersal bases. The 190th FIS was to plan to move 10 interceptors to its dispersal base. Adequate support was also to be moved to support four wartime sorties per aircraft. The squadrons with dispersal bases assigned and the bases assigned were as follows:

<u>FIS</u>	<u>HOME BASE</u>	<u>DISPERSAL/DEPLOYMENT BASE</u>
146th	Gtr Pittsburgh, PA	Mansfield MAP, OH
159th	Jacksonville IAP, FL	Savannah MAP, GA
186th	Gt Falls IAP, MT	Logan Fld, MT
190th	Boise Aprt, ID	Kingsley Fld, OR
196th	Ontario IAP, CA	Edwards AFB, CA

(u) (S) In addition to the plans for these units, all ADC ANG units were to maintain plans for rapid deployment of all possessed UE interceptors, with support, to meet pre-attack or post-attack NORAD defense posture requirements. All units were to be capable of executing deployment within 12 hours after receipt of DEFCON 1 or the order to mobilize. Movement of support was to be by ANG air/ground transportation where available. Additional required airlift was to be requested from Hq NORAD.

EDICT PROCEDURES

(u) (S) From 1967 to 1972, NORAD had what was, in effect, a second or additional dispersal plan, termed EDICT which was an acronym for Evacuation and Dispersal of Interceptors from Critical Targets. As stated in NORAD Operation Order (OPORD) 300N-70, 15 April 1970, CINCNORAD could implement EDICT at DEFCON 3 or above if he judged such action warranted by the submarine missile or Fractional Orbital Bombardment System (FOBS) threat. Armed, operationally-ready interceptors and AEW&C aircraft were to be evacuated at implementation from designated critical bases (nine bases considered to be lucrative targets for a pre-ICBM submarine-launched missile or FOBS attack)

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and recovered at preselected, less critical ADC or ANG main or dispersal bases or Canadian deployment bases if authorization had been given. The number of aircraft evacuated was to be determined by tactical requirements and available facilities.

(u) (S) A study group was formed at Hq NORAD in May 1971 of representatives from four regions, Hq ADC and Hq NORAD to examine weapons survival.¹ It was the unanimous conclusion of the study group that EDICT was outdated and that it reduced, rather than improved, interceptor survivability. The study report pointed out that EDICT was established in 1967 when only SAC bases were considered likely targets for the pre-ICBM threat.² However, by the time of this study, the Soviet threat had grown to the extent that all main and dispersal bases could be targeted, so moving interceptors from one base to another gained nothing. Furthermore, moving interceptors out of nine bases resulted in there being nine fewer bases used and therefore a greater concentration of interceptors on other bases. No support was provided for aircraft moved under EDICT which created problems for the bases which received them.

(u) (S) The ADC Commander questioned the value of EDICT in September 1971 during an exercise. Hq ADC recommended to Hq NORAD the following month that EDICT be eliminated.³

(u) (S) CINCNOAD approved elimination of EDICT on 3 April 1972.⁴ EDICT was not included in the operation order that superseded 300N-70, CINCNOAD OPOD 3000, 15 June 1972.

1. DF, DCS/Operations to C/S, CINC, "Elimination of EDICT from NORAD OPOD 300N-70 (U)," 20 December 1971 (420).
2. NOPS, Fact Sheet, "EDICT (U)," Attachment, 25 May 1971 (420).
3. Ltr, Hq ADC to Hq NORAD, "Elimination of EDICT from NORAD OPOD 300N-70, Annex E (U)," 12 October 1971 (420).
4. DF, DCS/Operations to C/S, CINC, "Elimination of EDICT from NORAD OPOD 300N-70 (U)," 31 March 1972 (420); NOPS Historical Report, March-April 1972 (959.3).

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CF-101 SQUADRONS

AIRCRAFT EXCHANGE

(u) (S) Background. A project, termed Peace Wings, was started in 1970 to exchange Canadian CF-101s for USAF F-101s being phased out of the active inventory. Fifty-eight aircraft were to be exchanged (48 F-101Bs for 48 CF-101Bs and 10 F-101Fs for 10 CF-101Fs) and Canada was to purchase 8 additional F-101Bs. Peace Wings would fulfill three needs:

1. Raise the CF Air Defence Command (ADC) inventory from 58 to 66 CF-101s;
2. Provide aircraft with an improved fire control system; and
3. Modify the autopilot system to improve flight control and system reliability.

The F-101s for Canada were refurbished and modified at Ling-Tempco-Vaught Electro System, Greenville, South Carolina, and Bristol Aerospace, Ltd., Winnipeg, Manitoba. This work required approximately 70 days per aircraft. Acceptance and calibration at base level required another 15 days. CF ADC CF-101s were sent to the United States for storage on a phased schedule.

(u) (S) Conversion Program Completion. The 66 Peace Wings F-101s were allocated as follows:

28 to Bagotville, Quebec, 425 All Weather Fighter (AW(F)) Squadron (18 UE plus 1) and 410 Operational Training Squadron (8 UE plus 1).

19 to Chatham, New Brunswick, 416 AW (F) Squadron (18 UE plus 1)

13 to Comox, British Columbia, 409 AW (F) Squadron (12 UE plus 1).

6 for rotation for testing, modification and major maintenance.

(S) Re-equipment with Peace Wings aircraft was originally scheduled for completion in September 1971.

The program fell behind, however, because of delays at Ling-Temco-Vaught and in squadron acceptance. Fifty-six aircraft had been delivered by 31 December 1971. All 66 aircraft had been delivered to CF ADC units as of 22 February 1972.¹

PROPOSED REDISTRIBUTION OF CF ADC INTERCEPTORS

(u) (s) The Canadian Government announced in its White Paper, August 1971, that it wanted to enlarge the area in which intruders in Canadian airspace could be intercepted and identified, and to have normal peacetime identification carried out by Canadian aircraft. CF ADC submitted a study to National Defence (ND) Hq on 7 December 1971 that included a recommendation to redistribute ADC's aircraft to meet White Paper objectives.² The CF ADC Commander briefed the Minister of National Defence in April 1972 on the proposed redistribution and also on the proposed use of CF-104 and CF-5 aircraft as NORAD augmentation aircraft. The Minister directed that a study be made of all aspects of the redistribution and use of CF aircraft and be submitted to the Chief of the Defence Staff (CDS).

(u) (s) CF-101 squadrons were currently located at three bases:

1. Bagotville, Quebec (425 AW (F) Sq)
2. Chatham, New Brunswick (416 AW(F) Sq)
3. Comox, British Columbia (409 AW(F) Sq)

The proposal of CF ADC that was presented to the Minister of National Defence in April 1972 included the following (see map on page 77):³

1. NORAD Management Program Report (U), 3d Quarter FY 1972, 31 March 1972 (709).
2. CF Hq, CDS Study Directive S6/72 Air Defence Command Future Posture, 11 July 1972 (403).
3. Ibid.; DF, NPAP to NHCS, NHCR, "CDS Study Directive S6/72, ADC Future Posture-Report of Meeting in Ottawa," 18 August 1972 (403).

1. Base 416 Sq with 425 Sq at Bagotville to save maintenance costs.
2. Establish a detachment of four aircraft each at Chatham and Val d'Or with aircraft from Bagotville. The Bagotville UE would be increased from 26 to 43.
3. Establish a detachment of four aircraft at Cold Lake with aircraft from Comox. The Comox UE would be increased from 12 to 17.
4. Deploy interceptors at irregular intervals to Winnipeg, Portage la Prairie, and Moosejaw.
5. Support the Soviet aircraft identification operation (Cold Shaft) out of Goose Bay or Gander as required.

(u) (s) The CF ADC proposal is summarized below:

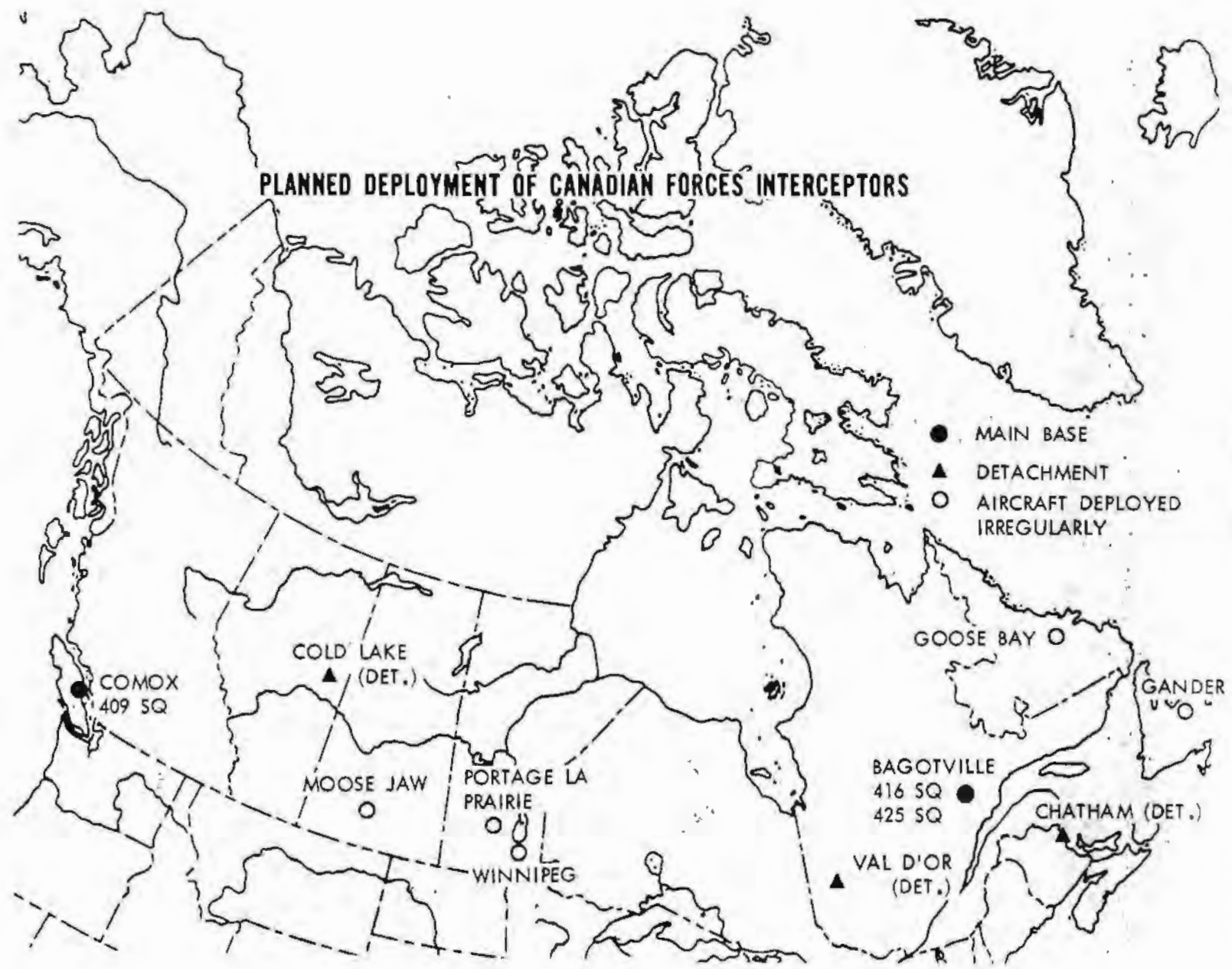
<u>BASES</u>	<u>CURRENT STATUS</u>		<u>PROPOSED STATUS</u>	
	<u>UE</u>	<u>ALFA 5/15 ALERT</u>	<u>UE</u>	<u>ALFA 5/15 ALERT</u>
Comox	12	2 acft	17*	2 acft
Cold Lake	0	0	4 (Det)	2
Bagotville	26	4	43*	4
Val d'Or	0	0	4 (Det)	2
Chatham	18	4	4 (Det)	2
Winnipeg/Portage/ Moosejaw	0	0	As Required	
Goose/Gander	As Required		As Required	
TOTALS	56	10	60	12

*The detachment(s) would be supported from the UE total.

(u) (s) ND Hq requested comment from Hq NORAD on the CF ADC proposal. The redistribution would increase UE by four aircraft and Alfa alert by two aircraft. Hq NORAD replied on 21 August that CINC-NORAD supported the proposed redistribution because

PLANNED DEPLOYMENT OF CANADIAN FORCES INTERCEPTORS

- MAIN BASE
- ▲ DETACHMENT
- AIRCRAFT DEPLOYED IRREGULARLY



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it improved NORAD's peacetime posture, would not adversely affect deployment plans, and increased flexibility by exercising additional bases.¹ No approval was given by the end of CY 1972 for the redistribution plan. The plan was still being studied.²

FIGHTER-INTERCEPTOR ALFA
READINESS REQUIREMENTS

REQUIREMENTS AT END OF CY 1971

(u) (s) The requirements in effect at the end of CY 1971 were established by Interim NORAD/CONAD Regulation 55-3, 23 August 1971 (page 79). This regulation was issued on an interim basis to try out changes in the requirements for USAF ADC squadrons.

(u) (s) The goal of preceding regulations prescribing readiness requirements and the goal of this August 1971 regulation was to place one-third of each USAF ADC squadron's authorized aircraft on alert under Alfa readiness conditions. The number actually on alert from day-to-day prior to this regulation had fluctuated greatly because the requirement was tied to each squadron's combat capability or "C" rating. The interim regulation dropped the allowance for adjustment due to changes in C-rating and established a firm minimum Alfa requirement of six aircraft for each USAF ADC squadron (under normal operations - "OP") or one-third of each squadron's UE. The one squadron with a Phase III DOB, the 84th FIS (page 68), was to maintain two of its six required interceptors on 15-minute alert at the DOB.

(u) (s) CF ADC squadrons were required to maintain, except for the identification (ID) function, the total C-rating requirement on 1-hour readiness posture. ANG squadrons with an OP activity code were required to maintain four aircraft on 15-minute alert. In the

1. Msg, Hq NORAD to CANFORCEHED, NPPP 212225Z August 1972 (403).
2. Interview, Mr. Buss with Lt Col P. E. Diamond, NOAD, 20 December 1972.

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INTERIM NORAD/CONAD REGULATION 55-3
(23 August 1971)

ALFA READINESS STATE

USAF ADC FIS REQUIREMENTS

Activity Code	Minimum Requirements
OP	<ul style="list-style-type: none">a. 2 Interceptors conventionally armed on 5-minute posture.2 Interceptors conventionally armed on 15-minute posture.2 Interceptors fully armed on 15-minute posture.<u>6 Total Requirement</u> <ul style="list-style-type: none">b. Units assigned a Phase III DOB will maintain at least two of the six required interceptors on nuclear-armed 15-minute posture at the DOB.c. All remaining OR aircraft on a 3-hour readiness posture.
EX	All OR aircraft on a minimum 3-hour readiness posture.
RO	Same as OP, except that the 5-minute or 15-minute readiness requirement is reduced by the number of aircraft deployed or devoted to the special mission.
TR	All OR interceptors on 3-hour readiness posture.
DE	All interceptors on 3-hour readiness posture, unless released.
EQ	Same as OP, unless released by region commander.

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Alaskan Region, normally all interceptors under the operational control of the region commander were to be maintained on 15-minute or less alert under Alfa, Commander-in-Chief, Alaska (CINCAL) normally assigned six aircraft to the operational control of the Alaskan Region.

REVISION TO MEET PBD 294 REQUIREMENTS

(u) (S) The firm, six-interceptor requirement per USAF ADC squadron, established by Interim NORAD/CONAD Regulation 55-3, lasted only until 1 July 1972. This requirement was scrapped to meet a 50 percent reduction in U.S. manned interceptor alert directed by Program Budget Decision 294, 9 December 1971.

(u) (S) The interim regulation was superseded by NORAD/CONAD Regulation 55-3, 1 July 1972. The new regulation established the following alert requirements for USAF ADC squadrons. Three squadrons were to maintain four aircraft on 15-minute or less alert and the remaining ADC squadrons were to maintain two interceptors on 15-minute or less alert (see table on page 81).¹ The requirement to maintain the four aircraft on alert would be rotated among all the squadrons. The first squadrons tasked to maintain the four-aircraft alert were the 2d FIS, Wurtsmith AFB, Michigan; 95th FIS, Dover AFB, Delaware; and 460th FIS, Grand Forks AFB, North Dakota.² The squadron tasked with the southern Florida commitment was to maintain two aircraft on 5 minutes and two on 15 minutes at Homestead AFB, Florida.

(u) (S) The new requirements reduced the total USAF ADC aircraft on alert by just over half. Prior to 1 July 1972, the requirement was for each of ADC's 9 squadrons to place 6 aircraft on alert under OP status, for a total of 54 aircraft. The new regulation required 4 squadrons (including the squadron holding alert at Homestead) to place 4 aircraft on

1. (u) (S) The requirement for the 84th FIS to maintain alert at the one Phase III DOB, Kingsley Field, was dropped.
2. Msg, Hq NORAD to Regions, NOAD 282100Z June 1972 (420).

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NORAD/CONAD REGULATION 55-3
(1 July 1972)

ALFA READINESS STATE
Interceptor Minimum Requirements

(u)
1. ~~(X)~~ Unless otherwise authorized by CINC/NORAD/CINCONAD, interceptor units will maintain at their normal operating locations the number of aircraft on the readiness postures as indicated below.

a. USAF ADC FISq Requirements.

(1) The FISq tasked with the southern Florida commitment will maintain the following readiness posture.

(a) Homestead AFB - two interceptors conventionally armed, 5-minute readiness posture; two interceptors conventionally armed, 15-minute readiness posture.

(b) Main Operating Base - as required by region commander.

(c) All remaining OR interceptors will be maintained on a 3-hour readiness posture.

(2) The remaining USAF ADC FISqs will maintain the number of aircraft as indicated below.

(a) Three FISqs will maintain four interceptors on 15-minute or less, two of which will be fully armed. All remaining OR interceptors will be maintained on a 3-hour readiness posture. The above alert posture will be designated to three FISqs on a rotational basis as unit operational commitments dictate.

(b) All other FISqs will maintain two interceptors on 15-minute or less. All remaining OR interceptors will be maintained on a 3-hour readiness posture.

b. ANG FISq Requirements. Two interceptors on 15-minute or less.

NOTE: (Reference 1a(2)(a), 1a(2)(b), and 1b above.) Region commanders will designate the number of interceptors conventionally armed on 5-minute identification posture.

c. ANR FISq Requirements. The Alaskan NORAD Region (ANR) will normally maintain six interceptors, under the operational control of the Alaskan NORAD Region Commander, on a 15-minute or less identification readiness posture at bases designated by ANR.

d. CF ADC AW (F) Sq Requirements.

(1) 18 U.E. Aircraft. Two aircraft on 5-minute and two aircraft on 15-minute conventionally armed posture.

(2) 12 U.E. Aircraft. Two aircraft on 5-minute conventionally armed posture.

(3) All remaining OR interceptors on 3-hour readiness posture.

(u)
2. ~~(X)~~ ALFA Alert Deviations. Except for problems of unforeseen nature, the following activity codes (OT, EX, CV, DE, RO, TR (ANG only)), will permit interceptor units to reduce the number of aircraft on ALFA readiness posture.

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alert (a total of 16) and 5 squadrons to place 2 aircraft on alert (a total of 10), for an overall total of 26.

(u) (S) The ANG requirement was cut exactly in half, from four aircraft to two aircraft on 15 minutes for each squadron. The Alaskan NORAD Region (ANR) requirement was not changed at this time (see page 85). The new regulation stated that ANR normally would maintain six interceptors on 15-minute alert, CF ADC alert remained the same as established in February 1972 (see section on page 87).

(u) (S) A comparison of the number of aircraft required to be on Alfa alert under normal operations follows:

	<u>PRIOR TO 1 JULY 1972</u>			<u>EFFECTIVE 1 JULY 1972</u>		
	<u>No. Sqs</u>	<u>Alert Acft Ea</u>	<u>Total</u>	<u>No. Sqs</u>	<u>Alert Acft Ea</u>	<u>Total</u>
USAF ADC	9	6	54	4	4	16
				5	2	10
						26
ANG	16	4	64	16	2	32
ANR	1	6	6	1	6	6
CF ADC	2	4	8	2	4	8
	1	2	2	1	2	2
			10			10
TOTALS	29		134	29		74

ALERT ESTABLISHED TO IMPROVE AIR DEFENSE OF THE SOUTHERN UNITED STATES

(u) (S) As part of a program to improve air defense along the southern U.S. border, alert was established at three additional bases on 6 October 1972 (map, page 57).¹ Two aircraft were placed on around-the-clock 5-minute alert at Tyndall AFB, Florida;

1. (U) For background, see pages 49 to 58, Chapter III.

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Ellington AFB, Texas; and New Orleans NAS, Louisiana, by newly-established alert detachments, as follows:

<u>Unit</u>	<u>Alert Base</u>	<u>Aircraft</u>
4757th Air Defense Sq (IWS), Tyndall AFB, FL	Tyndall AFB, FL	F-106
147th Fighter Gp (ANG), Ellington AFB, TX	Ellington AFB, TX	F-102
125th Fighter Gp (ANG), Jacksonville IAP, FL	New Orleans NAS, LA	F-102

This added a total of six aircraft to the NORAD Alfa alert force. Alert was scheduled to be established also at Davis-Monthan AFB, Arizona, in June 1973 by the 144th Fighter Wing (ANG), Fresno MAP, California, with F-102s.

