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National Aeronautics and Space Administration



Headquarters

Office of Communications
MS5L9, 300 E Street, SW
Washington, DC 20546-0001

May 11, 2020

Reply to attn. of: Office of Communications

Via Email

REF: 20-HQ-F-00417

This letter is in response to your Freedom of Information Act (FOIA) request dated March 31, 2020 and received by the National Aeronautics and Space Administration (NASA) Headquarters (HQ) FOIA Office on March 7, 2020. Your request was assigned FOIA Case Number 20-HQ-F-00417 and seeks:

“A copy of the NASA Declassification Guide (which was approved by ISCAP on 12/3/2018).”

In response to your request we conducted a search of NASA’s Office of Protective Services (OPS) using the search terms: NASA Declassification Guide.¹ That search identified one record responsive to your request. We reviewed the responsive records under the FOIA to determine whether they may be disclosed to you. Based on that review, this office is providing the following:

61 page(s) are released in full (RIF);
5 page(s) are withheld in full (WIF).²

A classified addendum is withheld in full pursuant to FOIA Exemption 1, 5 U.S.C. § 552(b)(1). Due to the COVID-19 telework mandate for NASA employees, the NASA Headquarters building is closed. Therefore, OPS is unable to provide an exact page count without accessing the document from its safe located in the NASA Headquarters building. Exemption 1 of the FOIA protects information deemed classified “under criteria established by an Executive Order to be kept secret in the interest of national defense or foreign policy” and is “in fact properly classified pursuant to such Executive Order.” 5 U.S.C. § 552(b)(1). NASA invokes exemption 1 to protect properly classified information concerning intelligence activities.

You have the right to appeal my action regarding your request. Your appeal must be received within 90 days of the date of this response. Please send your appeal to:

¹ If you are dissatisfied with these search terms, please provide NASA with additional terms you deem appropriate.

² All page counts are approximate numbers.

Administrator
NASA Headquarters
Executive Secretariat
ATTN: FOIA Appeals
MS 9R17
300 E Street S.W.
Washington, DC 2054

Both the envelope and letter of appeal should be clearly marked, "Appeal under the Freedom of Information Act." You must also include a copy of your initial request, the adverse determination, and any other correspondence with the FOIA office. In order to expedite the appellate process and ensure full consideration of your appeal, your appeal should contain a brief statement of the reasons you believe this initial determination should be reversed. Additional information on submitting an appeal is set forth in the NASA FOIA regulations at 14 C.F.R. § 1206.700.

For further assistance and to discuss any aspect of your request you may contact NASA's Chief FOIA Public Liaison at:

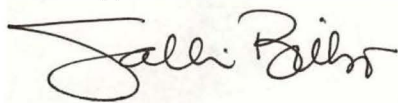
Stephanie Fox
Chief FOIA Public Liaison
Freedom of Information Act Office
NASA Headquarters
300 E Street, S.W., 5P32
Washington D.C. 20546
Phone: 202-358-1553
Email: Stephanie.K.Fox@nasa.gov

Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services it offers. The contact information for OGIS is as follows:

Office of Government Information Services
National Archives and Records Administration
8601 Adelphi Road-OGIS
College Park, Maryland 20740-6001
E-mail: ogis@nara.gov
Telephone: 202-741-5770
Toll free: 1-877-684-6448
Fax: 202-741-5769

Important: Please note that contacting any agency official including the undersigned, NASA's Chief FOIA Public Liaison, and/or OGIS is not an alternative to filing an administrative appeal and does not stop the 90 day appeal clock. If you have further questions, please feel free to contact me at Sallie.N.Bilbo@nasa.gov or 228-688-3182.

Sincerely,



Sallie Bilbo
FOIA Public Liaison



National Aeronautics and Space Administration

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THIS INFORMATION MAY BE EXEMPTED FROM DISCLOSURE BY
STATUTE, INCLUDING INFORMATION EXEMPT FROM DISCLOSURE BY
THE FREEDOM OF INFORMATION ACT EXEMPTION CRITERIA

DEGREE OF PROTECTION : When not under the continuing control and supervision of a person authorized access to such material, it must be , at a minimum, maintained under locked conditions. Handling, storage, and reproduction must be in accordance with applicable Executive Orders, statutes, and agency implementing regulations. Keep access and reproduction to the absolute minimum required for mission accomplishment.

VIOLATIONS AND SANCTIONS : Individuals may be subject to administrative sanctions if they disclose information designated SBU. Sanctions include, *but are not limited to*, a warning notice, admonition, reprimand, suspension without pay, forfeiture of pay, removal or discharge.

CHECK APPROPRIATE BOXES AND APPROPRIATELY DECONTROL
(Refer to NID 1600.55 for further guidance and requirements.):

- | | |
|--|--|
| <input type="checkbox"/> Arms Export Control Act | <input type="checkbox"/> Investigative Records |
| <input type="checkbox"/> Business/Company Confidential | <input type="checkbox"/> NASA Information Technology/
Internal Systems Data |
| <input type="checkbox"/> Developing or Current Technology
Information | <input checked="" type="checkbox"/> NASA Sensitive |
| <input type="checkbox"/> Emergency Contingency/Continuity
of Operations Information | <input type="checkbox"/> Patent Information |
| <input type="checkbox"/> Export Administration Act | <input type="checkbox"/> Personnel, Medical and Similar
Files |
| <input type="checkbox"/> Financial Institution Information | <input type="checkbox"/> Privileged/Proprietary Commercial
or Financial Information |
| <input type="checkbox"/> Geological/Geophysical Information | <input type="checkbox"/> Space Act (Sec. 303b) |
| <input type="checkbox"/> Infrastructure or Security
Vulnerabilities Information | <input type="checkbox"/> Subject to Trade Secrets Act |
| <input type="checkbox"/> Inter or Intra-Agency Memoranda
or Letters | <input type="checkbox"/> Systems Security Data Information |
| <input type="checkbox"/> Internal Personnel Rules/Practices | <input type="checkbox"/> Other (Specify)

_____ |

SBU Designation Applied By: Zudayyah Taylor-Dunn

Organization: Office of Protective Services Date: 6-27-2019

Agencies external to NASA shall handle this document as
----- FOR OFFICIAL USE ONLY -----

Interagency Security Classification Appeals Panel

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EXECUTIVE SECRETARY

Mark A. Bradley
Director
INFORMATION SECURITY
OVERSIGHT OFFICE

January 31, 2019

Joseph S. Mahaley
Assistant Administrator, Office of Protective Services
National Aeronautics and Space Administration
300 E Street SW, Rm 6T26
Washington DC 20546

Dear Mr. Mahaley:

Subject: Interagency Security Classification Appeals Panel approval of the National Aeronautics and Space Administration Declassification Guide

The Interagency Security Classification Appeals Panel (ISCAP), established under section 5.3 of Executive Order 13526, titled "Classified National Security Information," has approved the National Aeronautics and Space Administration's declassification guide dated December 3, 2018.

