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Description of document: **Minutes from United States Marine Corps (USMC) Joint Non-Lethal Weapon (JNLW) Program Nonlethal Weapons Joint Concepts and Requirements Group (NLW JCRG) 97-01 Principals Meeting, 08 April 1997**

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IN REPLY REFER TO:

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MCSC200800028

15 NOV 07

This responds to your Freedom of Information Act (FOIA) request dated October 6, 2007, for a copy of "Minutes from NLW JCRG 97-01 Principals Mtg."

The requested document is enclosed.

Fees will be assessed upon completion of the last document processed under your October 6, 2007 request.

Any questions concerning this matter should be directed to Mrs. Bobbie Cave at (703) 432-3934 or [bobbie.cave@usmc.mil](mailto:bobbie.cave@usmc.mil).

  
J. B. BENNETT  
Counsel

15 April 1997

**MEMORANDUM FOR THE RECORD**

Subj: MINUTES FROM NONLETHAL WEAPONS JOINT CONCEPTS AND REQUIREMENTS GROUP (NLW JCRG) 97-01 PRINCIPALS MEETING, OF 08 APRIL 1997

- Encl: (1) List of Attendees;  
 (2) JCRG FY98-03 Revisions and Master Plan Briefing Presented by Mr. Larry Willard; Technology Investment Proposal Briefing Presented by Ms. Susan LeVine;  
 (3) Summary of Taskings;  
 (4) DRAFT: A Joint Concept for Nonlethal Weapons, REV 04 [with revisions from service comments highlighted];  
 (5) DRAFT: A Joint Concept for Nonlethal Weapons, REV 05 [with revisions from service comments incorporated].

1. The Nonlethal Weapons Joint Concept and Requirements Group (NLW JCRG) Principals met at Headquarters, Marine Corps Combat Development Command, Quantico, Virginia, at 1400, on 8 April 1997. MajGen John E. Rhodes, USMC, (Chairman, JCRG) and BGen Robert T. Clark, US Army (Deputy Chairman, JCRG), with others listed at Enclosure (1) attended.

2. The purpose of the meeting was to review the accomplishments of the JCRG working group's efforts since the last JCRG meeting and to gain the JCRG principal's concurrence with:

- a. the working group's recommendation for the FY 98-03 Augmentation POM Revision,
- b. a proposed concept and outline for a Joint NLW Master Plan, and
- c. the working group's recommendation for a process to develop and approve a Joint NLW Technology Investment Program.

This JCRG meeting was a prelude to a Joint NLW Integrated Product Team (IPT) meeting to be held on 23 April 1997.

3. Mr. Larry Willard presented a briefing on the status of current efforts, the results of two working group meetings to develop the Augmentation POM Revision, and the Joint NLW Master Plan. His briefing slides are at Enclosure (2). The following summarizes his remarks:

- a. The JCRG working group has made significant progress in gaining control of the various DoD nonlethal efforts (he referred to this as "jumping onto a moving train").
  - \* DoD NLW Policy Statement has been signed
  - \* Expect the Joint NLW Concept to be signed in June 1997
  - \* NLW Tactics, Techniques, and Procedures (TTP) document is in draft and is expected to be signed by March 1998
  - \* Marine Corps procurement of NLW Capability Sets and the Army Soldier Enhancement Program Type Classification efforts are well underway
  - \* The FY98-03 Augmentation POM Revisions (NLW) have built a "coherent bridge" to POM 00

b. In developing the FY98-03 Augmentation POM Revisions, the JCRG working group selected 14 projects and technology categories for Joint development/funding from the 30 original proposals submitted by the Services.

- \* To be selected for Joint development/funding, a Service had to assume the lead (write/staff Joint ORD and include in Service POM) and at least one other Service had to express interest in procurement (implying including procurement in their Service POM).
- \* Chart listing 14 projects and technology categories are listed in briefing copy at Enclosure (2)

c. The JCRG working group has developed an outline for a NLW Master Plan and need the JCRG principal's concurrence to proceed.