INCREASED READINESS

(u) (s) The CONAD Combat Operations Center (CCOC) verbally declared DEFCON 4 effective 090043Z May 1972 in compliance with a directive from the JCS declaring DEFCON 4 effective at that time.¹ The JCS action followed an announcement to the nation by President Richard M. Nixon that the United States was taking action against North Vietnam, including bombing and mining of harbors, to halt its invasion of South Vietnam. Shortly after the declaration of DEFCON 4, Hq CONAD explained to all region commanders that:²

"CINCONAD has responded to the Commander-in-Chief's determination to terminate the North Vietnam aggressive violation of South Vietnam

1. Interview, Mr. Buss with Lt Col S. W. Miller, COOT, 19 May 1972; Msg, JCS to AIG 939, 7309, 090043Z May 1972 (257).
2. Msg, Hq CONAD to Regions, COOP 091610Z May 1972 (420X257).

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territory as he expressed on national television.

"Actions taken are in accordance with the desire to keep our defensive posture in low key but to insure our mental preparedness for any contingency. Strict compliance with the ALERTCON actions is mandatory with emphasis on not exceeding those specified in this ALERTCON."

(u) (X) Hq CONAD ordered all CONAD interceptor squadrons, except those authorized conversion or deactivation activity codes, to maintain the full Alfa alert (six aircraft per squadron at that time). Hq CONAD stated that units scheduled for exercises or training could continue with these actions, but Alfa alert was to be maintained.

(u) (X) Normal status was resumed with the verbal declaration of DEFCON 5 by the CCOC effective 051635Z July 1972 in response to the JCS declaration of DEFCON 5 on that date.^{1/}

ALERT REQUIREMENTS DURING F-106 MODIFICATION

(u) (X) ADC advised Hq CONAD in July 1971 that modifications to its F-106 fleet had been approved by the Air Force and funded for FY 1973. The modifications were mainly to improve the aircraft's weapons and fire control systems. ADC requested approval of its proposed schedule for putting aircraft through the modification line which was at Hamilton AFB. ADC proposed to modify the aircraft of one squadron at a time. Each squadron would deliver one aircraft each work day until all of its aircraft were delivered. Each squadron would be completed in about six weeks and then another squadron would start. The program was scheduled to begin on 6 July 1972 and be finished on 21 June 1973.

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1. Msg, JCS to AIG 939, 4545, 051641Z July 1972 (257); DF, COOT to CHSE-H, "CONAD DEFCON 5 (U)," 20 November 1972 (257).

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(U) Hq NORAD approved the schedule on 16 August 1971. ADC had to revise the sequence somewhat, however, because of the transfer of aircraft to the ANG. ADC proposed a new schedule to Hq NORAD (the beginning and ending dates were the same) which was approved on 28 February 1972.¹

(u)
(S) Reduction of the alert commitment was required at some point for the squadron undergoing modification. Hq ADC requested that each squadron be released from alert when it was down to six aircraft. Hq NORAD approved on 12 April, directing that requests for release be sent to Hq NORAD for approval on an individual unit basis.²

(u)
(S) Hq NORAD informed all region commanders that a CV (conversion) activity code would be approved when requested for units in this modification.³ Hq NORAD directed that Alfa alert would be reduced when six aircraft or less were possessed and resume when the unit again had seven aircraft or more.⁴

ALASKAN REGION ALERT

(u)
(S) Hq USAF informed Alaskan Air Command (AAC) on 2 August 1972 that five F-4s were to be withdrawn from the one squadron in Alaska, the 43d Tactical

1. Ltr, ADC to Hq NORAD, "Revision to F-106 FY 73 Modification Schedule (U)," 18 February 1972 (403); Ltr, Hq NORAD to ADC, "Revision to F-106 FY 73 Modification Schedule (Your Ltr, 18 Feb 72) (U)," 28 February 1972 (403).
2. Ltr, Hq NORAD to ADC, "Unit Alert Requirements During F-106 Modification Program (Your Ltr, 14 Mar 72) (U)," 12 April 1972 (403).
3. Msg, Hq NORAD to Regions, NOPS 212200Z July 1972 (403).
4. Msg, Hq NORAD to 21st NORAD Region, NOOP 212051Z August 1972 (403); Msg, Hq NORAD to 25th NORAD Region, NOOP 111945Z August 1972 (420).

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Fighter Squadron (TFS), for loan to Pacific Air Forces by 18 August 1972 for an indeterminate period.¹ Commander-in-Chief, Alaska (CINCAL) expressed concern to the JCS, pointing out that the NORAD alert requirement at DEFCON 5 was two aircraft at each of three locations or a total of six aircraft. The JCS replied that they should be advised if the transfer of aircraft seriously degraded Alaskan Command ability to carry out operation plans.²

(u) (S) Alaskan NORAD Region (ANR) advised Hq NORAD that the loss of five F-4s would have a major affect on ANR/AAC mission capability in regard to flying training, NORAD alert, and other requirements.³ ANR stated that during the closure of Galena Airport for resurfacing, the Alfa alert posture had been cut to four aircraft. ANR was now planning to continue Alfa alert at four aircraft because of the loss of the F-4s. Hq NORAD replied that it understood the circumstances and accepted ANR's inability to meet the six-aircraft requirement and that the alert would be four aircraft until the 43d TFS was returned to full UE.⁴ ANR advised that effective 1 September, the alert would be two aircraft at Eielson and two at King Salmon on 10 minutes.⁵

(u) (S) Hq NORAD notified the JCS that it had accepted a reduced alert in Alaska, but that it considered six aircraft to be the minimum necessary to provide for the air defense of the area at DEFCON 5.⁶

1. Msg, CINCAL to JCS, 041705Z August 1972 (402).
2. Msg, JCS to CINCAL, 1905, 121417Z August 1972 (402).
3. Msg, ANR to Hq NORAD, ANDO 192200Z August 1972 (420).
4. Msg, Hq NORAD to ANR, NOPS 291705Z August 1972 (403).
5. Msg, ANR to Hq NORAD, ANDOO-L 201630Z August 1972 (420).
6. Msg, Hq NORAD to JCS, NOPS 291700Z August 1972 (403).

Not being able to meet this requirement made the maintenance of air sovereignty over Alaska nearly impossible, Hq NORAD said. The situation had not changed by the end of CY 1972.¹

CF ADC ALERT POSTURE

(u) ~~(S)~~ CF ADC advised in September 1971 that it would be possible to adopt, as resources permitted, a posture of 2 aircraft on 5 minutes for 409 Squadron (12 UE) and 2 on 5 and 2 on 15 minutes for 416 and 425 Squadrons (both 18 UE).² Hq NORAD approved this posture and its implementation as resources permitted. Interim NORAD/CONAD Regulation 55-3A, 18 February 1972, included in its changes the above CF ADC posture.

(u) ~~(S)~~ The requirements for CF ADC squadrons were not changed in the new regulation of 1 July 1972. CF ADC found it necessary to reduce the alert commitment for two of its squadrons, however, beginning 14 September 1972. The two 18 UE squadrons were maintaining 2 aircraft on 5 minutes and 2 on 15 minutes. The two on 15 minutes in each squadron were cut to two on 1 hour. This change was temporary, necessitated by a ND Hq directive to CF ADC to reduce its monthly flying rate by 10 percent from 1 September 1972 to 31 March 1973.³ Hq NORAD advised CF ADC that it acknowledged the reduced Alfa alert posture and wished to be kept informed of all further developments.⁴

1. ^(u) ~~(S)~~ ANR advised that the full six aircraft alert was to be resumed on 6 February 1973 (Interview, Mr. Buss with Colonel R. M. Viscarra, NOOP, 5 February 1973).
2. (U) For background, see CONAD Command History, 1971, pp 75-80 and 85-86.
3. Msg, CANDEFCON to CINCNORAD, COMD 120, 141820Z September 1972 (420); 22OWP Historical Report, 1 July-30 September 1972 (Document 41, 22d NR Historical Report, 1972).
4. Msg, Hq NORAD to CANDEFCON, NOPS 152120Z September 1972 (420).

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SPECIAL REQUIREMENTS

SOVIET AIRCRAFT IDENTIFICATION - 22d NORAD REGION

(u) ~~(S)~~ Background. Soviet bomber penetrations of the Greenland-Iceland-United Kingdom (G-I-UK) Line increased greatly beginning in early 1968. Occasionally, Soviet aircraft flew on into the Canadian Air Defense Identification Zone (CADIZ). To meet the incursions into the CADIZ, CINCNORAD established an identification alert at two bases, Loring AFB, Maine, with F-106s (83d FIS) and CFB Chatham, New Brunswick, with CF-101s (416 Squadron). NORAD Operation Plan (OPLAN) 304N-68 established the operation. CF ADC and 22d NR termed the operation "Cold Shaft." This term was still used by these commands during 1972. USAF ADC termed its operation plan "College Shaft."

(u) ~~(S)~~ The Canadian Government stated in its White Paper on Defence, August 1971, that during normal peacetime circumstances the carrying out of defense activities on Canadian territory would be by CF personnel. The White Paper added that CF-101s should at all times be able to make intercept and identification in the approaches to Eastern Canada. The 22d NR advised Hq NORAD that effective 2 September, CF-101s would be used for Cold Shaft insofar as possible in line with the policy in the White Paper. Hq NORAD approved on 28 September 1971.

(u) ~~(S)~~ OPOD 3040. NORAD OPLAN 304N-70 was superseded by CINCNORAD Operation Order (OPOD) 3040, 7 April 1972. The OPOD stated a requirement for CF-101s only; the requirement for F-106s at Loring was deleted. OPOD 3040 directed the 22d NR commander to maintain an identification alert capability at CFB Chatham and/or CFB Bagotville, responsive to requirements generated by Soviet aircraft penetrations of the G-I-UK Line.

INTERCEPT AND AIRBORNE SURVEILLANCE OF HIJACKED CIVIL AIRCRAFT

(U) Recommendation for Executive Agency Designation. A review of hijacking incidents since 1969 caused CINCONAD to recommend to the JCS in February

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1972 that an executive agent for hijacking incidents be appointed.¹ It was further recommended that CINCONAD/CINCNORAD be designated as that executive agent since CONAD/NORAD had the command and control system, interceptor forces, and communications with other commands which possessed forces that might be used. The JCS advised CINCONAD in April 1972 that responsibility for identifying and notifying military agencies required to support hijacking incidents would not be delegated below the National Military Control Center level.²

(U) Revision of NORAD/CONAD Regulation 55-50. A conference was held at Hq NORAD 4-6 April 1972 to revise the NORAD/CONAD regulation governing NORAD/CONAD procedures in the event of a hijacking. Representatives from Hq NORAD, ND Hq, USAF ADC, CF ADC, SAC, Federal Aviation Administration (FAA), Ministry of Transport (MOT) and all NORAD regions participated. A proposed revised regulation responsive to the requirements of all participating agencies was developed. The proposed regulation addressed hijacking activities only in the CONUS and Canada. This was because the JCS had determined that Commander-in-Chief, Alaska (CINCAL) was in a better position to employ total Alaskan area resources. Accordingly, the Alaskan NORAD Region Commander was tasked by the proposed NORAD/CONAD Regulation 55-50 to support CINCAL for hijacking missions.³

(U) The current regulation, dated 1 December 1971, stated that "intercept and escort of hijacked civil aircraft will be conducted only

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1. Msg, CINCONAD to JCS, CHCR 152300Z February 1972 (420).
 2. DF, NOPS to NHCS, NHCR, "Review of Draft NORAD/CONADR 55-50," 30 May 1972 (420).
 3. Ibid.

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under control of the NORAD/CONAD control system." The proposed regulation provided, however, for FAA control of NORAD interceptors in high density traffic areas and FAA control of NORAD interceptors when the hijacked aircraft was not within the coverage of the NORAD surveillance system in the CONUS. The proposed regulation also directed:

"All intercept operations in Canada are done under the Agreement for Scramble, Intercept and Recovery Procedures (SIR). MOT does not control NORAD interceptors except for scramble and recovery at MOT controlled airports."

Other major additions to the regulation included provisions for air refueling of F-106 interceptors if required by the mission; alerting the Alaskan Military Command Center when hijacked aircraft being escorted by NORAD interceptors appeared to be approaching CINCAL's area of responsibility; and more definitive operational standards and reporting procedures.

(U) The final draft was forwarded on 14 April 1972 to the JCS and other interested agencies. All recommendations were adopted or resolved including one from FAA which pointed out that the procedures had to be repeated in FAA Notices and Handbooks which were unclassified. The proposed classified (confidential) regulation was then rewritten as an unclassified document. The JCS again reviewed the proposed regulation and accepted it in revised form.¹

(U) The new NORAD/CONAD Regulation 55-50 was issued 9 June 1972. It provided that the

1. DF, NOPS to NHCS, NHCR, "Review of Draft NORAD/CONADR 55-50," 30 May 1972 (420).

JCS or CDS could task NORAD/CONAD to intercept and escort aircraft in event of hijacking. Such missions would be requested by the FAA or MOT and would be humanitarian in nature to expedite search and rescue in the event of an emergency.¹

SECURITY OF NUCLEAR WEAPONS

(u)
(S) The JCS reminded CINCONAD and the unified commanders in October 1972 of the daring and violence of recent terrorist activities. Some terrorist representatives, the JCS pointed out, had indicated they must take actions that had world shock value to further their causes. Such an act, the JCS said

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1. (U) Military assistance provided to other federal agencies was limited because of the POSSE COMITATUS ACT, 18 U.S. Code, Section 1385. This act stated: "Whoever, except in cases and under circumstances expressly authorized by the Constitution or Act of Congress, willfully uses any part of the Army or the Air Force as a posse comitatus or otherwise to execute the laws shall be fined not more than \$10,000 or imprisoned not more than two years, or both." Certain exceptions to this act were contained in DOD Directive 3025.12, Section V.C., Subsection 1. The DOD policy stated in June 1972 was: "The appropriate role for military personnel will be to provide chase, surveillance, lift, equipment, and communications but not to apprehend suspected violators of the criminal law." The policy further stated: "Military personnel may not participate in the actual apprehension of aircraft hijackers nor shall military aircraft, fixed-wing or helicopter, or other vehicles be utilized as platforms for gun fire or the use of other weapons against suspected hijackers. Civil authorities, state or federal, may be moved to the vicinity but should be vested with the sole responsibility for subduing suspects and making arrests." (Msg, Hq NORAD to ARADCOM, ADC, et al., NOAD 271531Z July 1972 (420)).

might be the capture or destruction of a nuclear weapon. The JCS directed that security be reviewed for adequacy to meet this threat and submission of a report.

(u) (S) Hq CONAD directed USAF ADC and ARADCOM to review and report on their nuclear weapon security.¹ Hq NORAD pointed out the threat to CF ADC and requested a report on its security.²

(u) (S) Hq CONAD consolidated information submitted by the component commands and sent a detailed report to the JCS.³ The JCS advised the unified commanders that their responses showed that positive security measures had been taken. The JCS provided a list of significant measures taken by one or more of the unified commands for consideration by all commanders. In addition, the JCS directed that commanders should (1) emphasize clear delineation of responsibility of intelligence agencies, U.S. and foreign, to insure that vital intelligence was made available to U.S. custodians of nuclear weapons and (2) examine their ability to react effectively with recovery operations in the event a weapon was seized.

(u) (S) The JCS also posed a new dimension to the problem--the possibility of a helicopter-borne attack. The JCS directed that this type of attack be made an item of special concern in security planning.

(u) (S) The problem of this threat was sent to USAF ADC and ARADCOM by Hq CONAD and to ND Hq by Hq NORAD.⁴ Comments and recommendations were requested from the

1. Msg, Hq CONAD to ADC, ARADCOM, COPS 062025Z October 1972 (410X503).
2. Msg, Hq NORAD to CANDEFCOM, NOPS 062020Z October 1972 (410X503).
3. Msg, Hq CONAD to JCS, COPS 201920Z October 1972 (410X503).
4. Msg, Hq CONAD to ADC, ARADCOM, COPS 012230Z December 1972 (410X503); Msg, Hq NORAD to ND Hq, NOPS 012231Z December 1972 (410X503).

component commands and ND Hq on methods of countering a helicopter attack and their ability to react effectively with recovery operations in the event a weapon was seized.

(u) (S) Hq CONAD consolidated the comments and reported to the JCS.¹ Hq CONAD recommended that obstacles be installed inside sites to prevent helicopters from landing. However, it was noted that a helicopter could land outside Army weapons storage sites and it would be impractical to place obstacles on private land outside the sites. Hq CONAD also noted that ADC units were located at municipal airports and a fixed wing aircraft as well as a helicopter could land without causing alarm. The exclusion area would have to be breached, however, to get to the nuclear weapons. Hq CONAD also recommended improving denial capability for each nuclear weapon system.

(u) (S) On the second matter, that of reacting after a weapon was seized, Hq CONAD stated that there were many problems involved for the units, such as location, vehicles available, ability to communicate with other agencies, and jurisdictional questions. Hq CONAD recommended that recovery operations be controlled at the national level using existing nuclear accident and incident command and control procedures. The Federal Bureau of Investigation should become involved immediately as the investigative agency for recovery. Hq CONAD advised that region and component commanders had been directed to coordinate directly with intelligence and law enforcement agencies at their level to obtain and provide information on threats to their area of responsibility.

AUGMENTATION OF NORAD/CONAD FORCES

AUGMENTATION BY TAC, NAVY AND MARINE CORPS

(u) (S) Background. Augmentation of the CONAD force in an emergency with aircraft from Tactical Air Command (TAC), the Navy and the Marine Corps was provided for in CONAD OPLAN 302C-68. This plan did not provide

1. Msg, Hq CONAD to JCS, COPS 031700Z January 1973 (410X503).

an effective force, however. One reason was that the JCS had approved the plan for planning and programming purposes only and the Services had never funded for its support. Also, the pre-committed force consisted of tactical training aircraft only rather than tactical operational aircraft. Hq CONAD also had difficulty in assuring the training of augmentation crews in air defense operations.

(u) (s) The JCS tasked CINCONAD in 1971 to develop a new plan in coordination with CINCPAC, CINCLANT, and CINCSTRIKE (USCINCREC as of 1 January 1972).¹ Hq CONAD sent the first draft of its new plan (CINCONAD OPLAN 3101) to these unified commanders in May 1971.

(u) (s) Objections were made by the other unified commanders to certain provisions of the plan as drafted by Hq CONAD.² A working group conference of all interested command representatives in June 1971 did not settle the issue of the requirements for plan implementation, reaction time, the composition of the augmentation forces, or CINCONAD's training requirements. Hq CONAD's position on these matters was as follows:

1. Plan Implementation. Implementation should be at JCS DEFCON 3, or when directed by the JCS; or automatically upon receipt of CINCNORAD/CINCONAD declaration of Air Defense Emergency (ADE) or Air Defense Warning Red.

2. Reaction Time. Aircraft deploying to Augmentation Operating Bases (AOBs): 30 percent airborne within 3 hours after plan implementation, an additional 30 percent airborne within 6 hours after plan implementation, and the remainder airborne within 12 hours after plan implementation. Aircraft operating from home base: Delta NORAD Weapons Readiness Posture, as defined in NORAD/CONAD Regulation

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1. (U) CINCPAC - Commander-in-Chief, Pacific;
CINCLANT - Commander-in-Chief, Atlantic;
CINCSTRIKE - Commander-in-Chief, U.S. Strike Command; USCINCREC - Commander-in-Chief, U.S. Readiness Command.
 2. (U) For background, see CONAD Command History, 1971, pp 92-97.

55-3, as soon as possible upon receipt of plan implementation but not less than 30 percent in 3 hours, an additional 30 percent within 6 hours, and the remainder within 12 hours.

3. Force Composition. Tactical squadrons of the Air Force and Marine Corps were required. However, Navy training squadrons proposed by CINCPAC were suitable because a prime mission of these units was fleet air defense.

4. Training Requirements. Training was a Service responsibility, but it was CINCONAD's responsibility as a unified commander to establish standards and requirements for development of an effective joint team for air defense.

(u) (X) Agreement by the unified commanders on these points could not be reached. The result was that Hq CONAD sent the draft plan and the divergent views to the JCS for resolution.

(u) (X) CINCONAD OPLAN 3101. The JCS replied on 29 April 1972 that the draft plan had been reviewed and modified. Hq CONAD was to prepare a complete operation plan in accordance with the modified draft and forward the plan for approval. The JCS advised that the Services had been requested to determine the costs and resources required for full implementation of the augmentation plan.

(u) (X) Among the modifications made by the JCS to the draft plan were the following.

1. Six USAF F-4 tactical fighter squadrons were approved instead of the 10 requested; however, the 4 USN/USMC squadrons requested were approved.

2. Implementation of the plan was to be upon direction of the JCS which would normally be subsequent to the declaration of DEFCON 3, instead of at DEFCON 3 as proposed in the draft plan. However, as proposed, implementation was to be automatic at CINCNORAD/CINCONAD declaration of ADE or Air Defense Warning Red.

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3. The reaction times were changed to add 3 hours to the first and second 30 percent increments proposed in the draft plan, as follows: for aircraft deploying to AOBs, instead of 30 percent airborne within 3 hours after plan implementation and an additional 30 percent within 6 hours after plan implementation, the JCS directed that the first 30 percent be airborne within 6 hours and the second within 9 hours. The same was true of aircraft operating from home bases--30 percent were to achieve Delta Weapons Readiness Posture within 6 hours after plan implementation and 30 percent within 9 hours. As proposed by CINCONAD, the remaining 40 percent of the aircraft deploying were to be airborne within 12 hours after plan implementation and aircraft at home bases were to achieve Delta posture within 12 hours after plan implementation.