In accordance with section 3.7(c)(1) of E.O. 13526, all agencies must provide their declassification guide, or detailed declassification guidance, to the Director of the National Declassification Center at the National Archives and Records Administration. Please complete this by March 1, 2019, and notify the ISCAP when this has been completed.

If you have any questions, please contact Evan Coren or me. Our telephone number at the Information Security Oversight Office is (202) 357-5250.

Sincerely,



MARK A. BRADLEY
Executive Secretary

~~SECRET//NOFORN~~

This document is Sensitive But Unclassified without Classified Annex

National Aeronautics and Space Administration



NASA Historical Records Declassification Guide

December 3, 2018

Classified By: Zudayyah Taylor-Dunn, Information Security Program Manager

Derived From: NASA Space Network SCG, dtd 20150605 and FFAST SCG, dtd 20150205

Declassify On: 20371128

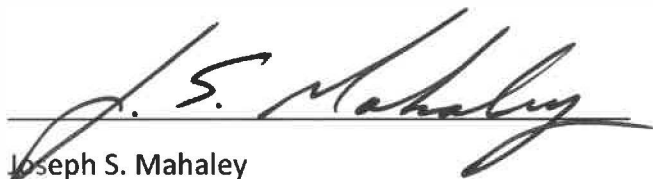
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This document is Sensitive But Unclassified without Classified Annex

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Approval Authority

The approval authority below provides authority to use this declassification guide for applying exemptions from the automatic declassification and downgrading of information originated by the National Aeronautics and Space Administration in accordance with Executive Order 13526.


Joseph S. Mahaley

Assistant Administrator for Protective Services
Senior Agency Official (SAO)


Date

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Document Change Log				
Change No.	Date	Description	Approval (Print)	Approval Signature
1	05/31/2011	Revisions made to conform to new requirements of new Executive Order 13526.		
2	09/01/2011	Change made to Section I Part 6		
3	10/13/2011	Change to Export Control section		
4	10/04/2012	Insert ISOO Standard Language in Section 1		
5	11/28/2012	Classification Changes and updates to topical guidance		
6	12/30/2016	Declass Guide Expiration - Updates and Resubmission to ISOO		
7	10/01/2018	50x added		

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Table of Contents

Approval Authority	ii
Document Change Log	iii
Table of Contents	iv
SECTION I – General Information	1
1. Purpose.....	1
2. Authority	2
3. Export Control Laws	3
4. Release of National Security Information	3
5. Material Excluded from EO 13526	4
6. Exemptions from Automatic Declassification	5
7. Duration of Exempted Information from Automatic Declassification	7
8. Referrals to Other Government Agencies.....	7
9. National Declassification Center (NDC) Sharing.....	8
10. NASA Letter Regarding Declassification Authority.....	8
11. Reclassification.....	13
12. The Space Network and Tracking and Data Relay Satellite System	13
13. Hypersonic and Advanced Propulsion Technology	14

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SECTION II – Declassification Topical Guidance	17
1.0 Space Network (SN)/Tracking and Data Relay Satellite (TDRS/TDRSS)	17
2.0 Space Network Ground Sites	34
3.0 Hyper- X and Advanced Propulsion Technology	40
4.0 Space Systems	46
SECTION III – Definitions	48
Classified Annex	53

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SECTION I – General Information

1. Purpose

- 1.1 All Users of the NASA Historical Records Declassification Guide should use their professional experience when reviewing classified national security information (CNSI) for declassification and conduct the appropriate research to prevent the continued withholding of information that should be released. This research should take into account information previously officially released by NASA or the U.S. Government, including information previously declassified by the Interagency Security Classification Appeals Panel (ISCAP) : <https://www.archives.gov/declassification/iscap/decision-table>
- 1.2 Only information detailed in the specific exemption elements in this Guide are authorized to be exempted from declassification at 25 years or later. All other information should be declassified unless the information may be exempted by another agency, or is Restricted Data or Formerly Restricted Data.
- 1.3 If the information falls into those categories it must be referred for review by those with the authority to make that determination in accordance with section 3.3(d)(3) of Executive Order (E.O.) 13526. Instructions on what information may be referred are contained in this Guide.
- 1.4 Before referring information to another government agency, confirm the agency has not waived their equity and is eligible to exempt information as identified in the most recent Information Security Oversight Office (ISOO) Notice that provides guidance on Agencies eligible to receive referrals, available on www.archives.gov/isoo/notices.
- 1.5 If information is not the equity of another agency, and its release does not cause damage to national security, it should be declassified. Other statutes or restrictions may apply before the information may be publically released.

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1.6 The National Aeronautics and Space Administration (NASA) has discovered Classified National Security Information (CNSI) that requires further protection beyond 25 years. The purpose of this declassification guide is to provide the basis for determining exemption status concerning permanent historical records, containing NASA classified CNSI, and its automatic declassification in accordance with Executive Order (EO) 13526. Cite this guide as the basis for exemption from automatic declassification of 25 year-old information referenced herein.

2. Authority

2.1 Agency Authority - This guide is approved by the Associate Administrator, Office of Protective Services, a delegated Top Secret Original Classification Authority, and issued in accordance with NASA Procedural Requirements (NPR) 1600.2, EO 13526 as amended, and Information Security Oversight Office (ISOO), Title 32 CFR, Part 2001, the "Classified National Security Information."

2.2 Federal Authority – Federal Law 44 U.S. Code, Sections 3301-3314

2.3 ISOO/ISCAP Authority – Agencies shall submit declassification guides for review to the Director of the Information Security Oversight Office (ISOO) for approval prior to use. To the extent such guides are used in conjunction with the automatic declassification provisions in section 3.3 of the EO, the Director shall submit each guide for approval by the Interagency Security Classification Appeals Panel (ISCAP). Agencies that have a previously approved declassification guide shall use the existing guide while waiting for ISCAP approval unless otherwise notified by the Panel's Executive Secretary. The Director of ISOO serves as the Executive Secretary of the ISCAP per 32 CFR Part 2001.32. Agency declassification guides shall be reviewed and updated as circumstances require, at least once every five years, and approved by the ISCAP. The Agency must maintain a list of all classification and declassification guides in use.

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3. Export Control Laws

3.1 Topics described in Section II of this guide may relate to information subject to export control laws. Records containing export controlled information may not be releasable after declassification. Contact the NASA Export Administrator for more information on handling of export controlled information.