- \* The objective of the Master Plan is to provide a vision of expanding Core NLW Capabilities across the entire spectrum of conflict
  - \*\* want to expand the range of systems (keep belligerents at a greater distance)
  - \*\* want non-line-of-sight systems
  - \*\* want remote delivery means
- \* Need to remain aware of emergent requirements for NLWs in real world contingencies (e.g., Albania, Bosnia, etc.)
- \* Joint NLW Master Plan Outline included as part of Enclosure (2)

4. Ms. Susan LeVine presented a briefing on a proposed process to introduce new technology ideas into the DoD NLW Program. Her briefing slides are included as part of Enclosure (2). The following summarizes her remarks:

a. "*Technology Investment*" is proposed as one of the five major funding categories for the Joint NLW Program. It is intended to stimulate government laboratories, civilian industry, and academia.

b. The working group's proposed concept for Technology Investment Program:

- \* "Calls for proposals" will be annually or bi-annually.
- \* The initial call will be to government labs and small businesses only due to limited time remaining in FY97 to review proposals and prepare contracts for award in FY98. Subsequent calls for proposals will be opened to industry and academia.
- \* Proposals will be reviewed ("racked and stacked") by a panel of JCRG and JAG working group members chaired by the Director of the Joint NLW Directorate.
- \* Joint NLW IPT will set the funding level. The Technology Investment Panel will be empowered to select programs and apply funding.

## 5. Decisions

### a. FY98-03 Augmentation POM Revision List

#### \* Discussion:

\*\* LtCol Miner (Air Force) requested reconsideration of their Hindering Adversaries with Less-than-Lethal Technologies (HALT) program. This is a program that will reconfigure the Saber 203 for universal installation and further make the device eye safe at the aperture. It did not make the list of 14 programs for the FY98-03 Augmentation POM Revision. LtCol Minor stated that he had heard of Army interest in the program. BGen Clark and Mr. Walt Streiter indicated that there was no official Army interest. The Army will field the Saber 203 (and keep the belligerents at a distance greater than 6 meters.)

\*\* MajGen Rhodes asked if there was any other discussion on "non-selects". Mr. Streiter indicated that the Army was not interested in the 'sticky net', but was willing to proceed on based on other Service interests. He also pointed out that those items that were not selected are not dead. They are just not funded. MajGen Rhodes asked if the non-funded items were prioritized. Mr. Willard indicated that they were not prioritized for funding purposes and MajGen Rhodes indicated that he wanted the working group to prioritize them in case funding became available. (The items below 14 in the list are prioritized by default but have no joint interest. They will be service unique at best but were not supported during the JCRG Working Groups deliberations by any service. Each item on the entire list was individually considered and discussed prior to ranking.)

\*\* MajGen Rhodes sensed that the Air Force's HALT program had its day in court and it was time to move on.

\* Decision: All Services concurred with the Revision List as developed by the JCRG Working Group and certified the 10-11 March 1997 FY98-03 Augmentation POM Revisions to the IPT via the JAG. The JAG is to meet on 14 April 1997.

### b. Concept and Outline for the Joint NLW Master Plan

\* Discussion: MajGen Rhodes asked where the Joint Nonlethal Weapons Concept was in the staffing/printing process. He expressed concern that the Joint NLW Concept needed to be "married to" the Master Plan. Mr. Willard explained that the Concept was at the printers for final edit prior to CMC signature scheduled for June 1997. Mr. Streiter asked if their (Army) comments had been incorporated into the final draft of the Concept. Mr. Willard explained that all comments received were incorporated by LtCol Blasiol prior to sending the document to the printers. MajGen Rhodes tasked Mr. Willard with providing the Services with a copy of the final draft of the Concept so they could compare it with their staffing comments.

\* Decision: All JCRG principals concurred with the proposed concept and outline for the Joint Non-Lethal Weapons Master Plan. BGen Clark expressed interest in ensuring the plan looks well into the future, "where we think we are going. It must be a living

document". MajGen Rhodes concurred and directed that it be revised frequently, perhaps every two years.

c. **Proposed Process for Technology Investment Program**

\* **Discussion**: MajGen Rhodes stated he did not have any problem with the overall proposal except that he felt the IPT would want to be more involved the first time. "Since this is untried waters, we should move slowly the first time." Capt Rieve (Navy) stated he was "not comfortable yet" and questioned why we should have a subordinate make a decision and then have a JCRG (principal) meeting. Ms. LeVine countered with a proposal to use a decision paper in the process. MajGen Rhodes stated that because of other demands against his time, he was not involved enough in the NLW program and asked to schedule a VTC of the principals to review/approve the Technology Investment Panel's recommendation. Ms. Kristen Baldwin, HQDA ODCSOPS, requested that the panel be expanded to include the expertise that is resident at TRADOC.