4. The quarterly intercept requirements for augmentation aircrews were to be determined by the cognizant Service/Command so as to be compatible with primary mission training. When other guidance was not available, the training specified in the OPLAN was to be considered. The wording for the number of intercepts was changed from "required" to "suggested."

(U) CINCONAD OPLAN 3101 was issued 1 August 1972 but CONAD OPLAN 302C-68 was not rescinded. OPLAN 3101 had yet to be approved by the JCS and it was stated in the forwarding letter that the plan was effective for planning and programming on receipt. Full implementation was contingent, the letter explained, upon the deployment status of designated augmentation squadrons, the provision of additional funding, and aircrew training. CONAD OPLAN 302C-68 was to be retained pending notification that OPLAN 3101 had been approved. The JCS approved the OPLAN on 31 October 1972. However, no funds were made available. The JCS sent the plan to the Office of the Secretary of Defense (OSD) for release of funding. OSD had not acted upon the plan by the end of CY 1972. In the meantime, OPLAN 302C-68 remained in force.

COLLEGE TANG AUGMENTATION

(u) (X) CINCNOAD Directive. The ANG 147th Fighter Group (Training), Ellington AFB, Texas, was responsible for ANG F-101 and F-102 combat crew training.

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The group was equipped with 9 F-101s and 10 T/F-102s. CINCNORAD OPORD 3000, 15 June 1972, provided that the interceptors of this group would come under NORAD operational control automatically upon declaration of DEFCON 3 or higher alert condition, Missile Attack Warning, or upon declaration of Air Defense Warning Red by CINCNORAD/CINCONAD. OPORD 3000 directed that the 147th Group would cease training and prepare for deployment in accordance with provisions of ADC OPLAN 3320, "College Tang." The deployment bases chosen would be as directed by CINCNORAD/CINCONAD.

(u) (S) ADC OPLAN 3320. ADC OPLAN 3320, 1 September 1971, provided for deployment of the 19 aircraft to one or several locations depending upon the tactical situation and selection of options designated Alfa, Bravo, and Charlie. Deployment was to begin 3 hours after plan implementation and be completed in 18 hours.

(u) (S) College Tang deployment option Alfa 1 was 10 F-102s to North Bay, Ontario, and Alfa 2 was 9 F-101s to Val d'Or, Quebec; Alfa 3 deployment was all 19 aircraft to Elmendorf AFB, Alaska. Under the Bravo options, the aircraft could be deployed to any of the CONUS Main Operating Bases vacated by an ADC squadron temporarily serving outside the CONUS. Option Charlie provided for spreading the aircraft to four bases.

(u) (S) The 1971 ADC OPLAN was superseded on 1 September 1972 with a new OPLAN 3320. A fourth option (Delta) was added to the first three which remained the same. Option Delta provided for assuming, in-place at Ellington AFB, the weapons state ordered by CINCNORAD/CINCONAD and preparing for deployment.

(u) (S) College Tang Deployment Exercise. The 147th Fighter Group expressed a desire to deploy F-101s to CFS Val d'Or and F-102s to Elmendorf AFB to exercise the College Tang plan. The 22d NR and Alaskan NORAD Region concurred in the proposed deployment.¹

1. DF, DCS/Operations to CS, CINC, "Exercise of College Tang (U)," 25 February 1972 (430.3).

(u) (X) The deployment was changed to CFB North Bay; Ontario, only. The National Guard Bureau disapproved the deployment to Alaska and CF ADC requested that deployment not be made to CFS Val d'Or because of crowding there.¹

(u) (X) Four F-101s and one T-33 of the 147th Fighter Group deployed to CFB North Bay on 9 July 1972 and returned to home base on 14 July. The deployment was considered successful.²

SECTION II - AIR DEFENSE MISSILE FORCE

STATUS SUMMARY

(u) (X) The air defense missile force at the end of CY 1971 consisted of 55 Nike Hercules batteries, 8 Hawk batteries and 7 BOMARC squadrons. Fifty-two of the Hercules batteries were in the CONUS (25 Regular Army (RA) and 27 Army National Guard (ARNG)) and 3 were in Alaska (RA). The eight Hawk batteries were in Southern Florida. Five of the BOMARC squadrons were in the CONUS and two were in Canada.

(u) (X) There was no change in the Hercules and Hawk force status as of 31 December 1972. The BOMARC force had been eliminated, however.

BOMARC FORCE REDUCTION

(u) (X) The Canadian White Paper on Defence, August 1971, announced that the two Canadian squadrons would be deactivated. Program Budget Decision 294, 9 December 1971, directed the phase out of all five CONUS

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1. DF, DCS/Operations to CS, CINC, "Deployment of 147th Ftr Gp (U)," 1 June 1972 (430.3).
 2. 22OWP Historical Report, 1 July - 30 September 1972 (22d NR History 1972, Document 41).

BOMARC squadrons. The dates of release from NORAD alert of the squadrons were as follows:¹

<u>Unit</u>	<u>Release from NORAD Alert</u>
26th Air Defense Missile Squadron (ADMS), Otis AFB, MA	1 April 1972
74th ADMS, Duluth IAP, MN	1 April 1972
446 Surface-to-Air Missile (SAM) Squadron, North Bay, Ont.	1 April 1972
447 SAM Squadron, Lamacaza, Que.	1 April 1972
37th ADMS, Kincheloe AFB, MI	1 July 1972
22d ADMS, Langley AFB, VA	1 October 1972
46th ADMS, McGuire AFB, NJ	1 October 1972

1. NOPS Historical Report, March-April 1972 (959.3); NORAD Forces and Program Change Summary, 1 July 1972 (718); NOPS Historical Report, September-October 1972 (959.3).

MANNED INTERCEPTOR FORCE
(Authorized Strength)

	31 DECEMBER 1971			1 JULY 1972			1 JANUARY 1973		
	CONAD sq/acft	CF sq/acft	NORAD sq/acft	CONAD sq/acft	CF sq/acft	NORAD sq/acft	CONAD sq/acft	CF sq/acft	NORAD sq/acft
REGULAR FORCE									
USAF AAC									
F-4	1/24		1/24	1/24		1/24	1/24		1/24
USAF ADC									
F-106	11/198		11/198	9/162		9/162	9/162		9/162
CF ADC									
CF-101		3/48	3/48		3/48	3/48		3/48	3/48
REGULAR TOTAL	12/222	3/48	15/270	10/186	3/48	13/234	10/186	3/48	13/234
AIR NATIONAL GUARD									
F-101	6/108		6/108	6/108		6/108	6/108		6/108
F-102	9/162		9/162	8/144 ¹		8/144 ¹	9/162 ²		9/162 ²
F-106				2/36		2/36	2/36		2/36
ANG TOTAL	15/270		15/270	16/288		16/288	17/306 ³		17/306 ³
AGGREGATE TOTAL	27/492	3/48	30/540	26/474	3/48	29/522	27/492	3/48	30/540

SOURCE: NORAD Forces and Program Change Summary.

1. Figures do not include 186th FIS which was converting from F-102s to F-106s.
2. Figures include 102d FIS which was receiving F-102s from the 186th FIS by the end of December 1972.
3. Figures do not include 171st FIS which was assigned to air defense in 1972 but had no aircraft at the end of the year.

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AIR DEFENSE MISSILE FORCE
(Assigned Strength)

	31 DECEMBER 1971			1 JULY 1972			1 JANUARY 1973		
NIKE HERCULES									
ARADCOM ¹									
RA Batteries	25			25			25		
ARNG Batteries	27	<u>52</u>		27	<u>52</u>		27	<u>52</u>	
Missiles	828		<u>828</u>	828		<u>828</u>	828		<u>828</u>
Launchers	517		<u>517</u>	517		<u>517</u>	517		<u>517</u>
USARAL ¹									
RA Batteries	3	<u>3</u>		3	<u>3</u>		3	<u>3</u>	
Missiles	61		<u>61</u>	61		<u>61</u>	61		<u>61</u>
Launchers	24		<u>24</u>	24		<u>24</u>	24		<u>24</u>
TOTALS									
Batteries		55			55			55	
Missiles			889			889			889
Launchers			<u>541</u>			<u>541</u>			<u>541</u>
HAWK									
ARADCOM Batteries	8			8			8		
Missiles	288			288			288		
Launchers	48			48			48		
BOMARC									
USAF ADC									
Squadrons	5	<u>5</u>		2	<u>2</u>				
Missiles	140		<u>140</u>	56		<u>56</u>			
Launchers	140		<u>140</u>	56		<u>56</u>			<u>56</u>
CF ADC									
Squadrons	2	<u>2</u>							
Missiles	56		<u>56</u>						
Launchers	56		<u>56</u>						
TOTALS									
Squadrons		7			2				
Missiles			196			56			
Launchers			<u>196</u>			<u>56</u>			

SOURCE: NORAD Forces and Program Change Summary.

1. (U) ARADCOM-Army Air Defense Command; USARAL- U.S. Army Alaska.

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CHAPTER V

BALLISTIC MISSILE

AND SPACE WEAPONS DEFENSE

SECTION I - MISSILE WARNING SYSTEMS

DEFENSE SUPPORT PROGRAM (S)

(u) (S) Background. The Defense Support Program (DSP), a satellite-borne sensor system using infrared and visible light detectors, was to operate over the Eastern and Western Hemispheres. Its mission was to provide tactical warning of missile attacks, ballistic missile defense alerting, origin of attack, attack assessment, raid description, nuclear diagnostics and intelligence data.¹

1. CONAD Command History, 1971, pp 111-112.
2. CPRO Basic Projects Book, Tab F, 1 December 1972 (721).

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(u) ~~(S)~~ Eastern Hemisphere Segment Status. Following the failure of the first Phase I satellite to go into the proper orbit in November 1970, a second satellite was placed into the desired orbit over the Eastern Hemisphere in May 1971.² This segment of the DSP reached Emergency Operational Capability (EOC) status on 23 November 1971.³ EOC status meant that it was available to CINCONAD for operational control under emergency conditions and the Air Force Systems Command (AFSC) and ADC for further testing and development. AFSC completed Category II operational testing on 15 February 1972 and the segment was advanced to Interim Capability (IC) status.⁴ CINCONAD continued

1. Interview, Mr. Shircliffe with Major J. A. Harden, CPWS, 12 December 1972.
2. (S) This satellite completed the 15th month of its expected operating life in August 1972. It was still operating normally at the end of 1972.
3. CPRO Basic Projects Book, Tab F, 1 December 1972 (721).
4. CPAP Historical Report, January-February 1972 (959.5).

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to exercise operational command of the segment under IC status and ADC assumed operating responsibility for the Overseas Ground Station, the satellite, the Ground Communication Network, and the Data Distribution Center (also at Buckley ANG Base), although ADC had not accepted the segment from AFSC as yet.

(u) (S) ADC accepted the complete Eastern Hemisphere segment on 1 June 1972 and it was advanced to Initial Operational Capability (IOC) status.¹ This segment, with the satellite on station south of India, provided surveillance coverage of single and/or mass launches of ICBMs and satellites from the Soviet Union and the People's Republic of China.²

(u) (S) Western Hemisphere Segment Status. The first satellite for the Western Hemisphere segment was launched successfully on 1 March 1972.³ It was placed in synchronous orbit and was on station south of the United States by the end of March. AFSC began Category II testing of this segment on 16 April 1972 and, in mid-July, AFSC and ADC jointly declared that the segment had demonstrated an Emergency Operational Capability, although it was not officially placed in that status. ADC accepted the Western segment (the satellite and the CONUS Ground Station) on 18 October and it was placed in IC status. On that date, CINCONAD took full operational control of the DSP system.⁴ One month later, on 18 November, the Western segment was advanced to IOC status. This segment provided surveillance coverage of the water areas in the Western Hemisphere that contained the Sea-Launched Ballistic Missile (SLBM) threat to the North American continent.⁵ There were no changes by the end of CY

1. COPS Historical Report, May-June 1972 (959.3).
2. COPS Historical Report, January-February 1972 (959.3).
3. CPRO Basic Projects Book, Tab F, 1 December 1972 (721).
4. Msg, Hq CONAD to JCS, et al., COPS 272200Z October 1972 (227).
5. Interview, Mr. Shircliffe with Major J. A. Harden, CPWS, 13 December 1972.

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1972. At the end of the year, a second satellite was scheduled for launch in May 1973.

(u) (S) DSP Support of Increased Readiness. The Eastern and Western segments of the DSP were placed on full operational status at the direction of CINCONAD on 9 May 1972¹ in conjunction with the declaration of DEFCON 4 of this date.² CINCONAD authorized return of the Western segment to testing status on 16 May 1972.³ The Eastern segment remained on full operational status until declaration of DEFCON 5 on 5 July 1972.

SEA-LAUNCHED BALLISTIC MISSILE (SLBM) DETECTION AND WARNING SYSTEM

(U) Background. The 474N SLBM Detection and Warning System consisted of seven AN/FSS-7 line-of-sight radars located at the following sites (see map following):⁴

Z-38	Mill Valley AFS, CA
Z-65	Charleston AFS, ME
Z-76	Mt Laguna AFS, CA
Z-100	Mt Hebo AFS, OR
Z-115	Fort Fisher AFS, NC
Z-129	MacDill AFB, FL
Z-230	Laredo MTK, TX

(S) The 474N System began operations on 1 July 1970 in an Interim Capability status. Initial Operational Capability (IOC) status was not declared because of equipment deficiencies and faulty computer

1. COPS Historical Report, May-June 1972 (959.3).

2 (u) (S) For details concerning the increased DEFCON, see Chapter IV.

3. Interview, Mr. Shircliffe with Captain T. R. Lange, COSD, 12 October 1972.

4. (U) The AN/FPS-49 radar at Moorestown, New Jersey, was added to the 474N System in 1971. See page 107 for a discussion of this radar.

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programs. While these problems were being corrected by civilian contractors, the Air Force approved modifications to the FSS-7 radars and computer program to meet the Soviet SS-N-6 SLBM threat. It had been found that the radars were ineffective against this missile because of its high speed.¹ The modifications were installed and tested at Mill Valley AFS (Z-38) in late 1971 and were to be installed at the remaining six sites by early 1972.

(U) IOC Status. After the modifications were tested and installed, ADC began operational evaluation of the system on 1 March 1972 to further check out the computer program.² Following this evaluation, ADC notified all concerned that the performance of the program was satisfactory. The 474N System was placed in IOC status effective 0001Z, 5 May 1972.³ The system had not attained Final Operational Capability as of 31 December 1972.

AN/FPS-49 RADAR

(u) (X) Background. The AN/FPS-49 Spacetrack radar at Moorestown, New Jersey, was inactivated in 1969 as a result of budget cuts.⁴ In March 1971, the Air Force recommended that it be reactivated for use in an SLBM detection and warning role to augment the 474N System. The Secretary of Defense approved and directed USAF to modify the radar to perform this new task and to reactivate it.

(u) (X) Hq NORAD provided ADC with operational requirements for the FPS-49 and directed that the radar have: (1) a primary mission of augmenting the 474N System on the East Coast by providing coverage beyond the 750 Nautical Mile range of the 474N radars and

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1. CONAD Command History, 1971, p 113.
 2. Msg, ADC to AIG 8056, et al., XPDS 012115Z March 1972 (233).
 3. Msg, ADC to ESD, XPDS 311800Z March 1972 (233); NPAP Historical Report, May-June 1972 (959.5).
 4. CONAD Command History, 1971, pp 114-116.

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(2) a secondary mission of supplementing short-range coverage. These requirements were included in the modification program for the radar.

(U) Demonstration testing of the radar was completed in late December 1971. ADC then announced that the radar demonstrated the capability to perform the assigned mission. The radar began full operations as an SLBM detection and warning sensor as of 0001Z, 1 January 1972.

(U) Reduced Operational Status. Within a few days after full operations started, the civilian population around the FPS-49 site complained that the radar was interfering with radio, television and intercom reception.¹ A more serious complaint was that emissions from the radar could cause heart pacemakers to malfunction.² The Air Force sent an electro-magnetic interference (EMI) team to Moores-town in January 1972 to measure the emissions and investigate complaints about home entertainment sets. The EMI team concluded that the radar was operating within normal specified limits. Team members then called on home owners and explained that filter devices on home equipment would stop interference, but pointed out that each individual had to install his own filter. A course was held on filter devices for local radio and television repairmen and public meetings were held to permit residents to voice complaints and get advice on eliminating interference. Public concern over this problem was alleviated by these actions.

(u) ~~(S)~~ The problem of possible interference with heart pacemakers was not solved as easily. The Air Force studied the vulnerability of pacemakers to the EMI produced by the FPS-49 radar. It was learned that, under certain circumstances, EMI from the radar could cause malfunction of some pacemaker models.³

1. NELC Historical Report, January-February 1972 (959.6).
2. Msg, Det 10, 14 Aerosp Force to JCS, et al., 122230Z January 1972 (233).
3. Msg, OSAF to ADC, 252111Z July 1972 (233).

The Deputy Secretary of Defense directed in June 1972 that the FPS-49 be placed in a standby status to reduce the possibility of pacemaker interference. The radar was placed in standby status effective 2311Z, 22 June 1972,¹ but it could be recalled to operations within 5 minutes and reach a verified operational status after an additional 10 minutes.² The radar was to be recalled when DEFCON 3 or higher was declared or when directed by CINCNORAD. Approval was given for daily operational checks of the radar against earth satellite traffic in the early morning hours. Active radiation from the antenna during such checks was to be limited to no more than 5 minutes and at antenna elevation angles above 40 degrees. The radar remained in standby status at the end of CY 1972.

AN/FPS-85

(u) (s) The AN/FPS-85 phased-array radar at Eglin AFB, Florida, of the Space Detection and Tracking System, had been assigned a secondary mission of SLBM detection and warning during its construction in the mid-1960s. The radar was declared fully operational in May 1970; however, this status did not apply to the SLBM detection and warning function. Preliminary testing of this function was made in 1969 but further testing was stopped until equipment to reduce the false alarm rate could be installed. While this equipment was being installed, Hq NORAD was informed that Program Budget Decision 87 had eliminated FY 1971 funding and that the SLBM detection and warning requirement for the FPS-85 was cancelled.³

(u) (s) Cancellation of the requirement was temporary, however. Based on ADC Required Operational Capability (ROC) 6-71, 20 April 1971, which included

1. Msg, JCS to CINCONAD, 1612, 241438Z July 1972 (233).
2. NELC Historical Report, May-June 1972 (959.6); Interview, Mr. Shircliffe with Lt Col W. Yanchek, COPS, 21 September 1972.
3. CONAD Command History, 1970, pp 83-84.

the requirement for SLBM detection and warning for the FPS-85, Hq USAF directed AFSC to prepare a cost and feasibility study. This study was completed in December 1971 and was validated by Hq USAF in early January 1972. Hq USAF announced on 1 February 1972 that it approved modification of the radar to provide a capability to detect SLBMs.¹

(U) The modification program included equipment and computer program changes and interface with the NORAD Cheyenne Mountain Complex. The radar was scheduled to become operational with this new capability in the fourth quarter of FY 1974.² There was no change to this status as of the end of CY 1972.

440L RADAR SYSTEM

(u) (X) Background. The 440L Forward Scatter Over-the-Horizon (OTH) Radar System began operations in March 1968 in an Interim Capability status.³ It had been placed in operation earlier than planned because it could detect launches of Soviet Fractional Orbital Bombardment System (FOBS) missiles. The primary mission of the system was to provide early warning of a mass missile attack originating from the Sino-Soviet land mass. It had the secondary mission of detecting launches of earth satellite vehicles and providing data on research, development, and operational testing of ICBMs and nuclear explosive devices by the People's Republic of China and the Soviet Union.

(u) (X) The system consisted of a Correlation Center at Aviano, Italy, and transmitter (T) and receiver (R) sites at the following locations (map on page 106):

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1. Msg, CSAF to AFLC, RDQ 012049Z February 1972 (228X233).
 2. CPRO Basic Projects Book, Tab W, 1 November 1972 (721).
 3. CONAD Command History, 1968, pp 123-129; Ibid., 1970, pp 76-79.

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T-1 Wallace AS, Philippines
T-2 Awase, Okinawa
T-3 Tokorozawa, Japan
T-4 Chitose, Japan

R-1 Cyprus
R-2 San Vito, Italy
R-3 Aviano, Italy
R-4 Rothwesten, Germany
R-5 Feltwell, United Kingdom

Missiles were detected when they penetrated the ionosphere under active booster propulsion. Such penetrations caused perturbations to high frequency transmissions between transmitter and receiver sites. Information on perturbations was sent from receiver sites to the Correlation Center, which analyzed the data and sent detection reports to the NORAD Combat Operations Center.

(u) (S) IOC Status. 440L was originally scheduled to reach IOC status in June 1969, but funding problems caused that date to slip to December 1970.¹ IOC was again postponed when the system failed to pass Category II testing by AFSC. This failure was attributed to problems at the transmitter sites, the most serious being design deficiencies in the antennas. However, ADC agreed to accept the receiver sites, the communications segment, and the Correlation Center from AFSC to assist in managing the system and reduce costs. Turnover of these facilities was made on 1 June 1971. The transmitter sites were to be turned over to ADC after the antennas at three sites were changed and tested; the antenna at T-4 was to be corrected later.