4. Release of National Security Information

4.1 General - This guide is designed to provide guidance on how to protect and when to declassify Classified National Security Information. However, these declassification decisions do not carry the authority to release the information to the public. Not all declassified or unclassified information is releasable. Information can be subject to legal or administrative barriers which limit release without proper additional authority. The Freedom of Information Act (FOIA) 5 U.S. Code §552 as amended and Privacy Act of 1974 (PA) 5 U.S.C. § 552a are the sources of most commonly encountered release restrictions.

4.2 FOIA – Information that has not been given a security classification pursuant to the criteria of an Executive Order may be protected under FOIA exemptions (b) (2) through (b) (9). These exemptions include: internal personnel rules and practices, information exempt by other statutes, commercial information that would cause competitive harm, predecisional, deliberative information, invasion of personal privacy, information compiled for law enforcement, information regarding an agency's regulations or supervision of its financial institutions, and geological and geophysical information (including maps) concerning wells.

4.3 Privacy Act – Prohibits information gathered for one purpose from being used for another. It also restricts the disclosure of personally identifiable information by agencies and the disclosure of personal information to others when disclosure would violate privacy interests.

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5. Material Excluded from EO 13526

- 5.1 Documents marked "Restricted Data", "RD", "Formerly Restricted Data", or "FRD", contain information protected under the Atomic Energy Act of 1954, as amended, and as such are excluded from declassification action under E.O. 13526. If such material is encountered, it should be reviewed for other government agency NSI equities, and placed in a sealed envelope, tabbed or marked with the notation, "Contains RD/FRD Material", and returned to its place in the file. The box should also be updated with the highest classification contained within.
- 5.2 Restricted Data (RD) is information concerning (a) design, manufacture, or utilization of atomic weapons; (b) the production of special nuclear material; or (c) the use of special nuclear material in the production of energy but not including data declassified or removed from the Restricted Data category under Section 142 of the Atomic Energy Act of 1954.

Formerly Restricted Data (FRD) is information removed from the Restricted Data category upon joint determination by the Department of Energy (DOE) and the Department of Defense (DoD) that such information relates primarily to the military utilization of atomic weapons and that such information can be safeguarded adequately as classified defense information. For purposes of foreign dissemination, FRD is treated in the same manner as Restricted Data.

Transclassified Foreign Nuclear information (TNFI) is classified information concerning foreign nuclear programs that has been removed from the Restricted Data category for intelligence purposes after DOE and the Director, National Intelligence (DNI) formerly director of the Central Intelligence Agency (CIA), have determined that it can be adequately protected in a manner similar to National Security Information in order to carry out the provisions of section 102(b) of the National Security Act of 1947. TFNI is stored, transmitted, and destroyed the same as NSI of the same level. TFNI is never automatically declassified. If you have a document that may contain TFNI, even if it has a declassification instructions, you must refer to DOE for determination. Although RD/FRD marked material is never declassified by NASA, it must be reviewed for Other Government Agency (OGA) equities. OGA equities must be noted on the Standard Form 715

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(SF 715) Declassification Review Tab. The identification of documents with RD/FRD markings is a continuous, collateral process accompanying all equity reviews.

6. Documents with information that 'looks like' or 'is suspected' of being RD/FRD, but not marked as such, must be referred to the Department of Energy (DOE). Mandatory Declassification Reviews and Freedom of Information Act Reviews:

6.1 Mandatory Declassification Reviews (MDR) on records 25 years or older must also be in accordance with this Guide. Freedom of Information Act (FOIA) reviews of records 25 year old or older may apply the FOIA (b)(1) to only information that meets the exemption provisions of this Guide (FOIA exemptions (b)(2) through (b)(9) are in no way governed or addressed by this Guide).

7. Exemptions from Automatic Declassification

7.1 The NASA Administrator may exempt from automatic declassification, four specific categories of information that may:

(A) 25x1 - reveal the identity of confidential human source, a human intelligence source, a relationship with an intelligence or security service of a foreign government or international organization, or a nonhuman intelligence source; or impair the effectiveness of an intelligence method currently in use, available for use, or under development.

(B) 25x3 - reveal information that would impair U.S. cryptologic systems or activities.

(C) 25x4 and 50x4 – reveal information that would impair the application of state of the art technology within a U.S. weapon system.

(D) 25x8 - reveal information that would seriously impair current national security emergency preparedness plans or reveal current vulnerabilities of systems, installations, infrastructures relating to the national security.

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- 7.2 Only 25X, 50X1-HUM, and 50X2-WMD exemptions may be applied to records reviewed in anticipation of automatic declassification at 25 years (i.e., in reviews conducted in 2018, for records dating between 1974 and 1998). Other than 50X1-HUM and 50X2-WMD, 50X exemptions may only be applied to records approaching automatic declassification at 50 years (i.e., in reviews conducted in 2018, for records dating between 1949 and 1973).
- 7.3 Records exempted under 25X shall be automatically declassified on December 31 of a year that is no more than 50 years from the date of origin of the record, unless an approved 50X exemption is applied within 5 years of the automatic declassification date. Records exempted under 50X shall be automatically declassified on December 31 of a year that is no more than 75 years from the date of origin of the record, unless an approved 75X exemption is later applied within 5 years of the automatic declassification date.
- 7.4 NASA exemptions referenced in this guide, only apply to records created on January 1, 1984 and later. However, for information in which the automatic declassification date has passed, an exemption may only be applied by submitting a request for reclassification.
- 7.5 The EO only allows agencies to exempt records using Section 3.3 if the records are between 20 and 25 years old. Records younger than 20 years old can only be exempted from declassification using Section 1.4 of the EO.
- 7.6 NASA has not sought authorization to use exemptions 25x2, 25x5, 25x6, 25x7, and 25x9, therefore these exemptions may not be used to protect information from automatic declassification at this time.
- 7.7 NASA does not have any approved File Series Exemptions (FSEs). The process for FSE approval is in section 3.3(c) of E.O. 13526. In order to apply for a file series exemption for NASA records, the agency would need to:
- (A) Submit notification of the file series exemption to the ISCAP.

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(B) The notification must include a description of the file series, explanation of why the information is exempt from automatic declassification, why the information must remain classified for a longer period of time, and specific date or event for declassification of the information.

7.8 Although information is exempt from automatic declassification, it is still subject to systematic and mandatory declassification reviews.

7.9 This guide does not allow NASA to incorporate exemptions into its security classification guidance under Section 2.2e of EO 13526.