6. **Taskings**. Enclosure (3) is a summary of taskings that were assigned during this meeting.

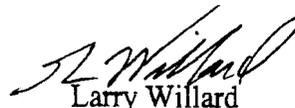
7. **Draft NLW Concept**. Enclosures (4) & (5) are copies of Revisions of A Joint Concept for Nonlethal Weapons. Enclosure (4) is Revision 04 with comments from the services incorporated. In this versions the revisions are marked for comparison purposes. Enclosure (5) is Revision 05 of the document. It is Revision 04 with all service comments incorporated and is a configured copy of the text as it went to the printer/editor for final edits prior to signature and distribution.

8. **Other topics**

a. MajGen Rhodes informed the other principals that a contingent from the Pennsylvania State University, Applied Research Lab's staff had met with LtGen Steele, DC/S PP&O, LtGen VanRiper, CG MCCDC, BGen Broderick, DirOps, PP&O, Col Gombard, Dir Req Div, and himself to express an interest in becoming involved with the nonlethal weapons program. MajGen Rhodes indicated that they had not decided whether the Marine Corps would pursue the proposal unilaterally or recommend something under the NLW Executive Agent as a Joint effort. He stated he would keep the other JCRG principals informed.

b. MajGen Rhodes called for other discussion items. There were none.

9. The meeting was adjourned.



Larry Willard  
MCCDC NLW Science Advisor

copy w/enclosures to:  
JCRG Principals USA, USAF, USMC, USN, & USSOCOM, & NLCC.

## LIST OF ATTENDEES

### Marine Corps

MajGen John E. Rhodes, DCG MCCDC, Chair, JCRG  
\*Maj J. E. Budway, MCCDC, Req Div  
Capt Sean Gibson, USMC Public Affairs  
Mr. Larry Willard, MCCDC NSAP Science Advisor  
\*\*Ms. Susan LeVine, Joint NLW Program Coordination Cell  
Mr. John Basic, Joint NLW Program Coordination Cell

### Army

BGen Robert T. Clark, HQ TRADOC, Ft. Monroe, VA, Deputy Chair, JCRG.  
\*Mr. Walt Streiter, HQ TRADOC, Ft. Monroe, VA  
Ms. Kristen Baldwin, HQDA ODCSOPS

### Navy

\*Capt Robert Rieve, USN  
Expeditionary Warfare Division, N851

### **USACOM**

Mr. James O. 'Oke' Shannon,  
Technology Advisor, J3

### Air Force

\*LtCol Dennis D. Miner, HQ USAF/XORBP  
Col Andrew Corso, HQ USAF/SF

### Special Operations Command

\*Maj William J. Bender,  
USSOCOM, SOJ5-0

Note: \* To Receive Principal's copy  
\*\* To receive JNLWCC copy

Enclosure (2)

Copy of JCRG FY98-03 Briefing Slides:

Revisions and Master Plan Briefing Presented by Mr. Larry Willard

Technology Investment Proposal Briefing Presented by Ms. Susan LeVine.



# Joint Concepts/Requirements Group (JCRG) Principals

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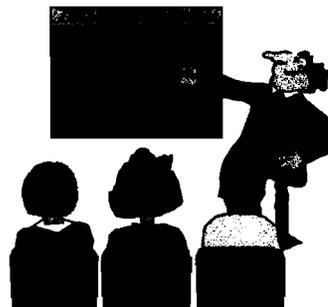
*08 April 1996*



## ***JCRG Principals 97-01*** ***08 April 1997***

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- Welcome
- Review Events Since JCRG 96-01
- Joint NLW Documentation
- FY98-03 Augmentation POM Revisions
- Joint Requirements
- Joint Initiatives
- Joint NLW Master Plan
- Technology Investment
- Emerging Requirements
  - RCA Alternatives
  - APL Alternatives
- Recommendations & Actions