(u) (S) The three transmitter antennas were changed and further Category II testing by AFSC indicated that they met performance criteria. The 440L system was formally turned over to ADC on 8 August 1972 and was placed in IOC status at that time.² One of the

1. CONAD Command History, 1971, pp 117-118.

2. Msg, ADC to JCS, et al., CC 112015Z August 1972 (226.1).

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items to be taken care of during the IOC period was correction of the antenna at T-4. Work on the antenna was completed in November 1972.¹

(u) (S) ADC had already stated that it did not plan to conduct Category III testing, that is, further testing under operational conditions by the operating command.² Systems were usually placed in Final Operational Capability (FOC) status after they successfully completed Category III testing. Since this testing was waived by ADC, it was not expected that a formal announcement of FOC status would be made for the system.³

(u) (S) Effectiveness Test. Hq NORAD informed ADC in March 1972 that it was pleased with ADC's role in bringing about improved 440L system performance which had resulted in detection of all missile launches in January and February 1972 that could have posed a threat to the North American continent. "This level of performance against single launches," Hq NORAD stated, "exceeds the design specification of 90 percent and provides greater assurance that, if a mass attack is launched, it will be detected and reported."⁴

(u) (S) Hq NORAD stated, however, that its optimism about the system was not universally shared. Other agencies questioned the credibility of the 440L system because pre-alerting information on possible future missile launches was being given to operators at the Correlation Center and the receiver sites.⁵ To answer

1. Interview, Mr. Shircliffe with Major N.B. Smith, NOSD, 26 December 1972.
2. Msg, ADC to ESD, et al., 111520Z July 1972 (226.1).
3. Interview, Mr. Shircliffe with Major R. G. Lewis, NOSD, 3 January 1973.
4. Ltr, Hq NORAD to ADC, "440L Performance (U)," 7 March 1972 (226.1).
5. (S) Pre-alerting information resulted from data derived from intelligence sources. The pre-alerting procedure of passing intelligence information indicating that a launch might be made was known as putting 440L on a Period of Interest (POI).

such criticism, Hq NORAD directed that all pre-alerting information be withheld for a test period to determine whether use of pre-alerting information improved the capability of 440L.

(u) (S) The test was held from 15 March to 31 July 1972. Test results showed that system capability was not improved by providing pre-alerting information.¹ This conclusion was drawn from a comparison of the data collected during the test period² with data collected during the previous 14 months when pre-alerting information had been provided. The test results were presented to the NORAD Warning and Assessment Executive Council (WAEC)³ in October 1972. Council members agreed to take no action at that time on the study and that pre-alerting information should continue to be provided to the 440L system.⁴ There was no change to the policy of providing pre-alerting information as of the end of CY 1972.

1. Hq NORAD Technical Memorandum 72-1, "440L POI Test Program (U)," December 1972 (226.1).
2. (u) (S) The system detected 40 of the 42 accountable daytime missile and satellite launches that occurred during the test period. Accountable launches were all launch events that posed a threat to the United States.
3. (U) The Council, established by Hq NORAD in June 1972, was to develop and recommend to CINCNORAD policies on and changes to missile and space tactical warning and attack assessment matters. Permanent members were the Deputy Chiefs of Staff for Intelligence, Operations (Council chairman), and Plans and Programs of NORAD, the DCS/O for Combat Operations and DCS/O for Operations of CONAD, the Assistant Deputy Chiefs of Staff for Plans and Programs of NORAD, the Deputy Chiefs of Staff for Operations and for Plans of ARADCOM and ADC, and the Commander, 14th Aerospace Force. (Ltr, Hq NORAD to ADC, et al., "NORAD Warning and Assessment Executive Council," 20 June 1972 (226X 250).
4. Minutes of WAEC Meeting, 5 October 1972 (226); Interview, Mr. Shircliffe with Major R. G. Lewis, NOSD, 3 January 1973.

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SECTION II - BALLISTIC MISSILE EARLY
WARNING SYSTEM (BMEWS) ATTACK ASSESSMENT

BACKGROUND

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1. (U) For additional background information, see CONAD Command History, 1968, pp 129-132; and CONAD Command History, 1969, pp 188-191.
2. (U) Site I had four FPS-50 detection radars and one FPS-49 tracker; Site II had three FPS-50s and one FPS-92 tracker; Site III, in the United Kingdom, had three FPS-49 trackers but was not included in attack assessment considerations.
3. (U) Consideration had been given to inclusion of from about four to eight command and control targets in Hq NORAD's attack assessment program. However, the small number for that class of targets could not be worked into the program.

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(u) (S) The JCS, in the meantime, were considering ways to originate their own attack assessment information. The JCS directed USAF in July 1968 to modify computer programs at BMEWS Sites I and II to provide refined missile launch and impact (L&I) data by using the tracker radars. Processed L&I data would be sent to the NORAD COC where these data would be relayed to the JCS and SAC command posts for further processing. The resulting attack assessment information would then be displayed at these command posts. Hq NORAD worked out the details on equipment interface and data reporting procedures and this additional method of performing attack assessment became operational in September 1969 at the JCS and SAC command posts.

(u) (S) Hq NORAD examined ways to improve its attack assessment program and developed a method that would use data from the tracker radars only.² This method became operational in the NORAD COC in April 1971, replacing Hq NORAD's first method which had used data from the detection radars. However, this latest method proved to be faulty because it failed to provide an adequate raid sample size. Work began shortly after it went into operation to develop a new method that would use data from both the detection and tracking radars.³

1. Interview, Mr. Shircliffe with Mr. R. E. Donegon, NPPA, 31 January 1973.
2. Interview, Mr. Shircliffe with Dr. W. R. Matoush, NPPA, 9 January 1973.
3. (u) (S) Analyses performed by ADC indicated that it was unlikely that tracker data alone, as currently provided to the JCS, SAC, or the NORAD COC, could be used to perform a valid attack assessment. (ADC BMEWS Retention Study - Support to Attack Assessment (U), December 1971, NOSD File OPS 1-5).

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IMPROVED ATTACK ASSESSMENT PROGRAM

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1. Msg, Hq NORAD to JCS, SAC, NOPS 132310Z April 1972 (226X250).
2. Msg, JCS to Hq NORAD, 9955, 262246Z May 1972 (226).
3. Msg, Hq NORAD to JCS, NPPA 021450Z June 1972 (226).

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(U) The new program for attack assessment utilizing both detection and tracker radar inputs became operational in the NORAD COC on 5 July 1972.² The technique consisted of making independent attack assessments using data from the detection radars and from the tracker radars and then combining the results so as to use the benefits inherent in each type of data.

REPORTING PROCEDURES

(u) (~~S~~) The JCS advised Hq NORAD in September 1972 that a review had been made of the new NORAD program as well as existing National Military Command System (NMCS) programs and commercially available computer methods.³ The JCS stated that in most ICBM raid scenarios the new program could be expected to give a high confidence assessment of the attack pattern and would provide the NMCS with an added attack assessment capability. Hq NORAD and SAC were directed to assist the JCS staff in establishing procedures for transmission and use of information from this program. Staff officers conferred at the Pentagon in October and all agreed to a Hq NORAD proposal to provide attack assessment information by a voice format.⁴ It was also agreed that the proposed format, called Format Charlie, would be added to the NORAD Missile

1. Msg, Hq NORAD to JCS, NOPS 162015Z November 1972 (226).
2. Interview, Mr. Shircliffe with Dr. W. R. Matoush, NPPA, 9 January 1973.
3. Msg, JCS to Hq NORAD, SAC, 7247 201807Z September 1972 (226X250).
4. Msg, Hq NORAD to JCS, NOPS 162015Z November 1972 (226).

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Warning System Confirmation Formats.¹ However, some conferees felt that the proposed format terminology (such as, Remote Retaliatory Targets, Retaliatory Targets, City Target Only, Command and Control Targets, etc.) was too technical. Several changes were considered and Hq NORAD representatives agreed to staff a revised format at Hq NORAD and then send it to the JCS for approval.

(U) Hq NORAD sent the following proposed Format Charlie to the JCS on 16 November:²

"THE NORAD CREDENCE IS (HIGH)
(MEDIUM) (LOW) THAT THE INCOMING ICBM
STRIKE IS DIRECTED AGAINST (SAC NUCLEAR
RETLIATORY FORCES) (SAC BOMBER BASES)
(SAC MISSILE FIELDS) (URBAN/INDUSTRIAL
AREAS) (COMMAND AND CONTROL CENTERS).
THIS ASSESSMENT IS BASED UPON ICBM
PREDICTED IMPACT DATA ONLY."

The JCS had not approved the use of this format as of 31 December 1972.³

(U) In a related effort, an Attack Assessment System (AAS) Task Group was organized by the Space and Missile Systems Organization (SAMSO) in June 1971. The Task Group investigated, in a Phase 0

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1. ^(u) ~~(S)~~ The Joint Chiefs of Staff Alerting Network was activated for conference communications when certain significant missile attack warning information was displayed/reported to users. During such conferences, voice formats from NORAD Manual 55-7, "NORAD Missile Warning Systems," were used: Format Alfa, for the Warning System Confirmation Conference; and Format Bravo, for the Missile Display Conference. As proposed, Format Charlie would be used for Attack Assessment.
 2. Msg, Hq NORAD to JCS, NOPS 162015Z November 1972 (226).
 3. Interview, Mr. Shircliffe with Major R. G. Lewis, NOSD, 5 January 1973.

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Study, the feasibility of providing Launch Under Attack (LUA) response options to the National Command Authorities (NCA) based on improved warning and attack assessment capability. CONAD, SAC, and ADC were among the participating agencies. ✓

(u) (X) SAMSO published the Phase 0 Study final report in October 1972. The study concluded that high confidence warning and improved attack assessment were technically feasible and recommended funding support to proceed with Phase 1. The SAMSO-recommended approach for Phase 1 included simultaneous development and simulation/demonstration of LUA response options improvements, and improved attack assessment capability through the use of a dedicated dynamic test bed facility. Phase 1 was to be completed during the mid 1970s at an estimated cost of \$35 million. Due to the cost and time involved, Hq CONAD took exception to SAMSO's Phase 1 concept and recommended, among other things, that SAMSO:

1. Adopt a Phase 1 concept that would provide for earliest operational capability improvements, while allowing for expanded feasibility studies of attaining an AAS to support strategic options improvements.
2. Make use of the Computer Program Production Facility computer at Hq CONAD.
3. Develop the AAS software in JOVIAL¹ for use on Worldwide Military Command and Control System (WWMCCS) computers.
4. Develop/demonstrate the AAS software first and then proceed with LUA response options improvements.²

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1. (U) JOVIAL - Joules own version of international algorithmic language--a computer language.
 2. Ltr, CINCONAD to SAMSO, "Attack Assessment System Phase 1 Simulator Concept and Procedures," 11 January 1972 (250); Ltr, CINCONAD to SAMSO, "Attack Assessment Phase 1 Plans (U)," 17 October 1972 (250).

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(U) Hq USAF decided in December 1972 that, due to funding priorities, plans for a large simulation/demonstration facility should be deferred (as recommended by Hq CONAD), and that initial efforts should be concentrated on limited warning/attack assessment improvements.¹ Additional specific JCS/Air Staff guidance and directions were expected in early CY 73.

SECTION III - BALLISTIC MISSILE DEFENSE SYSTEM

DEPLOYMENT

(U) Background. A decision was announced in March 1969 by President Richard M. Nixon to deploy the Safeguard Ballistic Missile Defense System at two sites. The purpose of these sites, one at Grand Forks, North Dakota, and one at Malmstrom AFB, Montana, was to defend Minuteman Intercontinental Ballistic Missile (ICBM) installations. This was termed Phase I of the Safeguard deployment. The President said that there would be an annual review of Safeguard. The deployment recommended would depend on the evolution of the threat and the outcome of the Strategic Arms Limitation Talks (SALT) between the U.S. and the USSR.

(U) The FY 1971 Defense Appropriations Bill, signed by the President in January 1971, included funds for a third site at Whiteman AFB, Missouri, and advance preparation work for another site at Warren AFB, Wyoming. This deployment was termed Phase II Modified. The FY 1972 Defense Appropriations Bill, signed by the President in December 1971, provided funds for construction at Grand Forks and Malmstrom and advance preparation work at Whiteman and Warren. At the end of CY 1971, the projected site equipment readiness dates were as follows: Grand Forks - October 1974; Malmstrom - April 1976; Whiteman - March 1977; and Warren - September 1977. For FY 1973, the Administration proposed proceeding with the planned deployment

1. Ltr, Hq USAF to AFSC, "Attack Assessment System (U)," 27 December 1972 (250).

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at these four sites and starting advance preparation work on a site at Washington, D.C.¹

(U) Limitation of ABM Systems. A "Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems" was concluded on 26 May 1972. The treaty was of unlimited duration, but it provided that both parties would review the treaty together every five years. The treaty was ratified by the U.S. Senate on 3 August 1972.

(U) The treaty limited anti-ballistic missile (ABM) deployment in each country to two sites, one for the defense of the national capitol and one for the defense of ICBMs. No more than 100 ABM interceptor missiles and 100 launchers were permitted at each site for a total of 200 missiles and 200 launchers in each country. Six ABM radar complexes were permitted within a circle of 150-kilometers radius around the national capitol. A total of 20 ABM radars were permitted within the 150-kilometer radius deployment area for defense of ICBMs.

(u) (S) Construction was 85 percent complete at the Grand Forks site and 10 percent complete at the Malmstrom site by May 1972. Immediately after the treaty was signed, the Secretary of Defense directed the Secretary of the Army to do the following:²

1. Suspend construction of the Safeguard site at Malmstrom AFB, Montana.

2. Continue the Safeguard deployment at Grand Forks AFB, North Dakota.

3. Suspend all future work at the remaining Safeguard sites.

4. Suspend all ABM research and development programs which were prohibited by the ABM treaty.

1. CPRO Basic Projects Book, Tab R, 1 May 1972 (721).

2. Ibid., 1 June 1972.

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5. Begin dismantling the Malmstrom site commencing on the date of the exchange of instruments of ratification.¹

6. Initiate planning to:

a. Cancel the 12-site Safeguard program.

b. Deploy an ABM defense of the National Command Authorities (NCA) at Washington, D. C., within the provisions of the ABM Treaty on the fastest reasonable schedule.

(u) (S) The Army did not recommend Safeguard for the NCA defense, however. The Army recommended a modified Site Defense System² instead. This recommendation followed an Army review for FY 1974 of Ballistic Missile Defense Programs. Recommendations stemming therefrom were forwarded by the Secretary of the Army to the Secretary of Defense on 18 October.³ Among the recommendations were the following:

1. (U) The exchange was made on 3 October 1972. The Site Activation Command Malmstrom was discontinued effective 15 November 1972.
2. (u) (S) Site Defense (formerly known as Hardsite Defense and as Site Defense of Minuteman) was based on a multiple Minuteman-silo defense employing a radar-controlled modified Sprint missile (Sprint II) and phased-array radars and associated data processors. Department of Defense established a requirement for the Army to proceed with the development of a prototype system in coordination with the Air Force to determine the technical and financial feasibility of developing such a system to counter a possible increased threat to the Minuteman missile fields. The schedule called for prototype system testing at Kwajalein from February 1975 to June 1976 and an IOC date of FY 1979. A modified site defense system for the NCA defense could possibly be operational by CY 1980.
3. CPAP Historical Report, November-December 1972 (959.5).

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1. Deploy Safeguard at Grand Forks only.
2. Continue prototype demonstration of the Site Defense System through FY 1974 with an option to proceed with engineering development in FY 1975.
3. Continue development of modifications to the Site Defense System to adapt it for NCA defense with possible deployment in CY 1980.
4. Eliminate the Fire Coordination Center (FCC) from the Safeguard system.

The Secretary of Defense had taken no action on these recommendations by 31 December 1972.

COMMAND AND CONTROL

(u) (S) Prior to the ABM Treaty, the planned command and control arrangements for Safeguard had the capability for growth to include a 12-site deployment. Following the treaty, Hq CONAD approved a modification to fit the limited deployment. The Secretary of Defense had approved in 1970 the recommendation of CINCONAD that operational command be exercised directly from the CONAD Combat Operations Center (COC) through the Ballistic Missile Defense Center (BMDC)¹ to Safeguard FCCs. The FCC was to be an intermediate headquarters located at selected Safeguard sites and to interface with the CONAD Region Control Center (RCC). An FCC was scheduled for Malmstrom AFB and was to interface with the 24th CONAD RCC at Malmstrom. The Safeguard site at Malmstrom was eliminated as a consequence of the ABM treaty.

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- (u)
1. (S) The BMDC was to interface with the CONAD Combat Operations Center, act as the focal point for directing tactical employment of Safeguard and be the primary facility through which CINCONAD exercised operational command of Safeguard and Commanding General ARADCOM exercised command, less operational command, and technical supervision over the Safeguard System.

(u) ~~(S)~~ Hq ARADCOM requested that Hq CONAD review and provide guidance on Safeguard proposals which recommended deletion of the FCC and that the RCC be linked directly to the lowest command and control level, the Missile Direction Center (MDC) which was located at each firing site to direct missile engagement.¹ Hq CONAD replied on 22 September that the previously approved concepts for command and control for the 12-site deployment could be adapted to the 2-site deployment by substituting the MDC for the FCC.² Hq CONAD directed the following arrangements for command and control of ABM forces:

"1. Operational command of all ballistic missile defense forces will be exercised directly from the CONAD COC through the BMDC to the MDCs.

"2. If the COC becomes inoperative the CONAD Alternate Command Post (ALCOP) will assume operational command of ballistic missile defense forces through the MDC(s).

"3. Designated CONAD Region Commanders will (1) Assist CINCONAD in ballistic missile defense by performing prescribed pre-battle and post-battle functions; (2) Monitor ballistic missile defense actions and orders affecting the Safeguard system; (3) Be prepared, in order of succession, to assume the functions of CINCONAD; and (4) During the battle phase, actively direct action of the MDCs only in circumstances where either lack of time or loss of communications with CINCONAD dictates that they act independently within their regions."

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1. Ltr, ARADCOM to Hq CONAD, "Ballistic Missile Defense System Design Review (SDR) (U)," 17 August 1972 (232.1).
 2. Ltr, Hq CONAD to ARADCOM, "CONAD-Ballistic Missile Defense Command and Control (U)," 22 September 1972 (232.1).

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(u) (X) Hq CONAD directed that the planned manual interface between the ALCOP and the 24th RCC and the Grand Forks MDC be continued and installation of an automated interface be planned. Hq CONAD also directed that automated interface be planned between the ALCOP and the MDC at Washington, D. C., and between the 20th RCC, Ft Lee AFS, Virginia, and the Washington, D. C. MDC. Action was being taken to validate and fund the manual interface between the 24th RCC/ALCOP and the Grand Forks MDC as of the end of CY 1972. ARADCOM had advised the weapons system contractor of the requirement for an automated interface between these sites.¹ No action had been taken on the requirements for the Washington, D.C. area by the end of CY 1972.

CONAD QUALITATIVE REQUIREMENTS FOR BALLISTIC MISSILE DEFENSE SYSTEMS

(u) (X) CQR 1-72. Hq CONAD issued CONAD Qualitative Requirement (CQR) 1-72, 16 March 1972, for a Boost/Mid-Course Ballistic Missile Defense System (superseding NORAD Qualitative Requirement (NQR) 4-69, 1 October 1969, same subject). CQR 1-72 stated that the system described was required to provide CONAD with the capability of engaging threatening ballistic objects throughout their trajectory. The system could be made up of one or more individual weapons systems (i.e., systems for employment during the boost, post-boost, or mid-course phase of the trajectory). The JCS had not responded to Hq CONAD on this CQR as of the end of CY 1972.²

(u) (X) CQR 4-72. Hq CONAD issued CQR 4-72, 25 September 1972, for a Terminal Ballistic Missile Defense System or Systems. This CQR superseded NQR 6-65, 15 July 1965, of the same subject. CQR 4-72 stated that the:

"CONUS is expected to remain extremely vulnerable to ballistic missile attack beyond the coverage provided by ABM systems approved for

1. Interview, Mr. Buss with Lt Col Robert M. McPherson, CPWS, 18 January 1973.
2. Ibid.

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deployment. Thus, CONAD attaches the highest order of military importance to the development and subsequent deployment, within ABM Treaty constraints, of systems to provide an effective ballistic missile defense."

The CQR stated a requirement for systems to engage reentry vehicles during the terminal phase of the ballistic trajectory. Hq CONAD wanted the system(s) to be effective against all ballistic and orbiting space objects threatening the defended area. It was also desired that the system have the capability of engaging air-supported threats. There had been no response from the JCS on this CQR by end CY 1972.¹

SECTION IV - SATELLITE INTERCEPT SYSTEM

BACKGROUND

(u) (X) The satellite intercept system (SIS), Program 437, consisted of two launch emplacements on Johnston Island operated by ADC's 10th Aerospace Defense Squadron. The normal readiness condition prior to 1 October 1970 had been Satellite Readiness Condition (SATCON) 3 which required the capability to react to an engagement order in not more than 24 hours with two missiles. Program 437 was placed on 30-day recall status on 1 October 1970 at Department of Defense direction. Launch crews were moved to Vandenberg AFB, California, and the tactical warheads were sent to Nellis AFB, Nevada. A caretaker detachment of military and contractor personnel remained on Johnston Island. CINCONAD OPLAN 3010, 15 April 1971, established the following readiness states:

1. Normal Readiness: 30-day standby.
2. Increased Readiness:
 - a. SATCON 3 - 24 hours.

1. Interview, Mr. Buss with Lt Col Robert M. McPherson, CPWS, 18 January 1973.

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b. SATCON 2 - 5 hours.

c. SATCON 1 - 30 minutes

REVISION OF SATCONs

(u) (~~s~~) CINCONAD approved a revision to the SATCONs on 30 October 1972 because of reduced manning in the 10th Aerospace Defense Squadron.¹ The revision was to be incorporated into CINCONAD OPLAN 3010 upon approval by the JCS. The revision (addition of a lower readiness part to SATCON 1) read as follows:

1. Normal Readiness: 30-day standby.
2. Increased Readiness:
 - a. SATCON 3 - 24 hours.
 - b. SATCON 2 - 5 hours.
 - c. SATCON 1B - 2 $\frac{1}{2}$ hours.
 - d. SATCON 1A - 30 minutes.