8. *Duration of Exempted Information from Automatic Declassification*

8.1 Only 25X exemptions may be applied to records reviewed in anticipation of automatic declassification at 25 years. Records exempted under 25X shall be automatically declassified on December 31 of a year that is no more than 50 years from the date of origin of the record, unless an approved 50X exemption is later applied within 5 years of that automatic declassification date.

9. *Referrals to Other Government Agencies*

6.1 NASA works closely with other government agencies. At times, NASA records may contain sensitive information originating from these agencies. Therefore, some information may require referrals to other agencies before a full declassification determination can be made.

6.2 All referrals to other agencies are to be made in accordance with section 3.3(d)(3) of E.O. 13526. Each of the following conditions must be met: the information must originate with another agency (or affect the interests or activities of that agency with respect to classified information); the information must reasonably be expected to fall into an exemption

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category; and the agency must be eligible to receive referrals as identified in an ISOO Notice, available on www.archives.gov/isoo/notices.

6.3 If the information falls into the previously mentioned categories should be referred for review by those with the authority to make that determination in accordance with section 3.3(d)(3) of Executive Order (E.O.) 13526. Instructions on what information may be referred are contained within this Guide. Before referring information to another government agency, confirm the agency is eligible to exempt the information in question by referencing the most recent Information Security Oversight Office (ISOO) Notice which provides guidance on Agencies eligible to receive referrals. If information is not the equity of another agency, and its release does not cause foreseeable damage to national security, it should be declassified. Keep in mind that other statutes or restrictions may apply before the information may be publically released, for example; ITAR (International Traffic in Arms Regulations) and the EAR (Export Administration Regulations) which are export control regulations run by different departments of the US Government . For information on previously declassified information by the ISCAP visit: <https://www.archives.gov/declassification/iscap/decision-table>.

10. National Declassification Center (NDC) Sharing

10.1 In accordance with Section 3.7(c)(1) of the EO, this guide, or detailed declassification guidance, will be provided to the Director of the National Declassification Center at the National Archives and Records Administration.

11. NASA Letter Regarding Declassification Authority

11.1 In August 2005, NASA distributed a letter to ISOO and the declassification community authorizing the automatic declassification of NASA records created between March 3, 1915 through December 31, 1975 that were classified as “Confidential” or “Secret”. NASA asked that records classified as “Top Secret” within this time period be referred to NASA. This letter has expired.

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11.2 While NASA equity in records created before 1984 have been automatically declassified, information concerning the space program, including satellites, sensors, aeronautics, earth and space science, and the manned space program may contain embedded equities of other government agencies that require review by those agencies. RReviewers processing these records for declassification must review these records carefully, and refer those records with embedded equities to the appropriate agency(ies). NASA OPS is willing to assist and should be consulted if questions regarding these embedded equities arise during the review of these records.

SECTION III – Compromised Information

This section provides guidance for determining if historical records pertaining to the compromise of classified information should be declassified.

Background on Compromised Information:

Compromised information results from the unauthorized disclosure or release of classified information. Compromised information is not automatically declassified because of its unauthorized disclosure (see section 1.1(c) of Executive Order (E.O.) 13526). In addition, as described below, information about compromises and follow-on investigations may be classified if an Original Classification Authority (OCA) determines it is necessary to limit damage, conceal security system vulnerabilities, and preclude further compromise. In some cases, no attempt is made to retrieve compromised information as such attempts would call attention to the compromise, resulting in greater damage to the national security than if no such efforts were made.

Information released pursuant to an authorized official U.S. Government release is not compromised information. When a U.S. Government release occurs, including through any of the following means, a reclassification action following the provisions of section 1.7(c) of E.O. 13526 must be conducted to exempt information.

Official U.S. Government releases include information released in:

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- U.S. Government publications;
- U.S. Government websites;
- Testimony before the Congress by U.S. Government officials;
- Testimony in judicial proceedings by U.S. Government officials;
- U.S. Government filings in judicial proceedings;
- Prior authorized declassification actions that have been released to the public; and/or
- Statements by the President, the Vice President, or in official White House releases.

Classification of Compromised Information

Compromised information is NOT automatically declassified because of its unauthorized disclosure. In addition, the location of information, method of its disclosure, and the fact that classified information has appeared in identifiable public documents or has been disclosed during specific presentations, are classified at the same level [CONFIDENTIAL (C), SECRET (S), or TOP SECRET (TS)], category, and duration, with any access limitations (e.g., Sensitive Compartmented Information (SCI)) as the compromised information itself. U.S. Government analysis of compromised information may also be classified depending on the information that has been compromised.

Information about compromises and follow-on investigations are classified to limit damage, conceal security system vulnerabilities, and preclude further compromise. If revealed, such information assists adversaries by:

(a) alerting them to the fact of a compromise

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- (b) providing details that would confirm the value of the compromised information
- (c) providing information on vulnerabilities leading to or resulting from the compromise
- (d) providing insight into investigative and countermeasure procedures; and/or
- (e) confirming information that would otherwise remain unclear.

Reviewing Information regarding compromises

When reviewing information regarding compromises, the information remains classified if:

- (1) the information contained in the documents describing the compromise is sufficient to materially assist an adversary in locating the compromised information
- (2) the additional criteria, described below, is satisfied. Regarding the first requirement, the statement "The New York Times in 1965 published classified information" does not provide such material assistance, as the volume of material is too great to reasonably search without additional "keys." Similarly, the fact that an unspecified document on a specified broad subject contained classified information would also not provide material assistance; however, identification of a specific report number, date, author, etc., probably would.

Compromised information or information about investigations of the compromise can only remain classified if all of the following conditions are met:

- 1) There must be an ISCAP-approved exemption for the information element that was compromised;
- 2) The information must be within the date range approved for that information element;

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- 3) The information must not fall into the categories in section 1.7 of E.O. 13526; and
- 4) The reviewer must be able to describe the damage to the national security caused by the disclosure.

Section 1.7(a) of E.O. 13526 states:

In no case shall information be classified, continue to be maintained as classified, or fail to be declassified in order to:

- (1) conceal violations of law, inefficiency, or administrative error;
- (2) prevent embarrassment to a person, organization, or agency;
- (3) restrain competition; or
- (4) prevent or delay the release of information that does not require protection in the interest of the national security.

If information falls into one of the categories of section 1.7(a), then the information cannot be classified. In addition, the information must meet the damage criteria established in section 1.1(a)(4) of E.O. 13526, which provides that information may only be classified if its unauthorized disclosure “reasonably could be expected to result in damage to the national security, which includes defense against transnational terrorism, and the original classification authority is able to identify or describe the damage.” Accordingly, if this damage standard is not met, the information must be declassified. *See also* section 3.1(a) of E.O. 13526 (“information shall be declassified as soon as it no longer meets the standards for classification under this order”).