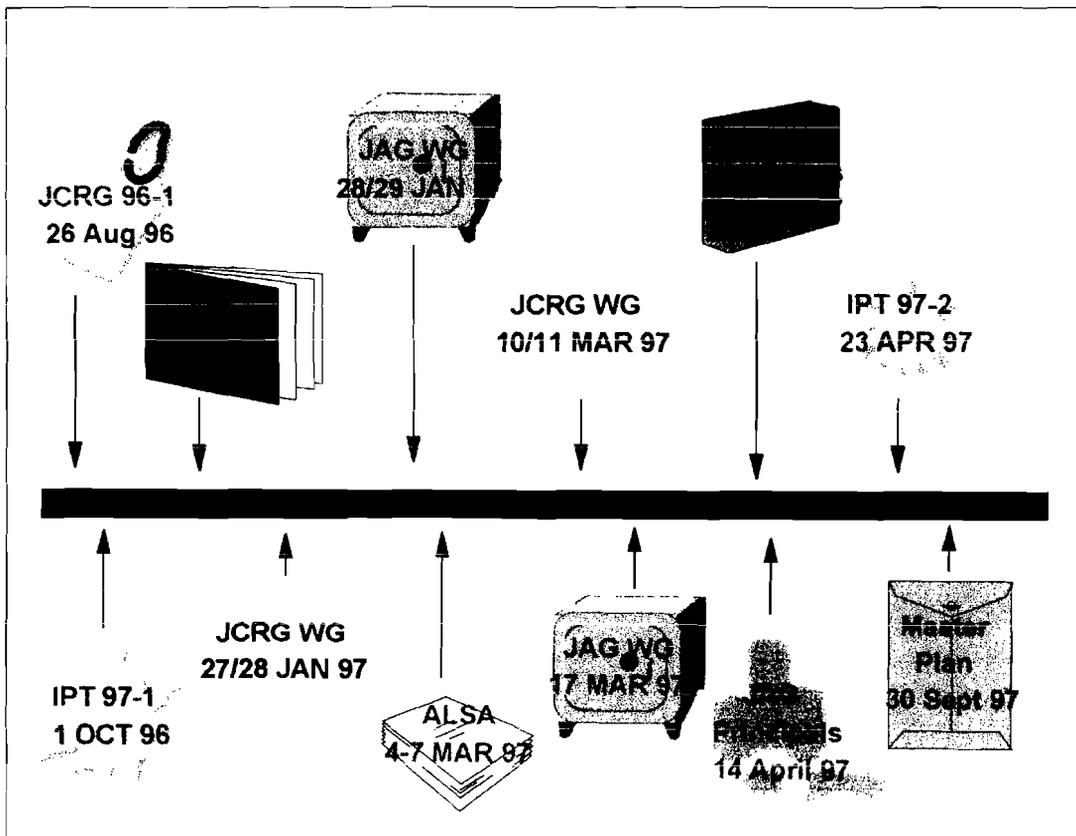




## ***Event Review Since JCRG 96-01***

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- Transition Plan and POM 96-97 Caught a Moving Train
- PBD 719 Upset Funding Expectations
- Capability Set and SEP were Early Winners
- POM 98-03 Augmentation Revisions Coherent Bridge to POM 00





## ***Joint NLW Documentation***

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- DoD Directive No. 3000.3 'Policy for Non-Lethal Weapons'  
09 Jul 1996
- DoD NLW Program MOA, 21 Jan 1997
- Joint NLW Concept in draft (final due June 1997)
- ALSA Joint Service NLW TTP in draft (final due March 1998)
- Joint NLW MNS & ORDS
- Joint NLW Master Plan
  - draft due Oct 1997
- Joint NLW RDA Plan
  - based on NLW Master Plan



## ***FY98 Augmentation POM Revisions***

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- 30 Candidate Projects on Original List
- Reduced to 24 at JCRG WG 97-01 via  
Service Interest Filter and Prioritized
- Further Reduced to 14 Projects and  
Categories at JCRG WG 97-02
- Roughly fall into Type Classification,  
Advanced Development & Tech Base
  - SEP, CAP SET, DOJ Sources
- Added Technology Investment