HURRICANE CELESTE

(u) (~~s~~) Hurricane Celeste struck Johnston Island on 18 August putting the SIS out of commission for nearly a month.² The personnel were evacuated to Hawaii for a brief time. The system was returned to its normal 30-day readiness status as of 13 September 1972. Full system capability was again lost on 8 December 1972 because of the delayed appearance of hurricane caused corrosion. It was estimated that the system would be back in commission by 1 March 1973.

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1. COPS Historical Report, September-October 1972 (959.3).
 2. Ibid., July-August 1972.

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MISSILE AND SPACE
SURVEILLANCE AND WARNING SYSTEMS

	1 JANUARY 1972	1 JULY 1972	31 DECEMBER 1972
BMEWS Sites	3	3	3
Defense Support Program			
DSP East	1	1	1
DSP West	0	0	1
OTH Radar System (440L)			
Transmitter Sites	4	4	4
Receiver Sites	5	5	5
SLBM D and W System			
AN/FSS-7 Radar Sites	7	7	7
AN/FPS-49 Radar Site	1	1	1
SPADATS			
Spacetrack			
Radar Sites	3	3	3
Baker-Nunn Camera Sites	4	4	4
Canadian Forces			
Baker-Nunn Camera Site	1	1	1
NAVSPASUR			
Transmitter Sites	3	3	3
Receiver Sites	6	6	6

SOURCE: NORAD Forces and Program Change Summary; CPRO Projects Book, Tab F (721).

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CHAPTER VI

COMMAND, CONTROL AND COMMUNICATIONS

SECTION I - NORAD CHEYENNE MOUNTAIN COMPLEX IMPROVEMENT PROGRAM

NCOC MASTER PLAN

(U) Background and Purpose. Preparation of a NORAD Combat Operations Center (NCOC) Master Plan began in December 1966.¹ The completed plan was delivered to the JCS in December 1968. Hq NORAD explained in the introduction to the 5-volume plan that within the first few months of operation in the NCOC in the NORAD Cheyenne Mountain Complex (NCOMC), it became apparent that a master plan for the evolution of the NCOC was essential. The purpose of the Master Plan was to define and describe the operational configuration and organization for the NCOC. It would provide for those defense systems to come into being and those to phase out and relationships to exist with external commands and agencies at significant points in time. It would identify requirements for facilities, equipment, software, communications and personnel. It would serve as the basis for development of NCOC Technical Requirements and Specifications and provide a basis for funding by the military departments and Department of Defense (DOD).

1. (U) For 1965-1969 background, see CONAD Command History, 1967, pp 32-34 and CONAD Command History, 1969, pp 211-219.

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(U) The JCS validated the operational concept and the operational requirements in the Master Plan on 17 March 1969. The Secretary of Defense approved the operational concept for the NCOC as a point of departure for planning on 30 June 1969.

(U) The Master Plan was being implemented under several related but separate programs. The principal program was 427M, an Air Force-managed program to update computers and associated centers for command and control and space activities. In addition to Program 427M, the following programs were also being implemented:

1. Worldwide Military Command and Control System (WWMCCS) computers for the NORAD Computer System (NCS) and the Space Computational Center (SCC).
2. A Large Group Display (LGD) for the NCOC Command Post. The LGD was to be procured and installed by the Space and Missile Systems Organization (SAMSO).
3. The CONAD Intelligence Data Handling System (IDHS).
4. The Safeguard Ballistic Missile Defense Center (BMDC).
5. The NCMC Military Construction Program to upgrade and modify facilities in support of the NCOC Master Plan.

(U) Program 427M. On 20 June 1969, Hq USAF issued System Management Directive (SMD) 9-312-427M (1), which established Program 427M. Air Force Systems Command (Electronic Systems Division (ESD)) established a Program 427M System Management Office at L. G. Hanscom Field to integrate the implementation efforts. The first SMD was superseded on 20 April 1971 with a new SMD. Program

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Management Directive (PMD), 6 April 1972, superseded this SMD. A revised PMD was issued on 7 September 1972, the last in 1972.

(U) The 427M System would consist of three distinct segments integrated into one workable unit which would satisfy the operational requirements of the agencies in the NCMC. The three segments would be the NORAD Computer System (NCS), the ADC Space Computational Center (SCC), and a Communications Systems Segment (CSS) consisting of a Communications Processor and a Channel and Technical Control Facility. The NCS would replace the current NORAD Combat Operations System (NOCOPS), the SCC would replace the current Space Defense Center (SDC), and the communications segment would replace the current communications system.

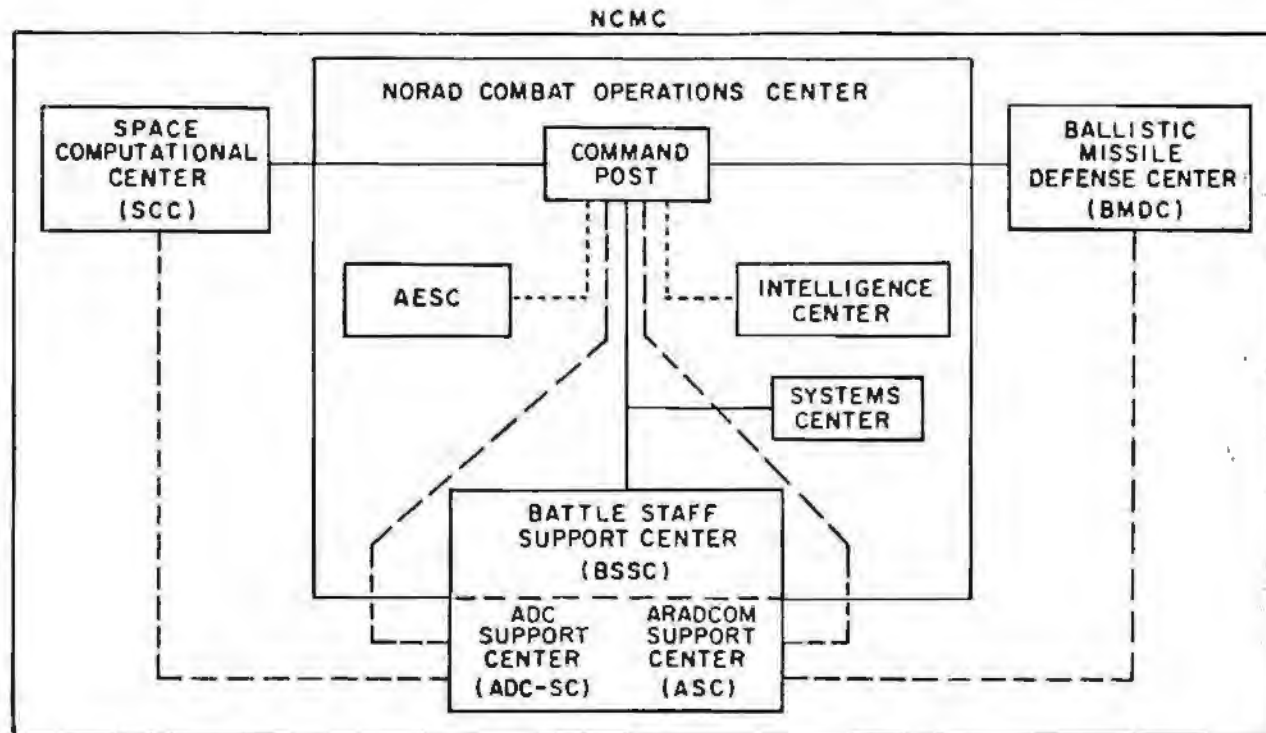
(U) The NCOC would consist of a Command Post and eight support centers--four NORAD/CONAD, two ADC, and two ARADCOM. The four NORAD/CONAD support centers were designated the Battle Staff Support Center (BSSC), the Aerospace Environmental Support Center (AESC), the CONAD Intelligence Center, and the Systems Center. To support the Command Post, there would also be the ADC Space Computational Center, the ADC Support Center (ADC SC), the ARADCOM Ballistic Missile Defense Center (BMDC), and an ARADCOM Support Center (ASC)--see chart following. The ADC SC and the ASC operated as an integral part of the BSSC.

(U) Two Honeywell Information Systems Force Control computers were to be used in the 427M system. These two computers would replace the three Philco 2000 computers currently used for the NOCOPS and the SDC, the three Philco 1000 off-line utility computers and other systems.

(U) Honeywell Information Systems, Inc. was awarded a contract on 15 October 1971 by

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ORGANIZATION FOR OPERATIONS



———— OPERATIONAL COMMAND/CONTROL
----- COMPONENT SUPPORT
..... OPERATIONAL SUPPORT

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the DOD to provide the computers for the first phase of the Worldwide Military Command and Control System (WWMCCS).¹ The 427M System was an element of the CONAD Command and Control System which was a subsystem of the WWMCCS.² DOD was standardizing computers to save funds and enable interface between systems at the same time.

(U) The first of the two Honeywell Information Systems Force Control computers was delivered on 26 June 1972 to the Computer Program Production Facility located in the Burroughs Building, Ent AFB, for development of the software program for

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1. NPAP Historical Report, September-October 1971 (959.5).
 2. (U) WWMCCS was being developed as a network of command and control subsystems which would enable the National Command Authorities (NCA), the JCS, and commanders at appropriate subordinate levels to direct and control the operations of U.S. Military Forces. WWMCCS subsystems included both national and theater-level systems. Theater-level systems included the command and control systems of the unified and specified commands and the systems of the headquarters of the Service component commands. The primary mission of WWMCCS was to support the NCA. The WWMCCS also had to support the JCS, the Services, unified and specified commands and DOD agencies on the basis of non-interference with the primary mission of WWMCCS. The first phase of WWMCCS included not only the CONAD Command and Control System but also the CONAD portion of the Intelligence Data Handling Systems (IDHS). Two Honeywell Information Systems General Staff Support/Medium (GSS/M) computers were being provided for CONAD Intelligence. The first GSS/M computer was delivered 2 October 1972 and installed in the NCMC. Delivery of the second computer was scheduled for February 1973 (page 136).

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both the NCS and SCC.¹ Development of the software program for the NCS began on 18 September 1972 following checks and acceptance of the computer. The first Force Control computer was scheduled to be moved to the NCMC in September 1974. Delivery of the second Force Control computer was scheduled for October 1973. The second computer would go directly to the NCMC.

(U) Military Construction. The Master Plan identified the NCMC facility and technical requirements through the 1975-1980 time period. Facility expansion was dictated by two factors: first, a deficiency existed in air conditioning and power capacity in Cheyenne Mountain; second, the facilities saturation of buildings and technical equipment due to added missions and workloads (Ballistic Missile Defense Center and additional space for Intelligence Data Handling System). The excavation of new chambers in Cheyenne Mountain for expansion was completed in January 1972. Construction of a chiller plant, new power plant and buildings 9, 10, and 11, which was started in 1971, continued throughout 1972. In addition, modification of existing buildings was initiated in February 1972. The status of construction is shown on the table on page 135 (see CONAD Command History, 1971, pp 142-144, for background on NCMC construction).

(U) NCOC Master Plan Implementation Schedule. At the end of December 1971, the Communications Systems Segment and the SCC portions of the 427M System were scheduled to reach Initial Operational Capability (IOC) by June 1975: IOC for the NCS was 6 months later--December 1975. CINCNORAD approved a joint

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1. (U) The NCS software program was to be developed in-house by the Hq NORAD computer programming agency, Assistant for Computer Programs, DCS/Plans and Programs. A working agreement between Assistant for Computer Programs and ESD was signed 24 May 1972. The SCC software development contract had not been awarded by the end of CY 1972. (NPAP Historical Report, May-June 1972 (959.5); NPCC, NCOC Master Plan Executive Summary, 1 January 1973 (51)).

NCMC CONSTRUCTION
(FY 70 MILITARY CONSTRUCTION PROGRAM)
STATUS AS OF 31 DECEMBER 1972

<u>PHASE</u>	<u>CONSTRUCTION STATUS</u>
I - ROCK EXCAVATION	100% COMPLETE
II - PROCUREMENT OF SIX GENERATORS	100% COMPLETE
II - PROCUREMENT OF BUILDING SPRINGS	100% COMPLETE
II - PROCUREMENT OF BLAST VALVES	100% COMPLETE
III - UTILITY PLANT (INCLUDES INSTALLATION OF SIX NEW GENERATORS)	25% COMPLETE. STRUCTURAL STEEL BEING ERECTED ON ALL BUILDINGS
IV - PROCUREMENT AND INSTALLATION OF CHILLERS	SAME AS ABOVE
V - NEW BUILDINGS 9, 10, AND 11	SAME AS ABOVE
VI - MODIFICATION OF EXISTING BUILDINGS	MODIFICATION WORK IN BUILDING 1 TO RELOCATE EXISTING PHILCO COMPUTERS COMPLETED IN DECEMBER 1972. NEXT MAJOR MODIFICATION IS TO HOUSE SPACE COMPUTATIONAL CENTER IN BUILDING 2.

Source: NORAD Management Program Report (U), Second Quarter Fiscal Year 1973, 31 December 1972, p 4-2 (709).

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NORAD/ADC plan for locating and phasing in the Honeywell Force Control computers which made it possible to move the NCS IOC date up to June 1975.¹ The change in schedule was proposed to ESD in June 1972. ESD could take no action prior to the awarding of the contract for the System Integration and Communications System Segment. This contract was awarded on 27 October 1972 to the Philco-Ford Corporation. A schedule realignment was not forthcoming, however, so Hq NORAD requested on 10 November that ESD take action to achieve a June 1975 IOC date for the NCS.² ESD prepared a proposed schedule for achieving a June 1975 NCS IOC and sent it to the 427M integration contractor (Philco-Ford), where it was being studied at the end of CY 1972. See table following for scheduled system readiness dates as of 31 December 1972.

(U) Master Plan Changes. Hq NORAD issued serially-numbered changes to its 1968 plan as new requirements and developments arose. By the end of CY 1971, 14 changes had been issued, numbers 1 through 15 (Change 10 was deferred).

(U) Change 16, 22 May 1972, updated 427M/BMDC interface requirements and superseded Changes 13 and 15. Change 10 was issued on 28 August 1972. It provided the phasing and scheduling plan for installation of extensive new equipment, including the 427M System, in the NCMC.

COMPUTERS FOR CONAD INTELLIGENCE

(U) Background. The computer system for the CONAD Intelligence Data Handling System (IDHS) consisted of two computers--an International Business Machines (IBM) 7090 and an IBM 360/40. The 7090 dated back to the early 1960s and the 360/40 was leased in 1969. The CONAD IDHS was included in the WWMCCS (page 133), and in a 1968 JCS implementation

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1. Ltr, CINCNORAD to ADC, "CINC Decision on Phasing Plan for 427M WWMCCS Computers," 17 March 1972 (51); CPRO Basic Projects Book, Tab I, June 1972 (721).
 2. Msg, Hq NORAD to ESD, NPCC 101600Z November 1972 (51).

NCOC MASTER PLAN IMPLEMENTATION SCHEDULE

(As of 31 December 1972)

SPACE COMPUTATIONAL CENTER (SCC) SOFTWARE/DISPLAYS CONTRACT AWARD	JANUARY 1973
LARGE GROUP DISPLAY INITIAL OPERATIONAL CAPABILITY (IOC)	DECEMBER 1973
BALLISTIC MISSILE DEFENSE CENTER (BMDC) EQUIPMENT READINESS DATE	OCTOBER 1974
NORAD COMPUTER SYSTEM (NCS) SOFTWARE READY	JANUARY 1975
SCC IOC	JUNE 1975
COMMUNICATIONS SYSTEM SEGMENT (CSS) IOC	JUNE 1975
NCS IOC	DECEMBER 1975
NEW BUILDINGS BENEFICIAL OCCUPANCY DATE	
# 9	OCTOBER 1973
# 10	OCTOBER 1973
# 11	SEPTEMBER 1973

Source: CPRO Projects Book, Tab I (721); Directorate of Command and Control, DCS/Plans and Programs.

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plan the IDHS was identified to receive WWMCCS computers to replace its 7090-360/40 system.¹

(U) Three sizes of computers were to be available through the WWMCCS plan--the smallest was the General Staff Support/Medium (GSS/M), next was the General Staff Support/Large, and the largest was the Force Control. Initially, CONAD Intelligence was to get a General Staff Support/Large computer, but this was changed in June 1970 to a GSS/M computer.

(U) Following this change, Hq CONAD extensively researched its IDHS computer requirement. It was shown that the CONAD system required a large scale computer. The requirement and specifications for a Force Control computer were sent to Hq USAF in June 1971. Hq USAF validated the requirement for replacement of the CONAD Intelligence computer system with either a General Staff Support/Large or a Force Control computer. The Defense Intelligence Agency (DIA) validated the CONAD requirement to the JCS, also recommending one or the other of the above computers. The JCS acknowledged the DIA validation as a formal System Development Notification and assigned a WWMCCS project number to the CONAD system.

(U) Computer Allocation. Honeywell Information Systems, Inc. was awarded the contract by DOD in October 1971 to provide computers in the first phase of the WWMCCS (page 133). The CONAD IDHS, along with the CONAD Command and Control System, was included in this phase. The WWMCCS contract limited the number of Force Control computers, however, and the JCS allocated two medium-scale (GSS/M) computers to CONAD Intelligence.²

(U) Extensive site preparation was necessary before receiving these computers which were to be installed in the Intelligence Computer Center in the NCMC. The 360/40 computer was moved to a temporary location and the 7090 computer was removed. The

1. NINT Historical Report, January-February 1972 (959.2); Ibid., September-October 1972.

2. Ibid.

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360/40 computer was to be phased out later. Site modifications were completed and accepted by 25 September 1972.¹

(U) The first GSS/M computer arrived on 2 October 1972 and was installed. The second computer was scheduled for delivery in February 1973. An acceptance test of the first computer was run from 30 November to 30 December 1972.² The effectiveness level was high--99.8 percent.

INTEGRATION OF THE DEFENSE SPECIAL SECURITY COMMUNICATIONS SYSTEM (DSSCS) INTO AUTODIN

(U) The Worldwide Special Security Communications System was being integrated with the Automatic Digital Network (AUTODIN) as directed by the Deputy Secretary of Defense. AUTODIN communications terminals were being installed in the communications centers operated by Hq CONAD Special Security Office (SSO) and the SSOs at the CONAD regions as part of the program.

(U) The AUTODIN system would replace 14 point-to-point circuits previously used by the Hq CONAD SSO. Under AUTODIN, the CONAD SSOs would receive intelligence message traffic directly from an AUTODIN switch. In the past, the SSO Cheyenne Mountain received and relayed all traffic addressed to CONAD SSOs. The SSO 22d NORAD Region would not be integrated into AUTODIN because the Special Security communications center at that location was owned and operated by the Canadian government and was not under U.S. control.

(U) As of 31 December 1972, SSO Cheyenne Mountain was integrated into the AUTODIN system. It was estimated that the SSO CONAD, Ent AFB, and the CONAD region SSOs would be fully operational in the AUTODIN/DSSCS program by April 1973.

1. NINT Historical Report, September-October 1972 (959.2).

2. Ibid., November-December 1972.

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SECTION II - ALTERNATE COMMAND POST AND
ALTERNATE SPACE DEFENSE CENTER

NORAD ALCOP

(U) (S) Background. The NORAD and the CONAD Alternate Command Posts (ALCOPs) had been at Hq Western NORAD/CONAD Region, Richards-Gebaur AFB, Missouri, which was discontinued 14 November 1969. Hq NORAD did not establish a new ALCOP at that time, but designated the 22d NORAD Region (NR), North Bay, Ontario, as the first alternate to the NCOC and the 24th NR, Malmstrom AFB, Montana, as the second alternate. Hq CONAD designated the 24th CONAD Region (CR) as the CONAD ALCOP effective 11 March 1970.

(U) (S) Hq NORAD had been trying for some time to establish its ALCOP in the 22d NR hardened control center, but Canada had not given its approval. In 1970, Hq NORAD asked JCS approval to place the NORAD ALCOP at Malmstrom AFB with the CONAD ALCOP. The JCS approved in 1971 and advised that the CDS also approved. Hq NORAD designated the 24th NR as the NORAD ALCOP effective 22 December 1971.¹

(U) Manning. ALCOP manning actions in 1972 are covered in Chapter I.

(U) (S) NORAD ALCOP Operation Plan (OPLAN). CINC-NORAD OPLAN 3341, 3 July 1972, stated the assumptions that:

"1. The NCMC may be rendered incapable of performing its missions depending on the type of enemy weapons employed and the extent of their destructive capabilities.

"2. The NORAD ALCOP, established at Hq 24th NORAD Region Control Center, has not been rendered unusable by enemy action or other disaster."

1. (U) For further background, see CONAD Command History, 1971, pp 157-159. The CONAD ALCOP OPLAN is covered in the 1971 history, pp 159-161.

The OPLAN was to be implemented under the following conditions:

"1. When directed by CINCNORAD.

"2. Automatically, upon determination that the NCMC has been totally destroyed or is rendered incapable of exercising operational control over NORAD forces.