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Compromised COMSEC

Compromised or suspected compromise is governed by the Committee on National Security Systems Instruction (CNSSI) 4003, NASA NPR1600.6, NASA COR CSOPs.

Reclassification

Information may be reclassified in accordance with Section 1.7(c) of the EO.

The Space Network and Tracking and Data Relay Satellite System

The TDRS system (TDRSS), also referred to as the NASA Space Network (SN), was established in the early 1980s to replace NASA's worldwide network of ground tracking stations. The Space Network consists of the on-orbit telecommunications TDRS satellites stationed at geosynchronous stationary positions and the associated TDRS ground stations located at White Sands, New Mexico, Blossom Point Maryland, and Guam. The TDRSS is capable of providing near continuous high bandwidth (S, Ku, and Ka band) telecommunications services for low Earth orbiting user spacecraft and expendable launch vehicles, including the Hubble Space Telescope, the space shuttle (now retired) and the space station. As such, the TDRS System is a basic agency capability and a critical national resource.

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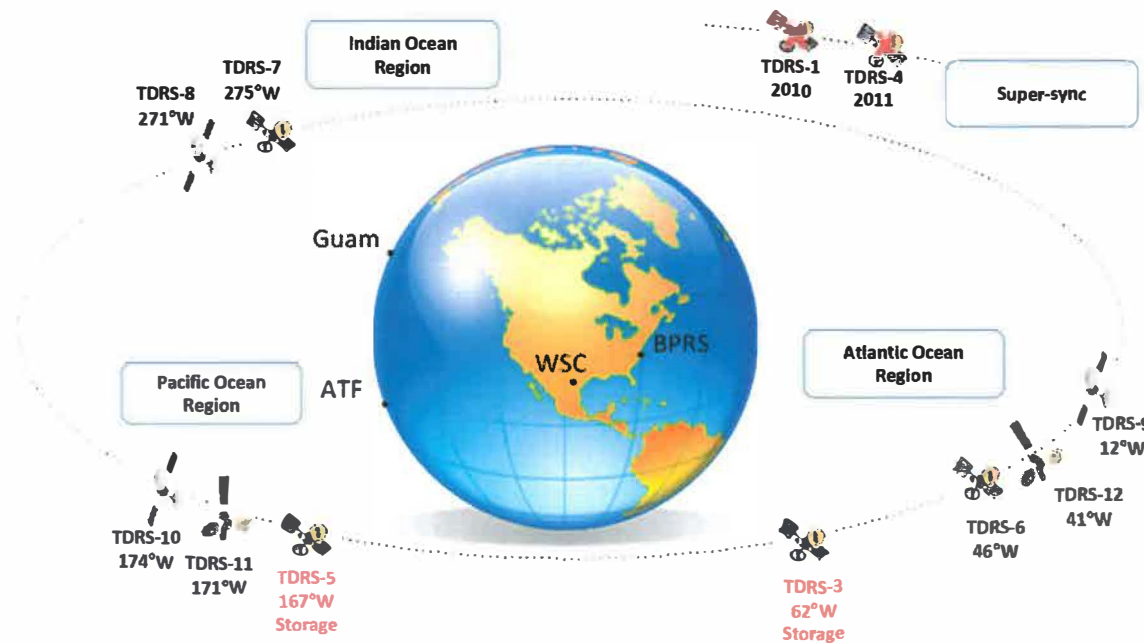


Figure 12.1 This diagram represents the TDRSS network and ground stations.

7. Hypersonic and Advanced Propulsion Technology

The NASA charter states that the Agency will develop and disseminate technology for the “preservation of the role of the United States as a leader in the aeronautical and space sciences and technology and in the application thereof.” More recently, there has been growing emphasis within the Congress and the Administration on speeding up technology transfer from the Government to the U.S. industry while protecting against inappropriate technology transfer to foreign governments, industry, or individuals.

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Hypersonic technology research efforts are underway in other countries (e.g., France, Japan, Russia, China, and Germany). In fact, in 1996, foreign expenditures for hypersonic research exceeded the U. S. investment. The Russians, with French funding, have tested a non-airframe integrated ramjet/scramjet propulsion system in flight. The Japanese have flown a subscale, unpowered hypersonic configuration. Researchers worldwide are advocating/planning even more flight activities over the next several years. Because of this, interest in U. S. hypersonic research results continues at a high level.

A ramjet operates by subsonic combustion of fuel in a stream of air compressed by the forward speed of the aircraft itself, as opposed to a normal jet engine, in which the compressor section (the fan blades) compresses the air. Ramjets operate from about Mach 3 to Mach 6.

A scramjet (supersonic-combustion ramjet) is a ramjet engine in which airflow through the engine remains supersonic. Scramjets powered vehicles are envisioned to operate at speeds up to at least Mach 15. Ground tests of scramjet combustors have shown this potential, but no flight tests have surpassed the Mach 9.6 X-43A flight. See Figure 13.1.

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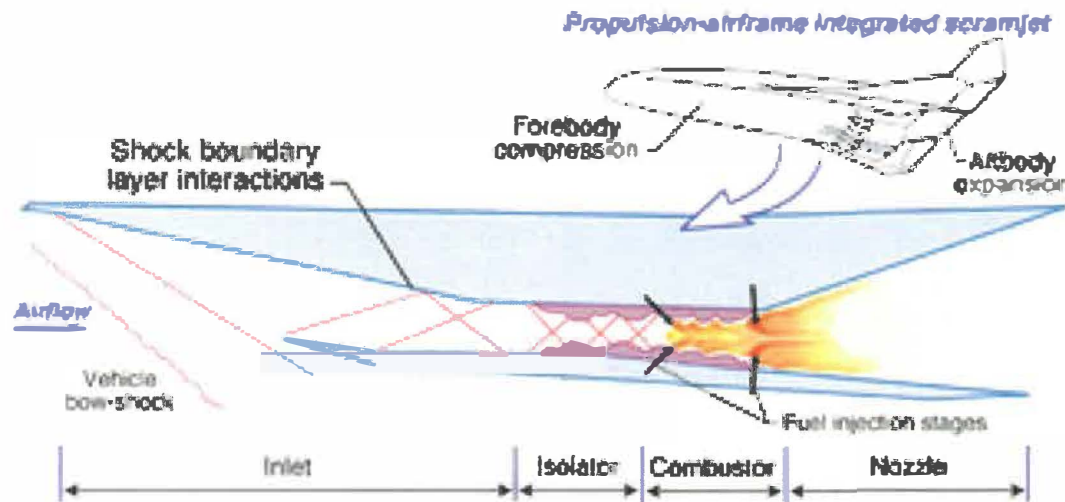


Figure 13.1 This simplified graphic illustrates how air and fuel mix at supersonic speeds inside a scramjet engine.