# Downselect Results

NEW/R RANK	TECHNOLOGY DESCRIPTION	PROJECT RANKING FROM 97-2 ( 10-11 MAR 1997)						JCRG WORKING GROUP				COMMENTS
		OLDR RANK	USA	NAVY	USMC	USAF	SOCOM	FY96 K\$	FY97 K\$	FY98 K\$	FY99 K\$	
1	NL CROWD DISPERSAL	1	L	&	&	&	&					single M203 round
2	ACOU-BIO EFFECTS	2	&	&	&	&						Tech Base
3	MCCM	3	L		&	&						NL Claymore
4	STOPPERS	4				&						
	4a Ground		&	&	L							Land Vehicle Engines
	4b Maritime		&	L	&		&					Maritime Vessels
5	SPEED BUMP (NET)	5	L		&	&						Land Vehicles
6	Active Denial Technology	6	&	&	L	&	&					RF Denial
7	66 MM Munitions	9	L		&	&						LVOSS Launched, e.g.
8	UAV NL PAYLOADS	11	&	L	&							Study and Tests
9	BOUNDING NL MUNITION	14	L		&	&						Handemplaced NL Munition
10	CLADS	15	L		&	&						Scatterable NL Munition
11	FOAM APPLICATIONS	17	CL		CL	&						Technology TBD
12	ACOUSTIC GENERATOR	18	&		&							Tech Base
	12a Electric											
	12b Combustion											
	12c Spark Gap											BIO Effects Support
13	VORTEX RING	21	&	&								Tech Base
14	Under-Barrel Tactical PB	22	L	&								Under Barrel Paint Ball Sys
NOTES:	L = Lead Service											
	CL = CoLeader											
	& = Interest											



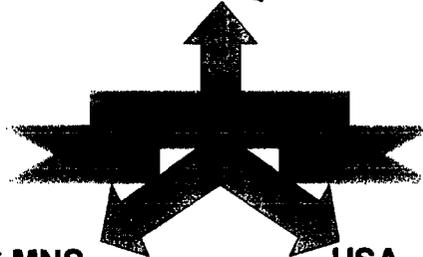
## ***JOINT INITIATIVES***

- Directorate/EA Support
- Modeling & Simulation
- Experimentation
- Technology Investment
- NL Crowd Dispersal (M203 Round)
- Acoustic Bio-effects (Tech Base)
- Stoppers
  - Ground (Land Vehicle Engines)
  - Maritime (Small Vessels)
- Speed Bump (Net) (Land Vehicles)
- Active Denial Technology (RF)
- 66 MM Munitions (LVOSS Launched)
- UAV NL Payload (Delivery System)
- Bounding NL Sub-Munition (Hand Emplaced)
- Canister Launched Area Denial System (Scatterable NL Sub-Munition)
- Foam Applications (Technology To be Selected)
- Acoustic Generator (Tech Base)
  - Electric
  - Combustion
  - Spark Gap (Bio-effects Support)
- Vortex Ring (Tech Base)
- Under Barrel Tactical Paint Ball System



## ***Creating Joint Service Non-lethal Weapons Mission Needs Statements (Example)***

Military Operations Other Than War  
USMC - slide 20 February '96



USN (USACOM) MNS  
12 July 1996

USA - "Joint" MNS  
10 Oct 1996



## ***Service MNS & ORDS***

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- **USMC MOOTW MNS - 20 Feb 1996**
  - NLW CAP SET ORD pending
- **USA ORDS - 10 Oct 1996**
- **USN MNS - 12 July 1996**
- **USAF MNS - 15 Jun 1992**
  - ADT ORD Pending
- **USSOCOM Operational Capability Requirements - 14 March 1996**



## ***Joint NLW Requirements***

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- **SEP, CAP SETS & DOJ sources for NLW**
- **JCRG WG 97-02 Down Selected by Lead Service & Provisional OR**
- **Technology Base Direction via Joint Service OR**
- **Technology Investment Direction via Joint Service Focus Area Definition**

**Joint Requirements for NLW Defined by MOA  
Between and Among Services and SOCOM**



## ***Modeling & Simulation Approach***

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### **■ Four Stage Effort:**

- Initial exploitation of existing wargaming models focusing on modeling NL incapacitation through improved suppression algorithms
- Further exploitation of existing wargaming models through improved fatigue algorithms
- Integration of complex human behavior modeling with the NLW enhanced wargaming models
- Exploitation of general military wargaming scenarios to study critical parameters related to the use of NLW in operational exercises