"3. Automatically, when communications on the dedicated, continuity circuits from the NORAD ALCOP to the COC have been lost for a period of 1 minute or more."

(u) (S) The Command Directorate of the NORAD ALCOP was operational on a 24-hour, day-to-day basis. The manning of the ALCOP Battle Staff and the ALCOP BSSC was dependent upon two conditions:

"1. Condition Alfa. The NCOC has been destroyed, disrupted or is incapable of exercising operational control over NORAD forces. This condition will dictate the exercise of interim control of NORAD forces through the NORAD ALCOP with personnel already in place at the 24th NRCC.

"2. Condition Bravo. There is sufficient warning of an impending attack to deploy pre-identified personnel from Hq NORAD, ARADCOM, USAF ADC, and the 12th Weather Squadron to Malmstrom AFB, Montana."

(u) (S) Under Condition Alfa, no augmentation personnel were to be deployed to the ALCOP from the Colorado Springs area; however, senior surviving ARADCOM and USAF ADC Commanders as identified within appropriate succession to command directives were to deploy to the ALCOP from other locations. Under Bravo, and when directed by CINCNORAD, pre-identified battle staff and component support center augmentation personnel were to deploy to Malmstrom AFB.

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ALTERNATE SPACE DEFENSE CENTER

(u) (S) CINCNOAD decided in 1970 to establish an Alternate Space Defense Center (ASDC) at the USAF Space Surveillance Facility, Eglin AFB, Florida. At that time, backup computer facilities for the SDC were being provided by ADC at the Ent AFB computational facility and by the Naval Space Surveillance (NAVSPASUR) System, Dahlgren, Virginia. Hq NORAD tasked ADC on 1 December 1970 to establish the ASDC. Hq NORAD stated that when the NCOC function was transferred to the ALCOP at Malmstrom AFB, the SDC function would be transferred to the ASDC. Hq NORAD also tasked NAVSPASUR to provide backup data to both the SDC and the ASDC.

(u) (S) The ASDC was declared to have an IOC as of 15 January 1972.¹ The ASDC was declared to have reached "Interim Fully Operational Capability" as of 1 January 1973.² The interim limitation, Hq NORAD explained, applied only to the extent that the special intelligence facility was not operable.

SECTION III - NORAD/CONAD AIRBORNE COMMAND POST AND DATA PROCESSING CENTER

(u) (S) Hq NORAD submitted NORAD Qualitative Requirement (NQR) 2-69 for a NORAD/CONAD Airborne Command Post and Data Processing Center (NACP) to the JCS in early 1969.³ The JCS validated for planning purposes the general concept for an NACP in December 1969. The JCS directed the Air Force to examine the NORAD requirement and the possibility of combining NORAD and SAC functions aboard a single aircraft.

1. Msg, Hq NORAD to JCS, NOSD 281900Z January 1972 (51X228).
2. Msg, Hq NORAD to ADC, et al., 302000Z December 1972 (51X228).
3. (U) For background, see CONAD Command History, 1969, pp 232-234.

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(u) (S) Air Force Hq advised the JCS in February 1970 that the C-5/747 class aircraft was technically capable of satisfying the combined NORAD and SAC requirements. However, the NORAD data processing requirements were beyond the current state of the art. The JCS in August 1970 directed Hq NORAD to clarify certain ambiguous areas and forward a revised NQR and a NORAD Operational Employment Concept (NOEC).¹

(u) (S) Hq NORAD superseded NQR 2-69 with NQR 2-71 for an NACP, 22 April 1971, and issued NOEC 2-71 in support of the NQR on the same date.² While the JCS had not validated NORAD's specific requirements by the end of CY 1971, the Worldwide Military Command and Control System (WWMCCS) Council approved on 17 December 1971 an Advanced Airborne Command Post (AABNCP) Program.

(u) (S) Included in this program was a provision to procure seven 747 aircraft, four of which were to be delivered during CY 1972 and the remaining three in 1973. The program also provided for development of improved command, control and communications equipment. The seven aircraft, with improved equipment installed, were to be operational by December 1975.³

(u) (S) The Secretary of the Air Force signed the implementing directive on 14 January 1972 for the AABNCP Program as approved by the WWMCCS Council on 17 December 1971. However, the directive and program addressed only the SAC and NCA requirements.⁴

(u) (S) CINCNORAD wrote to the Chairman, JCS, on 2 February 1972 reiterating the urgent requirement for

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1. CONAD Command History, 1970, pp 119-120.
 2. (U) For details, see CONAD Command History, 1971, pp 164-165.
 3. CPRO Basic Projects Book, Tab H, 1 February 1972 (721).
 4. NPAP Historical Report, January-February 1972 (959.5); Msg, ADC to CINCONAD, XP 041700Z February 1972 (51.2).

a NORAD Airborne Command Post. The letter stated in part:¹

"... the WWMCCS Council recently approved the AABNCP program and the Air Force has received initial implementing instructions from SECDEF.² The dialogue which preceded this approval centered on the theme that initial AABNCPs would go to NEACP³ and SAC. I am in full agreement with that priority. For that reason, and because I felt that getting an AABNCP program on the books at the earliest possible date was essential to national security, I intentionally refrained from injecting the issue of NORAD's requirement into the Development Concept Paper deliberations last year even though the DCP⁴ did not address NORAD's requirement. In short, I did not want any issue, even NORAD's requirement, to create a cause for further delay in initiating the badly needed AABNCP program. At this point, however, I feel that the NORAD issue must be surfaced within JCS on a positive basis.

"... NORAD's requirements combine to produce a need for a NORAD Airborne Command Post of the 747 platform size. Our formal requirement, NQR 2-71, substantiates this fact. As a pertinent thought, I am convinced that a C-135 would be inadequate as a platform to

1. Ltr, CINCONAD to Chairman, JCS, "NORAD Airborne Command Post and Data Processing Center (U)," 2 February 1972 (51.2).
2. (U) SECDEF - Secretary of Defense.
3. (U) NEACP - National Emergency Airborne Command Post.
4. (U) DCP - Development Concept Paper.

accomplish these essential functions and that they cannot be accomplished as 'add-on' requirements in either the NEACP or SAC platform.

". . . I consider it essential:

"a. That NORAD's requirement be quickly and favorably considered as a firm requirement.

"b. That the priority of NORAD's requirement be placed immediately behind those of the NMCS¹ and SAC.

"c. That the 747 procurement contract include the option for procurement of NORAD platforms as early as possible after equipment of NMCS and SAC."

(u) (X) The JCS Chairman replied on 7 March 1972 that budgetary constraints would prohibit additional AABNCP aircraft procurement for several years; the JCS would continue to support the validation for planning purposes of the NORAD general concept for an airborne command post; every effort would be made to accommodate NORAD's needs in the development phase of the AABNCP; and subsequent efforts to obtain additional aircraft would be devoted to the NORAD requirement as a matter of priority.²

(u) (X) Hq NORAD advised Hq USAF of interest in the AABNCP and requested that NORAD be allowed to participate in all pertinent areas of planning and be included in the distribution of all documents relating to the AABNCP.³ Hq USAF concurred in principle with Hq NORAD's request and advised AFSC to include Hq NORAD and ADC in matters pertaining to the program.⁴

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1. (U) NMCS - National Military Command System
 2. CPRO Special Projects Book, Tab H, 1 April 1972 (721).
 3. Msg, Hq NORAD to CSAF, NPCC 121425Z May 1972 (51.2).
 4. Msg, CSAF to Hq NORAD, CV 051904Z June 1972 (51.2).

(u) (X) Hq NORAD also recommended to the JCS that the requirement for an NACP be included in the WWMCCS objectives plan as a far-term objective.¹ The JCS included the requirement in the WWMCCS objectives plan but with a proviso that only the general concept had been validated.² In December 1972, the NORAD requirement for an airborne command post was included in the Joint Strategic Objectives Plan FY 75-82.³

SECTION IV - REPORTING AND ALERTING SYSTEMS

OPERATIONAL STATUS REPORTING SYSTEM

(u) (X) Hq NORAD submitted a requirement for an Operational Status Reporting (OPSTAR) System to the JCS in September 1971. A requirement was stated for a computer-controlled system for filing and automatically processing nuclear, biological and chemical (NBC) event reports and operational status reports. The JCS validated only that portion of the requirement for improving NBC reporting and forwarded it to the Air Force for evaluation.⁴ A preliminary report was given to the JCS in February 1972. The Air Force recommended a final decision on OPSTAR be held up pending an evaluation by the Air Force Systems Command (AFSC) of a satellite system that would detect nuclear detonations (NUDETS).⁵ In response to a JCS query in March 1972, Hq NORAD stated that the OPSTAR system was still required and recommended action be taken on the requirement.⁶

1. Msg, Hq CONAD to JCS, CPCC 182200Z May 1972 (51.2).
2. Interview, Mrs. E. A. Rehkop, Historical Clerk, with Lt Col R. R. Ryan, NPCC, 15 November 1972.
3. Ibid., 4 May 1973.
4. Ltr, Hq NORAD to Hq USAF, "Submission of Major Telecommunications Requirement NORAD Operational Status Reporting System," 13 December 1971 (57).
5. NELC Historical Report, March-April 1972 (959.6).
6. Ltr, Hq CONAD to JCS, "Submission of Major Telecommunications Requirement, NORAD Operational Status Reporting System," 17 March 1972 (57).

(U) OPSTAR prototype equipment, developed by the Rome Air Development Center, was demonstrated for members of the Air Staff, Hq NORAD, ADC and AFSC on 18 July 1972. This demonstration successfully simulated the passing of OPSTAR traffic through a typical region to the NCMC.¹

(u) (S) Hq USAF proposed to Hq CONAD in August 1972 an alternate means of improving the NBC reporting system and requested comments. The proposal involved using Defense Support Program (DSP) sensors for real-time nuclear event reporting and recommended keeping the present manual method of reporting biological and chemical events (for information on DSP, see page 102).²

(u) (S) Hq CONAD reviewed the USAF proposal and determined that the nuclear reporting requirements could best be satisfied by using the DSP. Hq CONAD recommended to the JCS on 25 October that programming action on OPSTAR be withdrawn.³ On 28 November 1972, the JCS rescinded their directive to the Air Force to study and evaluate the NORAD OPSTAR system. This action cancelled OPSTAR.⁴

NORAD ALERT SYSTEM

(U) The Voice Alert System and the NORAD Attack Warning System were used by the NCOC at the beginning of 1972. During a conference in May 1972, a decision was made to integrate these systems into a new system designated as the NORAD Alert System (NAS) which

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1. NELC Historical Report, July-August 1972 (959.6).
 2. Ibid.
 3. NELC Historical Report, September-October 1972 (959.6); Ltr, Hq CONAD to JCS, "Submission of Major Telecommunications Requirement, NORAD Operational Status Reporting (OPSTAR) System (U)," 25 October 1972 (57).
 4. Interview, Mrs. Rehkop with Major J. P. Di Rosario, NEPP, 2 February 1973.

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would provide improved operational services with greater survivability at a reduced cost.¹ The NAS would provide an alerting system called the NORAD Attack Alert System (NAAS) and two voice circuits, the Primary Voice Alert System (PVAS) and the Weapons Alert System (WAS), when it became fully operational. The functions of these elements would be as follows:

1. The NAAS would provide alerting lights at Region Control Centers (RCCs), BUIC NORAD Control Centers (BNCCs) and interceptor bases. The alerting lights could be illuminated by coded signals sent over the PVAS and/or WAS circuits.²

2. The PVAS would provide voice alerting capability to the RCC and its primary BNCC in each region, as well as to other agencies.

3. The WAS would expand the PVAS by providing voice alerting capability to the second BNCC in each region and all weapons sites.

(U) Equipment was installed and successfully tested and the NAS became operational on 17 October 1972 in the six CONUS regions.³ No anticipated operational date had been established for either the 22d NR or the ANR as of the end of CY 1972.⁴

EMERGENCY BROADCAST SYSTEM

(U) The JCS directed CINCONAD in January 1972 to plan to assume the responsibility for activating and deactivating the Emergency Broadcast System (EBS). This action resulted from a high-level review of the EBS after National Warning Center Number One (NWC I),

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1. NELC Historical Report, July-August 1972 (959.6).
 2. Ibid.
 3. Msg, Hq NORAD to AIG 952, 953, et al., NOAD 132245Z October 1972 (251).
 4. Interview, Mrs. Rehkop with Colonel M. L. Kramer, NECO, 7 February 1973.

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located in the NCMC, transmitted by mistake in February 1971 an authenticated alert message over press teletype services which stated that the President had declared a national emergency. The purpose of such a message was to have commercial radio and television stations provide the President and the Federal Government with facilities to reassure the populace and give directions on survival and recovery of the nation.¹

(U) The EBS teletypewriter network point-of-origin was relocated from NWC I to the Systems Controller position in the NCMC. A special AUTOVON/² commercial telephone alerting system was developed to put the White House Communications Agency Trip Officer in immediate contact with the CONAD Command Director. New operational procedures and checklists were prepared and CONAD assumed responsibility for the EBS on 2 November 1972.³

(U) CONAD activated the circuit for tests on 14 and 29 November, and 15 and 28 December 1972. Only minor difficulties were encountered and most stations acknowledged receipt of the test message on the first poll.⁴

SECTION V - COMMUNICATIONS MATTERS

MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK

(u) ~~(S)~~ The Minimum Essential Emergency Communications Network (MEECN) was an NCA/JCS network. The MEECN consisted of existing and planned near-term communications systems to provide a minimum emergency backup communication capability. This capability was required for transmission of emergency action messages

1. (U) For background, see CONAD Command History, 1971, pp 155-157.
2. (U) AUTOVON - Automatic Voice Network.
3. NOPS Historical Report, September-October 1972 (959.3).
4. Ibid., November-December 1972.

(EAMs) to the forces during the trans- and post-attack time frames when normal means of communications had failed. Only the most survivable command and control communications methods and facilities were a part of MEECN. These facilities consisted primarily of airborne platforms (Presidential aircraft, airborne command posts, Navy very low frequency relay aircraft) and the Emergency Rocket Communications System. Methods used for transmitting messages from these facilities were: high frequency, ultra-high frequency (UHF), low frequency/very low frequency, and UHF satellite radio communications.¹

(u) ~~(S)~~ The JCS forwarded a new MEECN Communications Plan to Hq CONAD in August 1971. This plan provided for three networks:²

1. MEECN Alfa, for communications from the NCA to the unified commanders.
2. MEECN Bravo One through Five, for communications from each unified commander to his assigned forces (CINCONAD's net was MEECN Bravo Five).
3. The MEECN All-Call, for communications direct from the NCA to the forces when a unified commander was unable to contact his forces.

(u) ~~(S)~~ The requirement for MEECN to extend to CONUS defense was new with this plan and the JCS tasked CINCONAD with preparing the MEECN Bravo Five Annex (Annex G) to the MEECN Communications Plan and then developing an implementing procedural plan for using the MEECN.³

(u) ~~(S)~~ CINCONAD forwarded to JCS the requested Annex G to the MEECN Communications Plan on 19 January 1972. This Annex proposed SAGE/AUTOVON

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1. Memo, DCS/C&E to CS, CINCONAD, "Minimum Essential Emergency Communications Network (MEECN) Communications Plan (U)," 17 January 1972 (57).
 2. Ibid.
 3. Ibid.

as the most survivable in-being system for disseminating EAMs to the CONAD forces and proposed the following routes for CINCONAD's use (see diagram on page 152):¹

"a. Route One. CONAD Combat Operations Center (CCOC) via the SAGE/AUTOVON environment to the CONAD Alternate Command Post (ALCOP), all CONAD Regions, U.S. Element 22d NR and CONAD Region ALCOPs for further relay to forces assigned.

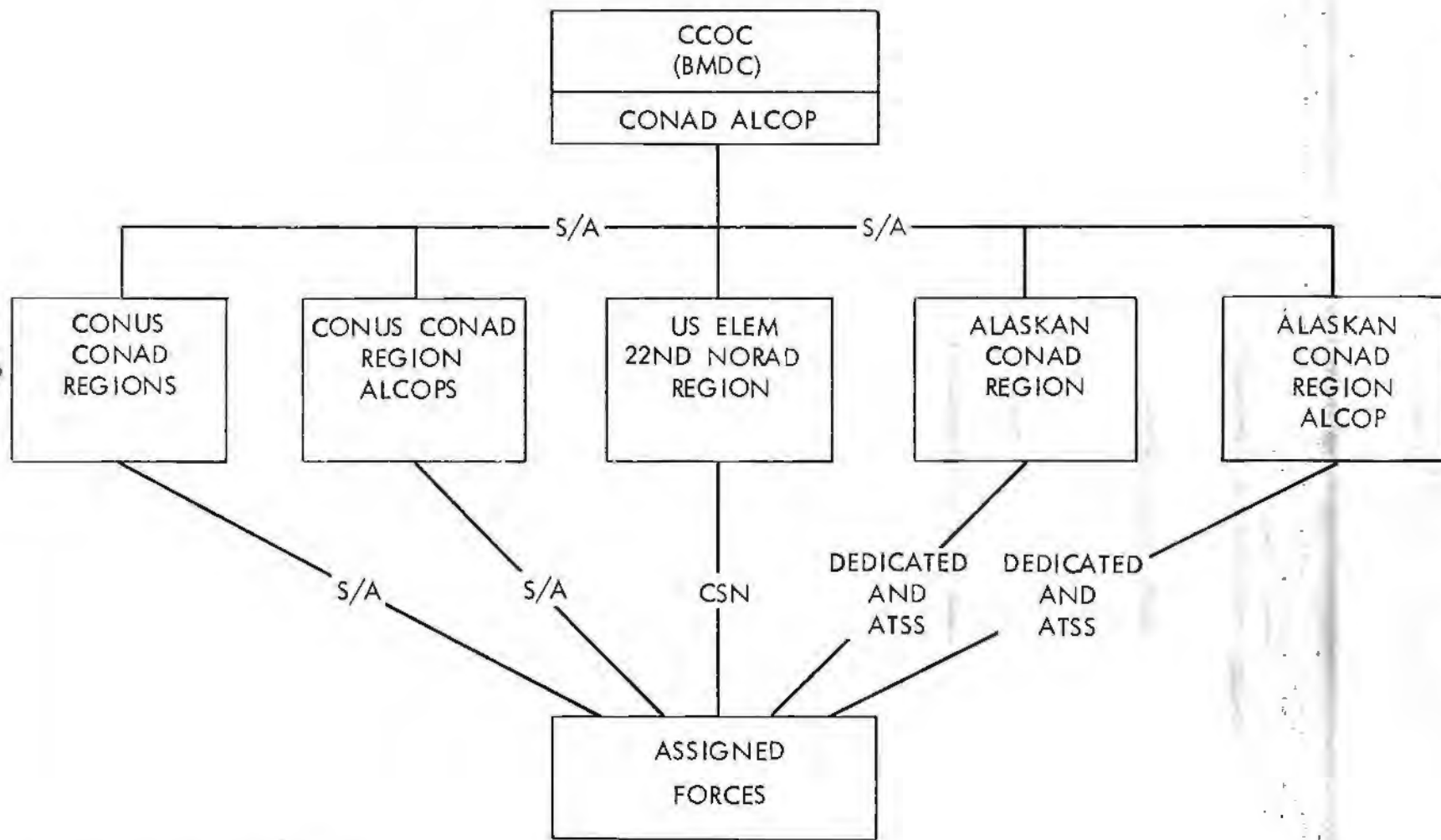
"b. Route Two. CONAD ALCOP via the SAGE/AUTOVON environment to all CONAD Regions, U.S. Element 22d NR and CONAD Region ALCOPs for further relay to forces assigned."

(u) (S) The JCS were also advised that the procedural plan requested was under preparation and, when Annex G to the MEECN Communications Plan had been approved, would be coordinated with the Commander-in-Chief, Strategic Air Command.² The JCS approved Annex G as submitted on 28 February 1972.³

(u) (S) A CONAD working group, chaired by DCS/Operations, was appointed to complete the implementing procedural plan to support the MEECN concept. A draft plan was forwarded to all interested agencies for comment. Comments were incorporated into a draft operations order (OPORD) which was the initial development of a MEECN Communications procedural plan for CONAD. The proposed CINCONAD OPORD 3122,

1. Ltr, CINCONAD to JCS, "Minimum Essential Emergency Communications Network Communications Plan (U)," 19 January 1972 (57).
2. Ibid.
3. Memo, DCS/C&E to CS, CINCONAD, "Minimum Essential Emergency Communications Network Communications Plan (U)," 7 March 1972 (57).

MEECN BRAVO FIVE-CINCONAD TO CONAD DEFENSE FORCES



S/A - SAGE AUTOVON
CSN - CANADIAN SWITCHED NETWORK
ATSS - ALASKA TELEPHONE SWITCH SYSTEM

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"CONAD Minimum Essential Emergency Communications Network (MEECN) Procedures," was forwarded to the JCS on 2 January 1973.¹

DEFENSE SATELLITE COMMUNICATIONS SYSTEM

(U) The Defense Satellite Communications System (DSCS), operated by the Defense Communications Agency (DCA), was designed to provide for inter-theater long haul, high density traffic for the strategic forces. It was being placed into operation in two phases.

(U) (S) The Phase I system, at its peak, consisted of 26 low-power satellites launched during the period June 1966 through June 1968.² The NCOC used the Phase I system through five ground stations located at Shemya, Alaska; Fort Detrick, Maryland; Landstuhl, Germany; Diyarbakir, Turkey; and Lamar, Colorado. The station at Lamar was replaced, however, by a station at McClellan AFB, California, in June 1972.³ Improved usage of the Phase I satellites was provided by this change.