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SECTION II – Declassification Topical Guidance

Topic	Description	Classification	Remarks	Duration
1.0 Space Network (SN)/Tracking and Data Relay Satellite (TDRS/TDRSS)				
Information Revealing:				
1.1	Vulnerabilities which could be used to bypass or minimize the effectiveness of the security measures:			
1.1 (a)	Specifications, performance capabilities, procedures, test results, technical evaluations, and any other information which individually or collectively reveal exploitable vulnerabilities of the command and telemetry system	SECRET//NOFORN	Schematics, original design details, manufacturing parts, materials, and processes of the command and telemetry systems are usually unclassified may require referral to OGA.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
1.1 (b)	Techniques to overcome the secure systems employed in the command and telemetry systems	Secret// NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.1 (c)	Sequences of commands which may permanently disable or permanently degrade the satellite	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.1 (d)	That the purpose for the actual or proposed modifications to hardware or software is to correct an exploitable vulnerability of the command and telemetry systems in an operational satellite	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
1.1 (e)	Reports or analysis which indicate a possible attempt to jam or spoof a satellite	Secret// NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.1 (f)	Telemetry used as basis for reports or analysis which indicate a possible attempt to jam or spoof a satellite	SBU/CUI or U//FOUO	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended.	
1.1 (g)	Encrypted satellite commands	SECRET//NOFORN	Any recorded media containing multilayer encrypted satellite commands is protected as SBU/CUI.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.1 (h)	The correlation of satellite command bit patterns with the command functions that control the secure systems employed in the command and telemetry systems	SECRET//NOFORN	Software bit patterns are unclassified when not correlated with the command functions they represent.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
1.1 (i)	The correlation of cipher text command bit patterns with command functions	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.2	Performance and capabilities of Satellites	U	If the performance or capabilities were modified to support a classified OGA mission then this topic may be classified.	
1.2(b)	Performance and/or capabilities of satellites that are modified to support a classified OGA mission	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.3	Test objectives, results, data, conclusions, requirements, and location and time of test	U	OGA objectives may be classified and may require referral	
1.3 (a)	NASA test objectives, results, data, conclusions, requirements, and location and time of test	U		
1.3 (b)	Classified Customer test	SECRET//NOFORN		25x8: EO 13526; Declassify on

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Topic	Description	Classification	Remarks	Duration
	objectives, results, data, conclusions, requirements, and location and time of test			December 31 of the year that is 50 years from the date of origin of the record.
1.4	Specifications:			
1.4 (a)	External view, photographs, artists concepts, and satellite drawings	U	COMSEC custodian approval required for photographs, drawings, etc.	
1.4 (b)	External view, photographs, artists concepts, and satellite drawings revealing sensitive COMSEC	SECRET		
1.4 (c)	Satellite dimensions, weight, center of gravity or moment of inertia	U		
1.4 (d)	Design, performance, or specification detail(s) of the satellite	SBU/CUI or U//FOUO	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	

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Topic	Description	Classification	Remarks	Duration
1.4 (e)	Specifications or implementation detail(s) concerning satellite command protection or authentication	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.4 (f)	Time constants of TDRS F1-F7 Fail Safe Timer (FST) and the TDRS F8-F10 Secure Clear Mode Timer (SCMT) security circuitry	U	See the classified Annex sections 4.4 and 4.5(e) of this Guide, for more information on this topic.	
1.4 (g)	Level of TEMPEST protection	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
1.4 (h)	Description of the keying variables used on the TDRS constellation	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.5	Operations:			
1.5 (a)	Launch dates and times	U		
1.5 (b)	Launch support requirements	U		
1.5 (c)	Frequency bands	U		
1.5 (d)	Data rates	U		
1.5 (e)	Exact system operating frequencies	U		
1.5 (f)	Operations, logistics, or maintenance procedures	U		
1.5 (g)	Decrypted data related to acquisition and tracking of the satellite	U		

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Topic	Description	Classification	Remarks	Duration
1.5 (h)	Raw decrypted telemetry data related to an operational satellite	SBU/CUI	Whether time tagged or not. Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended..	
1.5 (i)	Decrypted command data	U	Unclassified whether time tagged or not.	
1.5 (j)	Command and telemetry data when configured in CRYPTO bypass mode	U		
1.5 (k)	The time transition from secure to clear mode of command and telemetry systems	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
1.5 (l)	Information related to the housekeeping and status of the satellite: (1) Exact time of the satellite maneuvers (2) Satellite status	U U		
1.5 (m)	Data related to the testing or simulation of the satellite	U	May require referral to OGA.	
1.6	Support provided by the SN to classified customers:		A classified customer is any customer whose relationship with the SN is classified by the customer and/or NASA	
1.6 (a)	The fact that the SN supports classified customers	U		
1.6 (b)	Acknowledgement of support to Department of Defense	U		
1.6 (c)	Identification of the specific classified customer	Secret// NOFORN or Higher	Handle at a minimum as Secret// NF. See classified annex for further guidance.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
1.6 (d)	Association between classified program and the SN to include TDRS-unique characteristics (e.g. frequency ranges assigned to TDRS, geographical location of the ground terminals)	Secret// NOFORN or Higher	Handle at a minimum as Secret// NOFORN See classified annex for further guidance.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.6 (e)	Identification of the specific classified customer's program	Secret// NOFORN or Higher	Handle at a minimum as Secret// NOFORN See classified annex for further guidance.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.6 (f)	Identification of NASA assigned pseudonym	U	Unclassified for NASA. However, any associations made linking a NASA classified customer to a NASA pseudonym are classified. See 1.6(g). Also may require referral to OGA.	
1.6 (g)	Relationship between classified customer program and NASA pseudonym	Secret// NOFORN or Higher	Handle at a minimum as Secret// NOFORN. See classified annex for further guidance.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
1.6 (h)	Relationship between Support Identification Codes (SIC) and the NASA pseudonym	SBU/CUI or U//FOUO	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	
1.6 (i)	Support Identifier (SUPIDENS) for classified customers	SBU/CUI or U//FOUO	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	

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Topic	Description	Classification	Remarks	Duration
1.6 (j)	Classified customer's mission profile data when NOT identifying the NASA pseudonym, SIC, or SUPIDEN: -Support schedule (frequency, start and stop times) -Data Rate(s) -Loading information -Specific frequency -Orbital parameters -PN codes	SBU/CUI	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	
1.6 (k)	Classified customer's mission profile data when identifying NASA pseudonym, SIC, or SUPIDEN	SBU/CUI	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	