(U) (S) The satellites launched during Phase I of the DSCS drifted slowly in near-synchronous, equatorial orbits. A single satellite was within view of a particular earth terminal only about $4\frac{1}{2}$ days. Each satellite had one transponder which was used for one duplex communication link. A satellite had to be mutually visible to two earth terminals to establish communications between the terminals. Random gaps in coverage could occur since there was no orbital control to permit repositioning of the Phase I satellites.⁴ These satellites exceeded the originally-

1. Ltr, CINCONAD to JCS, "Minimum Essential Emergency Communications Network (MEECN) Communications Procedural Plan (U)," 2 January 1973 (57).
2. (U) Each satellite was 32 inches high, had a diameter of 36 inches and weighed approximately 100 pounds.
3. Memo, NEPP to Brig Gen Hill, "Shemya/McClellan AFB DSCS Phase I Terminal Activation," 3 July 1972 (57).
4. DCA Satellite Communications Reference Data Handbook, July 1972, p C-6 (57).

designed goal for a mean time to failure (MTTF) of 1½ years with a MTTF of over 5 years. The satellite transmitters were scheduled to turn off automatically about 6 years from date of launch.

(U) Only 14 of the Phase I satellites were still operational as of 31 December 1972.¹ This number would decrease as the satellites approached their 6-year automatic cutoff design life. The minimum number of satellites required for acceptable service was estimated to be 10. Thus, the DSCS Phase I was expected to have limited capability beyond mid-1973.²

(U) (X) Phase II of the DSCS would provide increased system capacity and higher satellite availability. Four large satellites were to be launched into geostationary equatorial orbits (orbits which would keep them in a stationary position in relation to the earth).³ This deployment of four satellites would provide complete earth coverage with the exception of the polar regions. Additional launches would be made on an as-required basis for replenishment and to establish additional in-orbit operational satellites. Ground terminals used during Phase I operations were to be modified and upgraded as required for use with the Phase II satellites.⁴

(U) (X) The first two Phase II satellites were launched in October 1971. After a check out period, they were to be positioned in the mid-Atlantic and the western Pacific. The Pacific satellite failed, however, and there was little or no hope for recovery at the end of 1972. As of 31 December 1972, the

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1. Interview, Mrs. Rehkop with CDR J. E. Bloise, NEPP, 23 February 1973.
 2. Ibid.
 3. (U) Each satellite, designed for a 5-year operational life, was 13 feet high, had a diameter of 9 feet and weighed approximately 1,100 pounds.
 4. DCA Satellite Communications Reference Data Handbook, July 1972, pp D-1, D-2, A-11 (57).

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Atlantic satellite was operating as designed and was fulfilling the NORAD requirement with a full-time circuit from Diyarbakir to Fort Dix, New Jersey.¹

ADVANCED GLOBAL COMMUNICATIONS

(u) (~~S~~) CONAD Qualitative Requirement (CQR) 2-72, "Advanced Global Communications System 1980," was issued on 24 April 1972. CQR 2-72 stated that:²

"The mission of the CONAD advanced global communication system is to provide survivable real-time, highly reliable communications data links to worldwide sensors, between airborne facilities and the CONAD Command Control System which includes selected hardened ground entry stations via satellite or special purpose space platforms in a heavy countermeasure and nuclear environment."

(U) The JCS advised Hq CONAD on 19 June 1972 that CQR 2-72 had been approved for submission as an item in the Joint Research and Development Objectives Document. Hq CONAD had not been informed of any further action by the end of CY 1972.³

COMMUNICATIONS COST REDUCTIONS

(U) Hq NORAD requested its CONUS regions in March 1972 to submit proposals for communications cost reductions. The reductions were to be used as trade-offs to save the BUIC centers, but were not implemented immediately because the BUIC centers were to be placed on semi-active status rather

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1. Interview, Mrs. Rehkop with CDR J. E. Bloise, NEPP, 23 February 1973.
 2. CONAD Qualitative Requirement for an Advanced Global Communications System 1980 (U), 24 April 1972, p 1 (57).
 3. Interview, Mrs. Rehkop with Lt Col R. V. Reyes, NEPP, 23 February 1973.

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than inactivated (page 157). The proposed reductions and associated savings were:¹

Reduction of two of six spokes at the NCMC	\$564,000
Reduction of AUTOVON access lines at the NCMC	157,000
Reduction of RCC switchboard access lines	266,000
Reduction of BNCC switchboard access lines	407,000
Adjust common-user group and air-to-ground-to-air circuitry	1,607,000
TOTAL	\$3,001,000

(U) ADC was directed by Hq USAF in July 1972 to review all leased communications services and facilities funded out of the Air Force budget. The objective was to reduce annual leased communications costs by a minimum of 10 percent. This would amount to approximately \$7 million.

(U) The reductions identified in March 1972 provided only a possible five percent cost reduction; therefore, all regions (except ANR) were requested in July 1972 to submit proposals to achieve additional cost savings. The new reductions were evaluated by Hq NORAD and ADC and a decision was made to hold these proposals and submit only the reductions identified in March 1972.

(U) ADC formally requested that CINCNOAD approve the March 1972-proposed reductions. These were the maximum that could be identified without an adverse impact on operational capabilities. CINCNOAD approved these reductions on 25 August 1972 and directed ADC to take implementation action. All reductions had been made as of the end of CY 1972.²

1. NELC Historical Report, July-August 1972 (959.6).
2. Interview, Mrs. Rehkop with Lt Col C. A. Justinak, NECO, 13 February 1973.

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CONSOLIDATION OF NCMC COMMUNICATIONS CENTERS

(U) ADC recommended consolidation to Hq NORAD of the three NORAD/ADC communications centers in the NCMC into a single entity.¹ ADC estimated that this would improve service and save \$378,500 initially and \$206,835 annually.

(U) ADC proposed to consolidate the SDC and the BSSC communications centers with the Command Post Communications Center (CPCC). Message distribution to the SDC and BSSC would be via pneumatic tube while all other customers would receive over-the-counter service.

(U) CINCNORAD approved the consolidation on 24 July 1972 and directed ADC to consolidate the centers.² Work had been started but not completed as of the end of CY 1972. The completion date for the project was estimated to be 31 December 1973.³

(U) The only completed action was reduction of teletype equipment in the BSSC communications center. This reduction was made 30 October 1972 and resulted in a monthly recurring cost savings of \$923.00.⁴

SECTION VI - BUIC NORAD CONTROL CENTERS

PHASE DOWN OF CONUS BUIC CENTERS

(u) ~~(S)~~ DOD/JCS Directives. Program Budget Decision 294, 9 December 1971, directed the inactivation of the 12 BUIC NORAD Control Centers (BNCCs) in the Continental U.S. (CONUS). This was later modified, however. The JCS advised Hq CONAD on 5 June 1972 that

1. Ltr, ADC to CINCNORAD, "Consolidation of Communications Centers, NCMC," 3 July 1972 (57).
2. NELC Historical Report, July-August 1972 (959.6).
3. NOPS Historical Report, September-October 1972 (959.3).
4. Ibid.

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the 12 BNCCs would be retained--1 (at Tyndall AFB, Florida) in its current active status and the remaining 11 in a semi-active status. These semi-active centers were to be manned by only those personnel required to maintain the centers in a degree of readiness consistent with the planning factor of 1 to 2 days strategic warning. Upon an increase in defense readiness, the JCS stated, manning crews would be provided from the primary control center within each region and the BNCCs brought to active status.

(u) (X) Hq NORAD and ADC Actions. The Chief of Staff of the Air Force (CSAF) directed ADC on 31 May 1972 to prepare a plan for employment of the 11 BUIC centers in a semi-active status.¹ The CSAF directive did not provide guidance as to what constituted semi-active status, however. CINCNORAD established on 1 June 1972 the following requirements for semi-active status:²

"1. Each BUIC must have the equipment, communications, and augmentation personnel required to assume command and control of its assigned area of responsibility based on 24 hours of strategic warning.

"2. One BUIC in each region must be capable of assuming a monitor state of readiness for a minimum identification capability at all times, in the event the Region Control Center (RCC) should fail, to ensure NORAD's ability to restrict unauthorized overflight of sovereign airspace. This capability will be activated when the RCC is simplex³ and estimated to remain so for more than one hour."

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1. NOPS Historical Report, May-June 1972 (959.3).
 2. Ibid.
 3. (U) Simplex is a status in which one of the two RCC computers is inoperative.

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CINCNORAD again stated the requirement that there be a capability to perform the identification mission should the RCC become inoperative in a letter to ADC on 12 June 1972.¹ ADC replied that its operational employment plan, 16 June 1972, provided for an emergency identification capability at semi-active BUIC centers.² CINCNORAD approved ADC's plan for providing identification capability on 20 June 1972.³

(U) The ADC operational employment plan (prepared in coordination with Hq NORAD) stated that the concept would provide CINCNORAD with a viable and continuing crisis management capability on a one-day recall basis.⁴ Semi-active BUIC facilities would be maintained with power on, computer cycling. Maintenance personnel would be assigned to each site to perform the minimum maintenance required. Each site would also have operations personnel in the numbers required to keep the system operating and provide the transition back from semi-active to active status. Augmentation personnel would be sent from the RCC to bring the BUIC site to active status.

(u) ~~(S)~~ Hq NORAD issued new terms and standards for levels of operation and states of combat readiness for semi-active BUIC by message on 26 October 1972.⁵ They were issued formally in Change 1, 20 November 1972, to NORAD OPOD 3000. Five levels of operation were prescribed.

"Level 1. The RCC is operational and there is no degradation in the backup system.

1. Ltr, CINCNORAD to Commander ADC, "CONUS Air Defense," 12 June 1972 (54.1).
2. Ltr, ADC to CINCNORAD, "CONUS Air Defense," 19 June 1972 (54.1).
3. Ltr, CINCNORAD to ADC, "CONUS Air Defense," 20 June 1972 (54.1).
4. Hq ADC, Operational Employment Plan for BUIC Semi-Active Mode of Operation, 16 June 1972 (54.1).
5. Msg, Hq NORAD to Regions, NOAD 262115Z October 1972 (54.1).

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"Level 2. The RCC is operational and there is some degree of degradation in the backup system.

"Level 3. The RCC is operational and backup facilities are inoperative or are not manned.

"Level 4. The RCC is inoperative and backup facilities are in control of the region.

"Level 5. Air defense weapons systems or units are operating autonomously."

Hq NORAD directed regions having two semi-active BNCCs to report Level 3 until deployment teams were in place. The region would report Level 2 when one BNCC was active and Level 1 when both BNCCs were active.

W) (S) Five states of readiness were prescribed by message on 26 October and Change 1, 20 November 1972, to NORAD OPOD 3000, progressing upward from semi-active to active, as follows:

"Semi-Active. The BNCC will be manned by a small on-site cadre of personnel required to maintain a degree of readiness consistent with one to two days strategic warning for full operations, and to provide an emergency identification capability should the RCC become inoperative during DEFCON 4 or 5. BUIC deployment teams . . . will be located at the RCC and deployed at DEFCON 3 unless ordered earlier by the region commander or CINCNORAD.

"Released. This is the normal DEFCON 4 or 5 readiness condition for those BNCCs not designated as semi-active and may be used for all BNCCs when deployment teams are in place.

"Standby. Under this condition, simulated training will cease. Maintenance may be performed with a minimum

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recovery time of 15 minutes. A stand-by crew . . . will be on 15-minute recall. The balance of one operations crew will be on one-hour recall.

"Monitor. The backup equipment will be cycling and receiving backup preparatory data from the parent RCC and other sources. As a minimum, the BNCCs will man on a reduced two-crew, 12-hour shift basis sufficient to maintain surveillance and communications monitor of all air defense activities within the BNCC area of responsibility. Personnel sufficient to achieve active status within 5 minutes will be available.

"Active. The backup system is conducting active air defense operations in its assigned area of responsibility. This status may occur at any LERTCON."

(U) BNCC Phase Down. The 11 CONUS BNCCs began a 3-month transition to semi-active status on 1 August 1972. During this period, ADC and ARADCOM took personnel actions to place the system in the reduced configuration. Effective 1 November 1972, all CONUS BNCCs, except the one at Tyndall AFB, Florida, were reduced to semi-active operation.

CANADIAN BNCCs

(u) (X) National Defence Headquarters (ND Hq) informed Hq NORAD of a requirement to phase down BUIC in Canada. Hq NORAD recommended continued full operation if possible, but if not, semi-active status as authorized for CONUS BNCCs.¹ ND Hq replied that the Minister of National Defence had directed it to place the Senneterre, Quebec, BNCC on semi-active status and to continue the other Canadian BNCC, located at

1. Msg, Hq NORAD to CANDEFCON, NOOP 131745Z July 1972 (54.1).

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St Margarets, New Brunswick, on full operation.¹ The phase-down of Senneterre was to be effective 1 April 1973.

(u) ~~(S)~~ Semi-active status for Senneterre did not mean the same as semi-active status for the CONUS BNCCs. There was no CF plan to deploy crews at short notice to Senneterre once it reached non-operable, semi-active status. The operational manpower spaces deleted were to be removed entirely.²

1. Msg, CANFORCEHED to CINCNORAD, DCUSP/1261, 061829Z September 1972 (54.1).

2. 22d NR, Talking Paper, "22d NR BNCC 'Semi-Active Status,'" 1 September 1972 (54.1).

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COMMAND AND CONTROL FACILITIES¹

	31 December 1971	1 July 1972	1 January 1973
NORAD/CONAD COC	1	1	1
ALCOP			
NORAD	1	1	1
CONAD	1	1	1
SPACE DEFENSE CENTER	1	1	1
ALTERNATE SPACE DEFENSE CENTER		1	1
REGION CONTROL CENTERS	8	8	8
BUIC NORAD CONTROL CENTERS	14	14	14
MANUAL NORAD CONTROL CENTERS	5	5	6
SAM FIRE COORDINATION CENTERS	12	12	12
AEW&C STATIONS	10	10	10

1. SOURCE: NORAD Forces and Program Change Summary (NFPCS).

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WARNING AND DISSEMINATION SYSTEMS¹

	31 December 1971	1 July 1972	1 January 1973
NORAD VOICE ALERT SYSTEM	1	1	1 ²
NORAD ATTACK WARNING SYSTEM	1	1	1 ²
NORAD ALERT SYSTEM			1
NORAD AUTOMATED FORWARD TELL OUTPUT TO CANADA	1	1	1
NORAD FORWARD AUTOMATED REPORTING SYSTEM	1	1	1
NUCLEAR, BIOLOGICAL AND CHEMICAL WARNING AND REPORTING SYSTEM	1	1	1
EMERGENCY BROADCAST SYSTEM			1

1. SOURCES: NORAD Forces and Program Change Summary (NFPCS); NOPS Historical Report, September-October 1972.

2. (U) In use at 22d NORAD Region and Alaskan NORAD Region only.

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CHAPTER VII

EXERCISES AND EVALUATIONS

SECTION I - LIVE EXERCISES

SNOW TIME EXERCISES

(U) Four NORAD-SAC SNOW TIME¹ exercises were held and two were cancelled during CY 1972. SNOW TIMES held during FY 1972 were under the provisions of NORAD Operation Order (OPORD) 371N-71, 30 June 1970;² FY 1973 exercises were conducted under CINCNORAD OPORD 3710, 15 May 1972.³ Hq NORAD's objectives in SNOW TIME exercises were to accomplish NORAD system training in an electronic countermeasures environment and to examine defensive equipments, tactics, and procedures in a variety of battle situations that were both challenging and representative of probable Soviet bomber attack patterns. The ultimate goal was to improve NORAD system effectiveness. SAC's objectives were to

-
1. (U) SNOW TIME is an acronym for SAC/NORAD Operational Weapons Tests Involving Military Electronics.
 2. (U) OPORD 371N-71 originally applied to FY 1971 exercises only, but was extended to cover FY 1972 exercises.
 3. (U) A revised "SAC/NORAD Command Agreement for SNOW TIME Exercises" was also published on 15 May 1972 to become effective on 1 July 1972. This agreement superseded the one of 15 April 1971.

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evaluate and develop tactics in an air defense environment and to train SAC bomber crews in penetration tactics.

(U) The following exercises were scheduled/held in CY 1972:¹

<u>SNOW TIME</u>	<u>DATE</u>	<u>PARTICIPATING REGIONS</u>
72-4	Scheduled for 1-2 February; cancelled due to Canadian Air Traffic Controllers' strike.	24th, 25th 26th
72-5	Scheduled for 18-19 April; cancelled due to withdrawal of SAC forces.	20th, 21st 23d
72-6	13-14 June	25th, Alaskan
73-1	11-12 July	20th, 22d
73-2	12-13 September	24th
73-3	7-8 November	21st, 22d

(U) SAC's operational commitment in Southeast Asia (SEA), in addition to causing cancellation of SNOW TIME 72-5, reduced the effectiveness of the four SNOW TIME exercises that were held. SAC's SEA commitment caused it to cut its faker bomber force from 54 to 23 aircraft for SNOW TIME 72-6, from 50 to 16 aircraft for 73-1, from 43 to 28 aircraft for 73-2, and from 64 to 40 aircraft for 73-3.

AMALGAM ARROW EXERCISES

(U) Hq NORAD was responsible for developing and conducting a series of live air defense training

1. NOPS Historical Reports, CY 1972 (959.3).

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exercises, nicknamed AMALGAM ARROW. The purpose of these exercises, as stated in the operation order, was to provide:¹

" . . . a simulated combat environment that will enable aerospace defense forces to exercise and train all echelons of command in NORAD concepts and procedures of control, warning, weapons employment, communications and staff and support actions in a peacetime situation."

Each exercise, usually held in two adjacent regions, was made as realistic as possible by various means, including aircraft strike forces that penetrated the air defenses at varying altitudes and from different directions.

(U) The first of these exercises scheduled for CY 1972, AMALGAM ARROW 72-4, which was to be held in the 21st and 22d Regions in February, was cancelled because of a strike by Canadian Air Traffic Controllers.² AMALGAM ARROW 72-6, scheduled for May, was cancelled because of a temporary shortage of personnel to plan the exercise.³ Six exercises were held as follows:

1. AMALGAM ARROW 72-5 - 15-17 March 1972, 23d and 24th Regions. Beneficial training resulted in all but the eastern portion of the 23d Region, where inclement weather prevented exercise activity.⁴

2. AMALGAM ARROW 72-7 - 22 June 1972, 20th and 21st Regions. Bad weather generated by Hurricane

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1. NORAD OPORD 372N-71, 1 April 1970 (603.8); CINCNOAD OPORD 3720, 18 August 1972 (603.8).
 2. NOPS Historical Report, January-February 1972 (959.3).
 3. Msg, Hq NORAD to ADC, et al., 292110Z February 1972 (603.8); Interview, Mr. Shircliffe with Major J. R. Bell, NOET, 11 December 1972.
 4. NOPS Historical Report, March-April 1972 (959.3).

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Agnes caused a 24-hour delay in the 20th Region and complete cancellation in the 21st Region. The 21st received some training benefits by using the AMALGAM ARROW scenario to develop and conduct a synthetic exercise in conjunction with live activity in the 20th Region. Weather and a variety of maintenance problems resulted in only 47 of a scheduled 135 target aircraft taking part in the strike force.¹

3. AMALGAM ARROW 73-1 - 18 August 1972, 23d and 24th Regions. Poor weather conditions caused the exercise to be delayed 24 hours. A high target aircraft abort rate caused by the delay, continued poor weather, and aircraft mechanical problems reduced the training value of the exercise.²

4. AMALGAM ARROW 73-2 - 5 October 1972, 20th and 21st Regions. Maintenance problems and weather conditions contributed to a high target aircraft abort rate. Loss of 15 of 30 electronic countermeasures (ECM)-equipped aircraft, mainly due to maintenance problems, degraded the ECM portion of the exercise.³

5. AMALGAM ARROW 73-3 - 15 November 1972, 25th and 26th Regions. Fog at McChord AFB, Washington, in the 25th Region caused the cancellation of nine target aircraft and participation by interceptors of the 318th FIS. The target aircraft abort rate was relatively low as 93 aircraft, of 126 planned, flew in the exercise. Overall, the exercise was considered a success.⁴

6. AMALGAM ARROW 73-4 - 15 December 1972, 21st and 22d Regions. Bad weather caused a 24-hour

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1. NOPS Historical Report, May-June 1972 (959.3).
 2. Ibid., July - August 1972.
 3. Ibid., September-October 1972; Interview, Mr. Shircliffe with Major J. R. Bell, NOET, 11 December 1972.
 4. NOPS Historical Report, November-December 1972 (959.3).

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delay in starting the exercise. Approximately one-third of the target force aborted which resulted in only 62 aircraft, of a planned force of 90, taking part. However, the exercise provided beneficial training for both regions.¹

SECTION II - NORAD OPERATIONAL EVALUATIONS

REGION EVALUATIONS--AMALGAM MUTE EXERCISES

(U) Hq NORAD periodically made "no notice" operational evaluations of its regions to assess their ability to perform their mission. These evaluations, nicknamed AMALGAM MUTES, were conducted under procedures set forth in NORAD Regulation 55-13. Exercise conditions were to be as realistic as peacetime would permit so that proper evaluations could be made. A strike force consisting of ECM-equipped aircraft from SAC, USAF ADC, and CF ADC provided realism by performing probable tactics of a Soviet bomber force. Missile attacks and nuclear detonations were simulated by scripted inputs. Hq NORAD published a report of each evaluation which included CINCNORAD's rating of the region and its units.

(U) Hq NORAD conducted the following region evaluations during 1972:²

<u>AMALGAM MUTE</u>	<u>DATE</u>	<u>REGION</u>
72-4	1-3 February	26th
72-20	23-25 February	20th ³

1. NOPS Historical Report, November-December 1972 (959.3).
2. Ibid., January-February 1972; Ibid., March-April 1972; Ibid., May-June 1972; Ibid., July-August 1972; Ibid., September-October 1972; AMALGAM MUTE 73-3 Report, 6 December 1972 (600).
3. (U) AMALGAM MUTE 72-20 was conducted to evaluate certain units which could not be evaluated because of adverse weather in the 20th NR during AMALGAM MUTE 72-3, held in December 1971.

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<u>AMALGAM MUTE</u>	<u>DATE</u>	<u>REGION</u>
72-5	17-18 April	22d
73-1	11-13 July	21st
73-1-A	1-3 August	Alaskan ¹
73-2	12-14 September	23d
73-21 (Reevaluation)	16-18 October	21st
73-3	6-10 November	20th

(U) CINCNORAD awarded ratings of outstanding to two units.² These were the 22d NR's Region Control Center and the Alaskan NR's Campion Control Center Complex.

SPACE DEFENSE EVALUATIONS--AMALGAM MATE EXERCISES

(U) NORAD operational evaluations of space defense systems were conducted under the requirements of NORAD Regulation 55-17.³ There was only one such evaluation made during 1972, AMALGAM MATE 72-1.⁴ This was an evaluation by Hq NORAD of the Ballistic Missile Early Warning System (BMEWS) during 27-30 March 1972.

1. (U) Following this evaluation, a reevaluation was made on ANR's Murphy Dome MNCC Complex on 10 October 1972.
2. Hq NORAD, "Operational Evaluation Report on the 22d NORAD Region (U)," 17-19 April 1972 (600); Hq NORAD, "Operational Evaluation Report on the Alaskan NORAD Region (U)," 1-3 August 1972 (600).
3. (U) Hq CONAD was required by CONAD Regulation 55-17 to make operational evaluations of Program 437; however, none was made during 1972.
4. NOPS Historical Report, March-April 1972 (959.3).

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(U) ~~(S)~~ CINCNOAD awarded the system a rating of satisfactory. The evaluation report had 12 recommendations on discrepancies for Hq NORAD to correct, 8 for ADC, and 5 for the NORAD ALCOP.¹

EVALUATION OF THE NORAD COMBAT OPERATIONS CENTER

(U) ~~(S)~~ Hq NORAD conducted an operational evaluation of the NORAD Combat Operations Center (NCOC) during 17-21 November 1972.² The purpose of this evaluation was to assess the NCOC's effectiveness in performing its mission in accordance with CINCNOAD OPOD 3000, "Air Defense of the North American Continent." CINCNOAD awarded a rating of satisfactory to the NCOC.

SECTION III - COMMAND POST EXERCISES

AMALGAM FAIRPLAY

(U) NORAD OPOD 370N-70, as amended by Change 1, 6 September 1971, required the play of a NORAD-wide command post exercise called AMALGAM FAIRPLAY.³ The basic concept of FAIRPLAY 72 and FAIRPLAY 73, as stated in the OPOD, was to provide multi-version exercises that would "allow NORAD to implement and use specific plans and combat reporting procedures within the framework of varying attack strategies."

1. Hq NORAD, "Operational Evaluation Report on the Ballistic Missile Early Warning System (U)," 28-30 March 1972 (600).
2. Hq NORAD, "Operational Evaluation Report on the NORAD Combat Operations Center, 17-21 November 1972, NCOC Evaluation FY 73 (U)," 20 December 1972 (600).
3. (U) OPOD 370N-70 was superseded by CINCNOAD OPOD 3700, dated 15 October 1972. However, OPOD 3700 was delayed in printing and was not distributed until mid-December 1972. Thus, it had no impact on synthetic exercises that were held in 1972.

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The two purposes of the exercises were to train command center and staff personnel in executing emergency procedures in an escalating crisis situation and to review the adequacy of procedures, plans, and facilities.

(U) FAIRPLAY was normally a 3-part exercise, but the cancellation of one part in FY 1971 allowed the scheduling of a 4-part FAIRPLAY for FY 1972. The first two parts of FAIRPLAY 72 (72-1 and 72-2) were held in September 1971 and November-December 1971, respectively.¹ The following exercises were held during CY 1972:

1. FAIRPLAY 72-3 was conducted 18-24 March 1972.² This was the first FAIRPLAY in which exercising the NORAD ALCOP was a primary objective. The NCOC directed operations for the intelligence build-up and issued the first missile attack warnings. Transition to the ALCOP occurred on A-day minus 2 because of a simulated total communications outage at the NCOC. The ALCOP conducted the A-day air battle and the reconstitution period that followed. Following restoration of communications, the NCOC directed the A-day plus 2 air battle. All training objectives were accomplished.

2. FAIRPLAY 72-4 was held 24-30 June 1972.³ Operations were directed from the NCOC for the entire exercise. Lieutenant General E. M. Reyno, Deputy CINCNOAD, participated as Acting CINCNOAD. Training objectives for this exercise were successfully accomplished.

3. FAIRPLAY 73-1 was held 5-8 September 1972.⁴ It consisted of a 2-day intelligence build-up, an aerospace attack on A-day, and a reconstitution phase. All exercise objectives were accomplished.

1. CONAD Command History, 1971, p 173.

2. NOPS Historical Report, March-April 1972 (959.3).

3. Ibid., May-June 1972.

4. Ibid., September-October 1972.

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4. FAIRPLAY 73-2 was held 17-23 November 1972.¹ The NORAD ALCOP had command and control when the exercise began. With the declaration of ROUND HOUSE (simulated DEFCON 3), the NCOC took charge and retained command and control for the follow-on declarations, the missile and manned bomber attack, and the reconstitution period. During the exercise, Hq NORAD performed an operational evaluation of the NCOC (see section under NORAD Operational Evaluations). All training and evaluation objectives were accomplished.

AMALGAM AMAZON EXERCISES

(U) AMALGAM AMAZONS were synthetic exercises designed mainly for the purpose of training general officers in succession to command and in the functions required of CINCNORAD in his battle position at the NORAD COC. AMAZONS also provided training to senior command post officers in pre-hostility decision making; however, the exercises emphasized play in the area of operational decision making and interaction with other key participants which included the command posts of the JCS and the Chief of the Defence Staff (CDS).

(U) Four AMAZON exercises were held during 1972 as follows:

1. AMAZON 72-3 was held on 18 January with CINCNORAD, Deputy CINCNORAD, and the NORAD Battle Staff participating. In addition to NORAD, active participants included the command posts of the JCS, the CDS, the Pacific Command, and SAC. The objectives of the exercise were successfully completed.²

2. AMAZON 72-4 was held on 11-12 April 1972 in conjunction with a NORAD multi-region exercise, AMALGAM HUNT 72-3. The combined exercise was then given the designation AMALGAM AMAZON/HUNT 72-1.

1. NOPS Historical Report, November-December 1972 (959.3).

2. Ibid., January-February 1972.

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The main purposes behind this exercise, which was the first of its kind for NORAD, were the following:¹

a. To provide for increased Battle Staff Support Center interplay between Hq NORAD and the regions.

b. To provide for increased command and control in the region exercise program by having battle staff to battle staff interface.

c. To have a short duration exercise which involved external participants (JCS, CDS) with NORAD and subordinate elements.

d. To combine two exercises in order to reduce the number of exercises for the quarter by one.

The conduct of the exercise was smoother than had been expected and effective training was accomplished.

3. AMAZON 73-1 was conducted on 19 September 1972. CINCNORAD and the NORAD Battle Staff participated. The exercise was successful and all major objectives were accomplished.²

4. AMAZON 73-2 was held on 12 December with Deputy CINCNORAD participating as the senior NORAD official. All training objectives were met successfully.³

AMALGAM HUNT EXERCISES

(U) AMALGAM HUNTS were synthetic multi-region exercises which were designed for training at the region level and below, and for exercising the command and control, warning, and communications systems.

(U) AMALGAM HUNT 72-2 was held on 25-26 January 1972. The primary purpose was to exercise the NORAD ALCOP which was the command and control element for

1. NOPS Historical Report, March-April 1972 (959.3).

2. Ibid., September-October 1972.

3. Ibid., November-December 1972.

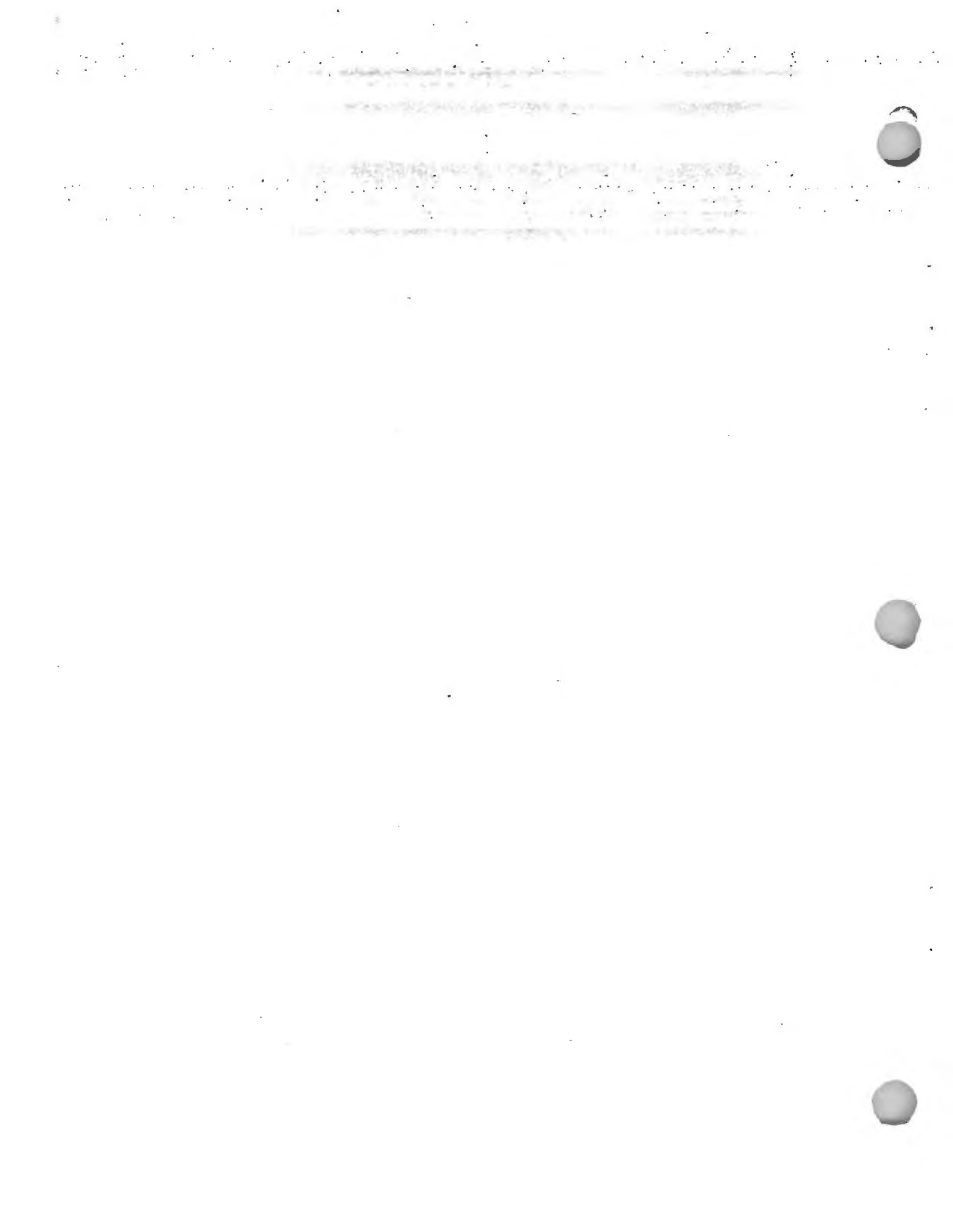
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this exercise. The increased emphasis on reconstitution actions provided valuable training for BSSC personnel. All objectives of the exercise were attained.¹

(U) AMALGAM HUNT 72-3 was held in conjunction with AMAZON 72-4 on 11-12 April 1972. Details on this exercise, designated AMALGAM AMAZON/HUNT 72-1, are given on pages 173 and 174.

1. NOPS Historical Report, January-February 1972 (959.3).

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APPENDIX I
 NORAD/CONAD OPERATING COSTS
 (in Millions)

	FY 1972 (Actual)	FY 1973 (Programmed)
NORAD		
U.S. (See CONAD, below, for cost breakdown)	\$ 1,123.9	\$1,152.4
CANADA		
Air Defense	115.0	111.6
Space Defense	.4	.3
Command Support	21.2	19.3
TOTAL CANADA	136.6	131.2
TOTAL NORAD	1,260.5	1,283.6
CONAD		
Air Defense	517.2	590.8
Space Defense	191.1	91.0*
Command & Other Support	415.6	470.6
TOTAL CONAD	1,123.9	1,152.4

* Does not include SAFEGUARD, P437, or Defense Support Program.

SOURCE: Directorate of Financial Management, DCS/Plans and Programs, Hq NORAD.

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APPENDIX II

GLOSSARY OF ABBREVIATIONS

AABNCP	Advanced Airborne Command Post
AAC	Alaskan Air Command
AADCP	Army Air Defense Command Post
AAS	Attack Assessment System
ABM	Anti-Ballistic Missile
ACE	Automatic Clutter Elimination
Acft	Aircraft
ADC	Aerospace Defense Command (USAF); Air Defence Command (CF)
ADC SC	ADC Support Center
ADE	Air Defense Emergency
ADMS	Air Defense Missile Squadron
AESC	Aerospace Environmental Support Center
AEW&C	Airborne Early Warning and Control
AF	Air Force
AFB	Air Force Base
AFS	Air Force Station
AFSC	Air Force Systems Command
AL	Alabama
ALCOP	Alternate Command Post
ANG	Air National Guard
ANGB	Air National Guard Base
ANR	Alaskan NORAD Region
AOB	Augmentation Operating Base
Aprt	Airport
ARADCOM	Army Air Defense Command
ARNG	Army National Guard
ARPA	Advanced Research Projects Agency
ARTCC	Air Route Traffic Control Center
AS	Air Station
ASC	ARADCOM Support Center
ASDC	Alternate Space Defense Center
AUTODIN	Automatic Digital Network
AUTOVON	Automatic Voice Network
AWACS	Airborne Warning and Control System
AW(F)	All Weather (Fighter)
AZ	Arizona

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BMD	Ballistic Missile Defense
BMDC	Ballistic Missile Defense Center
BMEWS	Ballistic Missile Early Warning System
BNCC	BUIC NORAD Control Center
BSSC	Battle Staff Support Center
BUIC	Backup Intercept Control
CA	California
CADIZ	Canadian Air Defense Identification Zone
CCOC	CONAD Combat Operations Center
CDS	Chief of the Defence Staff
CF	Canadian Forces
CFB	Canadian Forces Base
CF Hq	Canadian Forces Headquarters
CFS	Canadian Forces Station
Chmn	Chairman
CINCAL	Commander-in-Chief, Alaska
CINCLANT	Commander-in-Chief, Atlantic
CINCNORAD	Commander-in-Chief, North American Air Defense Command
CINCONAD	Commander-in-Chief, Continental Air Defense Command
CINCPAC	Commander-in-Chief, Pacific
CINCSTRIKE	Commander-in-Chief, U.S. Strike Command
CMC	Cheyenne Mountain Complex
COC	Combat Operations Center
CONAD	Continental Air Defense Command
CONUS	Continental United States
CPCC	Command Post Communications Center
CQR	CONAD Qualitative Requirement
CR	CONAD Region
C/S	Chief of Staff
CSA	Combat Support Aircraft
CSAF	Chief of Staff of the Air Force
CSS	Communications Systems Segment
CV	Conversion (Activity Code)
CY	Calendar Year
D	Democrat
D.C.	District of Columbia
DCA	Defense Communications Agency

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DCP	Development Concept Paper
DCS/ . . .	Deputy Chief of Staff/ . . .
DE	Deactivation (Activity Code)
DEFCON	Defense Readiness Condition
Det	Detachment
DEW	Distant Early Warning
DOB	Dispersed Operating Base
DOD	Department of Defense
DSCS	Defense Satellite Communications System
DSP	Defense Support Program
DSSCS	Defense Special Security Communications System
EAM	Emergency Action Message
EBS	Emergency Broadcast System
ECM	Electronic Countermeasures
EDICT	Evacuation and Dispersal of Interceptors from Critical Targets
EMI	Electro-Magnetic Interference
EOC	Emergency Operational Capability
ESD	Electronic Systems Division
FAA	Federal Aviation Administration
FCC	Fire Coordination Center
FIS	Fighter Interceptor Squadron
FL	Florida
Fld	Field
FOBS	Fractional Orbital Bombardment System
FOC	Final Operational Capability
Ftr	Fighter
FY	Fiscal Year
GA	Georgia
GCI	Ground Control Intercept
G-I-UK	Greenland-Iceland-United Kingdom
Gp	Group
GS	General Schedule
GSS/M	General Staff Support/Medium
Hq	Headquarters

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IAP	International Airport
IC	Interim Capability
ICBM	Intercontinental Ballistic Missile
ID	Idaho; Identification
IDHS	Intelligence Data Handling Systems
IG	Inspector General
IMI	Improved Manned Interceptor
IOC	Initial Operational Capability
JCS	Joint Chiefs of Staff
JOVIAL	Joules Own Version of International Algorithmic Language
JTD	Joint Table of Distribution
LA	Louisiana
L&I	Launch and Impact
LERTCON	Alert Condition
LGD	Large Group Display
LRR	Long Range Radar
Ltd	Limited
LUA	Launch Under Attack
LWIR	Long-Wave Infrared
MA	Massachusetts
MAP	Municipal Airport
MCCC	Manual CONAD Control Center
MDC	Missile Direction Center
ME	Maine
MEECN	Minimum Essential Emergency Communica- tions Network
MI	Michigan
MN	Minnesota
MNCC	Manual NORAD Control Center
MOT	Ministry of Transport
MT	Montana
MTTF	Mean Time to Failure
NAAS	NORAD Attack Alert System
NACP	NORAD/CONAD Airborne Command Post and Data Processing Center

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NADOP	North American Aerospace Defense Objectives Plan
NAS	Naval Air Station; NORAD Alert System
NAVSPASUR	U.S. Naval Space Surveillance System
NBC	Nuclear, Biological and Chemical
NC	North Carolina
NCA	National Command Authorities
NCMC	NORAD Cheyenne Mountain Complex
NCOC	NORAD Combat Operations Center
NCS	NORAD Computer System
ND	National Defence
NEACP	National Emergency Airborne Command Post
NGB	National Guard Bureau
NJ	New Jersey
NM	New Mexico; Nautical Miles
NMCS	National Military Command System
NOCOPS	NORAD Combat Operations System
NOEC	NORAD Operational Employment Concept
NORAD	North American Air Defense Command
NQR	NORAD Qualitative Requirement
NR	NORAD Region
NRCC	NORAD Region Control Center
NUDETS	Nuclear Detonations
NWC I	National Warning Center Number One
OH	Ohio
Ont.	Ontario
OP	Normal Operations (Activity Code)
OPLAN	Operation Plan
OPORD	Operation Order
OPSTAR	Operational Status Reporting
OR	Oregon
OSD	Office of the Secretary of Defense
OTH	Over-the-Horizon
OTHB	Over-the-Horizon Backscatter
OTHF	Over-the-Horizon Forward Scatter
PA	Pennsylvania
PBD	Program Budget Decision
PJBD	Permanent Joint Board on Defense

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PMD	Program Management Directive
POI	Period of Interest
POM	Program Objective Memorandum
PPG	Planning and Programming Guidance
PVAS	Primary Voice Alert System
Que.	Quebec
R	Receiver
RA	Regular Army
RCC	Region Control Center
ROC	Required Operational Capability
ROCC	Region Operations Control Center
SAC	Strategic Air Command
SAGE	Semi-Automatic Ground Environment
SALT	Strategic Arms Limitation Talks
SAM	Surface-to-Air Missile
SAM-D	Surface-to-Air Missile Development
SAMSO	Space and Missile Systems Organization
SATCON	Satellite Readiness Condition
SCC	Space Computational Center
SDC	Space Defense Center
SEA	Southeast Asia
SECDEF	Secretary of Defense
SEWS	Satellite Early Warning System
SIR	Scramble, Intercept and Recovery Procedures
SIS	Satellite Intercept System
SLBM	Sea-Launched Ballistic Missile
SMD	System Management Directive
SNOW TIME	SAC/NORAD Operational Weapons Tests Involving Military Electronics
SPADATS	Space Detection and Tracking System
Sq	Squadron
SSO	Special Security Office
T	Transmitter
TAC	Tactical Air Command
TFS	Tactical Fighter Squadron
TX	Texas

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UCP	Unified Command Plan
UE	Unit Equipment
UHF	Ultra-High Frequency
U.S.	United States
USAF	United States Air Force
USARAL	U.S. Army, Alaska
USC	U.S. Code
USCINCRCD	Commander-in-Chief, U.S. Readiness Command
USMC	U.S. Marine Corps
USN	U.S. Navy
USSR	Union of Soviet Socialist Republics
VA	Virginia
WAEC	Warning and Assessment Executive Council
WAS	Weapons Alert System
WWMCCS	Worldwide Military Command and Control System

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