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Topic	Description	Classification	Remarks	Duration
1.6 (l)	Classified customer configuration information: -POCC information -Vehicle/mission details -Data distribution outside of SN facilities -Unique configuration and capabilities	Secret// NOFORN	This topic is usually classified Secret// NOFORN by classified customers. Handle as Secret// NOFORN. See classified annex for further guidance.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.6 (m)	Classified customer's schedule when NOT identifying NASA pseudonym, SIC, or SUPIDEN	SBU/CUI	Hard copy data is SBU/CUI; otherwise treat as U. Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended.	
1.6 (n)	Classified customer's schedule when identifying NASA pseudonym, SIC, or SUPIDEN	SBU/CUI	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	

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Topic	Description	Classification	Remarks	Duration
1.6 (o)	Schedule of unclassified customers, whether the customers are identified or not	U		
1.6 (p)	Schedule of preventive maintenance	U		
1.6 (q)	Schedule of all resource availability	U		

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Topic	Description	Classification	Remarks	Duration
1.7	<p>Communications Security - The originating agency for the following classification requirements is National Security Agency (NSA). However, the cognizant authority acting on all matters related to COMSEC is the NSA Central Office of Record (COR). Classification requirements have been derived from the NSA Central Office of Record Standard Operating Procedures (CSOP) and the Committee on National Security Systems Instruction (CNSSI) 4005. All questions on the classification of COMSEC documents and equipment, or crypto material shall be addressed to the appropriate COMSEC custodian:</p>			

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Topic	Description	Classification	Remarks	Duration
1.7 (a)	Extent of support from NSA	Secret// NOFORN		25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.7 (b)	Details concerning failures or anomalies of COMSEC equipment and/or crypto material	Secret// NOFORN		25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.7 (c)	The fact that the satellites have a secure communications capability or use COMSEC equipment	U		
1.7 (d)	Identification of specific types of COMSEC equipment used	U		

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Topic	Description	Classification	Remarks	Duration
1.7 (e)	A complete listing of COMSEC inventory (COMSEC equipment and crypto material) for the SN	SECRET//NOFORN		25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
1.7 (f)	A listing of COMSEC <u>equipment</u> for an individual satellite	SBU/CUI	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended.	
1.7 (g)	Recovery or abandonment of classified COMSEC equipment following launch failure	SECRET//NOFORN		25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
1.7 (h)	Specific details of encryption devices error extension (e.g. exact number of bits involved)	SECRET//NOFORN	The approximate number of bits involved in encryption devices error extension is unclassified	25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
2.0 Space Network Ground Sites				
Information revealing:				
2.1	Vulnerabilities which could be used to bypass or minimize the effectiveness of the security measures:			
2.1 (a)	Details of anomalies, outages, or malfunctions, the cause of which is unknown, or are the result of an unresolved exploitable vulnerability	SBU/CUI	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	

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Topic	Description	Classification	Remarks	Duration
2.1 (b)	Exploitable vulnerabilities which could be applied to: gain unauthorized access to data processing systems; or gain physical access to controlled areas	SBU/CUI	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	
2.2	Performance and capabilities	U	If an OGA modifies a ground station to support its mission then it may require referral to OGA.	
2.3	Test objectives, results, data, conclusions, requirements, and location and time of test			
2.3 (a)	NASA test objectives, results, data, conclusions, requirements, and location and time of test	U		
2.3 (b)	Classified Customer test objectives, results, data, conclusions, requirements, and location and time of test	SECRET//NOFORN		25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
2.4	Specifications:			

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Topic	Description	Classification	Remarks	Duration
2.4 (a)	Ku-Band Command and Pilot uplink Effective Isotropic Radiated Power	U		
2.4 (b)	WSC Ku-band transmitter type, size, or power for the Command and Pilot uplink	U		
2.4 (c)	The value of the authentication command counter maintenance in the Ground Terminal association with a spacecraft	SBU/CUI or U//FOUO	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended. May require referral to OGA.	
2.5	Radio Frequency Interference (RFI) test data including specific RFI surveys and RFI data acquired during normal operation which is specifically isolated and recorded and any recording, such as photographs, of the RFI spectrum	SECRET//NOFORN	Mutual interference, signals, or noise interference observed that is generated from within the TDRS or SN is unclassified. All data collected on the specifics of the potential RFI incident will be handled as SECRET//NOFORN until deemed otherwise.	25x8: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
2.6	<p>Communications Security - The originating agency for the following classification requirements is NSA. However, the cognizant authority acting on all matters related to COMSEC is the NASA Central Office of Record (COR). Classification requirements have been derived from the NASA Central Office of Record Standard Operating Procedures (CSOP) and the Committee on National Security Systems Instruction (CNSSI) 4005. All questions on the classification of COMSEC documents and equipment, or crypto material shall be addressed to the appropriate COMSEC custodian:</p>			

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Topic	Description	Classification	Remarks	Duration
2.6 (a)	Extent of support from NSA	Secret// NOFORN		25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
2.6 (b)	Details concerning failures or anomalies of COMSEC equipment and/or crypto material	Secret// NOFORN		25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
2.6 (c)	The fact that the satellites have a secure communications capability or use COMSEC equipment	U		
2.6 (d)	Identification of specific types of COMSEC equipment used by the SN	U		

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Topic	Description	Classification	Remarks	Duration
2.6 (e)	A complete listing of COMSEC inventory (COMSEC equipment and crypto material) for the SN.	SECRET//NOFORN		25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.
2.6 (f)	A listing of COMSEC <u>equipment</u> for an individual satellite.	SBU/CUI or U//FOUO	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended.	
2.6 (g)	Specific details of encryption devices error extension (e.g. exact number of bits involved)	SECRET//NOFORN	The approximate number of bits involved in encryption devices error extension is unclassified.	25x8 and 25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
2.6 (h)	Installed details of a SN secure communications facility's intrusion detection system layout, location, and electrical design, that if disclosed, would provide significant assistance for gaining unauthorized access to classified information.	SBU/CUI or U//FOUO	Ensure that CUI protection and handling comply to Executive Order 13556 "Controlled Unclassified Information (CUI)" and NASA Interim Directive (NID) 1600.55 as extended.	
3.0 Hyper- X and Advanced Propulsion Technology				
Information Revealing:				
3.1	Propulsion configurations:			
3.1 (a)	Combustor internal geometric dimensions or lines	SECRET//NOFORN	The region bounded by the flowpath cowl, sidewalls, body-side panels, and fore and aft by the cross-sectional planes at the fuselage stations that coincide with the cowl leading edge and the cowl trailing edge in the cowl full-open position.	25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
3.1 (b)	Installed injector lines	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.1 (c)	Installed injector-to-injector spatial relationships	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.1 (d)	Installed injector locations within the combustor	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.1 (e)	Installed injector performance	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.2	Net Performance:			

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Topic	Description	Classification	Remarks	Duration
3.2 (a)	Net installed thrust	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.2 (b)	Net installed specific impulse	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.3	Combustor Performances:			
3.3 (a)	Mixing efficiency at any location	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.3 (b)	Combustor efficiency at any axial location	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
3.3 (c)	Static pressure distribution	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.3 (d)	Minimum and maximum static pressures	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.3 (e)	Static pressure rise	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.3 (f)	Exit static pressure	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
3.3 (g)	Stream thrust at any axial location	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.3 (h)	Line-of-Sight (LOS) or planar gas concentration levels of H ₂ O, H ₂ , O ₂ at any axial location	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.4	Inlet/Nozzle/Combustors	SECRET//NOFORN	The region bounded by the flow path cowl, sidewalls, body-side panels, and fore and aft by the cross-sectional planes at the fuselage stations that coincide with the cowl leading edge and the cowl trailing edge in the cowl full-open position.	25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
3.5	Control systems/sensors:		Upon determination that propulsion configuration/cycle performance details are revealed	
3.5 (a)	Configuration lines	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.5 (b)	Throat areas	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.5 (c)	Expansion ratio	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
3.5 (d)	Variable geometry concepts	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
3.5 (e)	Performance parameters (i.e. kinetic energy efficiency, mass flow, pressure recovery, gross thrust coefficient, stream thrust coefficient (C_s))	SECRET//NOFORN		25x4 and 50x4: EO 13526; Declassify on December 31 of the year that is 75 years from the date of origin of the record.
4.0 Space Systems				
Information revealing:				
4.1	Details concerning COMSEC equipment installed on NASA space systems	SECRET//NOFORN	See the classified Annex section 4.5(c) and 5.2 of this Guide, for more information on this topic.	25x3: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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Topic	Description	Classification	Remarks	Duration
4.2	Details concerning equipment used onboard NASA space systems	SECRET//NOFORN	See the classified Annex section 5.1 of this Guide, for more information on this topic.	25x4: EO 13526; Declassify on December 31 of the year that is 50 years from the date of origin of the record.

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SECTION III – Definitions

Abbreviations, acronyms and definitions used in this guide are defined:

Classified Customer	Any SN customer whose relationship with the SN is classified by the customer and/or NASA.
COMSEC	Communications Security – The protection resulting from the application of crypto security, transmission security, emissions security, and physical security measures to communications.
COR	Central Office of Record
CSOP	NASA Central Office of Record Standard Operating Procedures
CRYPTO	A marking or designator identifying all COMSEC keying material used to protect or authenticate telecommunications carrying national security and national security-related information.
Deficiency	A failure to meet prescribed security procedures, regulations, standards, or specifications. Also see vulnerability.
EIRP	Effective Isotropic Radiated Power – A communications term used to describe radiated power with respect to omni-directional radiation in order to normalize the antenna gain for comparative purposes.
EO	Executive Order – A regulation by the President of the United States or the chief executive of a state which has the effect of law.

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FDF	Flight Dynamics Facility
FOUO	For Official Use Only – An administrative marking (not a classification marking) available for use under certain circumstances to limit dissemination of information. It does NOT afford classified protection, but it does flag material that meets one of the Freedom of Information Act's (FOIA) criteria for exemption from public release. U//FOUO is used for information distributed to classified customers outside of NASA.
FST	Fail Safe Timer
GRGT	Guam Remote Ground Terminal
GSFC	Goddard Space Flight Center (Greenbelt, Maryland)
HQ	Headquarters (Washington, DC)
Ku-Band	Bandwidth, frequency
LOS	Line-of- Sight
NASA	National Aeronautics and Space Administration
NASA Pseudonym	An unclassified designator for a NASA customer, mission or program
NPR	NASA Procedural Requirement
NF	NOFORN; Not Releasable to Foreign Nationals

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NTISSI	National Telecommunications and Information Systems Security Instruction – Instructions that provide advice, assistance, or information of general interest on telecommunications and systems security to all applicable federal departments and agencies.
OGA	Other Government Agency(ies)
OPR	Office of Primary Responsibility
OPSEC	Operations Security
PN Code	Pseudorandom Noise Code - A binary sequence that exhibits random noise-like properties and is used in spread spectrum applications.
POCC	Program Operations Control Center
RFI	Radio Frequency Interference
SBU/CUI	Sensitive But Unclassified/Controlled Unclassified Information - Within NASA and the Federal Government, such information had previously been designated "For Official Use Only." The caveat "Sensitive But Unclassified (SBU)" was used to identify sensitive but unclassified information within the NASA community when that information was not otherwise specifically described and governed by statute or regulation. SBU now falls into a category called Controlled Unclassified Information. President Obama issued EO 13526 to govern this type of information. NASA Interim Directive (NID) 1600.55 as extended also governs this type of information.
SCG	Security Classification Guide

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SCMT	Secure Clear Mode Timer
SIC	Support Identification Code – the four numeric characters of the seven character SUPIDEN.
SN	Space Network
SNE	Space Network Expansion
SUPIDEN	Support Identifier – A seven character code used to identify the satellite or task being supported by the SN. It is broken into three parts: class, SIC, and function. The first character, class, is always alpha characters and indicates the major entity for which the support is being provided. The next four characters, the SIC, are always numeric and identify the mission being supported. The last two characters, function, are alphanumeric and identify the type of support being provided.
STGT	Second TDRSS Ground Terminal
TDRS	Tracking and Data Relay Satellite – A relay satellite positioned in geosynchronous orbit to provide real time communications support for most users.
TDRSS	Tracking and Data Relay Satellite System – The system that includes the constellation of TDRS's and ground support equipment required to communicate with the satellites, providing near-global communications coverage.
TEMPEST	TEMPEST is an unclassified short name referring to investigations and studies of compromising emanations.

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TT&C	Telemetry, Tracking and Command
U	Unclassified – Information not meeting the criteria for classification set forth in EO 13526
Vulnerability	A weakness, shortfall, or uncorrected deficiency that could be exploited to bypass the security measures and obtain classified information, or to degrade or defeat the effectiveness of a system. Also see deficiency.
WSC	White Sands Complex – The WSC refers to three NASA communications facilities, two co-located in New Mexico, WSGT and STGT, and one facility on Guam, GRGT.
WSGT	White Sands Ground Terminal

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Classified Annex

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Classified Annex is withheld in full