## ***NLW Modeling & Simulation Process***

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- The NLCC has been canvassing the M&S community to:
  - Identify existing M&S capabilities for NLW integration
  - Provide recommendations for DOD NLW funding investments
- The JCRG and JAG can direct and focus the M&S efforts to address requirements and technology issues



## ***Proposed FY98 Modeling & Simulation Program***

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- **FY 98 M&S will build upon FY97 efforts with focus on the following models:**
  - Joint Combat and Tactical Simulation (JCATs)
  - MARINE Semi Automated Forces (MARINESAF)
  - MODular Semi Automated Forces (MODSAF)
- **These codes have the framework to represent many nonlethal effects:**
  - Obscurants, gases, malodorous substances
  - Loud noises, blinding lights, rubber bullets
  - Degradation of human capability
  - Interference with human and vehicle movement



## ***Joint Combat and Tactical Simulation (JCATs)*** ***(FY 97 Deliverables)***

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- **Formal inclusion of NLW capability into JCATS release**
  - ▶ Range dependent suppression algorithm for Kinetic Point & Area weapons
- **Further analysis of CWL JLOE results**
  - ▶ What level of statistical significance is required to have useful casualty comparisons between lethal only and lethal / nonlethal weapon mixes?
- **Preliminary work on identifying complex human behavior models**



## ***Joint Combat and Tactical Simulation (JCATS) (FY 98 Deliverables)***

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### ■ Detailed plan for inclusion of complex human behavior models

- ▶ Can existing models be adapted for use in JCATS?
- ▶ How much new algorithm development is needed to improve human behavior models in JCATS?
- ▶ Can both individual behaviors and crowd behaviors be modeled?

### ■ Improvements to JCATS for modeling NL directed energy weapons

- Targeting algorithm to handle directed energy physics
  - ▶ Include beam spread effect
  - ▶ Dosage monitoring; suppression & fatigue effects begin only after threshold dosage accumulated



## ***MARINESAF (FY97 Deliverables)***

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### ■ Formal inclusion of NL weapons capability

- ▶ Implement an analogous point effect and area effect NLW modeling capability that JCATS is to have
- ▶ Consider NLW's from the JCRG Prioritization List
- ▶ Consider NLW's from the NL Capability Set
- ▶ Provide a beta site to users at Twentynine Palms

### ■ Development of analysis scenario

- Coordinate with CWL on M&S of Urban Warrior NLWs



## ***Technology Investment Objective***

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- To provide the JCRG a process to introduce new technology ideas into the Joint DOD NLW Program
- Stimulate government laboratories, industry, and academia in generating new technology solutions to meet current or future nonlethal mission needs and requirements.



## ***Technology Investment: Overall Process***

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### ● "Call for Proposals"

- ▶ Issued by NLW Directorate
- ▶ Open to Government Labs, Industry, and Academia
- ▶ Conducted annually or bi-annually
- ▶ Basis for the "Call": Focus areas from within the Joint NLW Master Plan

### ● Proposal Review

- ▶ Review panel, chaired by NLW Program Director
- ▶ Membership: JCRG & JAG working group reps, NLCC, and others, as appropriate
- ▶ Review panel "Racks & Stacks" proposals for funding allocations

**Recommendation: Empower JCRG Principals to  
Make Funding Allocation Decisions  
(Pending approval of IPT 97-3)**



## ***Technology Investment: Proposed FY98 Schedule***

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- **NLT 01 June 97: Call for Proposals issued**
  - Basis will be JCRG driven focus areas from Service Scenarios, Joint NLW Concept, and Draft NLW Master Plan
  - Call limited to DOD / DOE laboratories and possibly Small Business
    - ▶ Due to limited time for preparing and awarding contracts for FY98
    - ▶ Anticipated that subsequent "Calls" will be open to all
- **15 July 97: Submissions due**
- **15 September 97: Review Panel completes rack and stack**
- **1st Quarter FY98: Funding sent to recipients**



## ***Joint DOD NLW Program Funding Categories***

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- **Directorate / EA Support**
- **Modeling & Simulation**
- **Experimentation**
- ***Technology Investment***
- **RDT&E Programs (per JCRG prioritization list)**



***Joint NLW JCRG 97-01  
Recommendations & Actions***

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- **Certify JCRG WG 97-02 FY98-03 Augmentation POM Revisions to the JAG/IPT**
- **Accept JCRG WG 97-02 NLW Master Plan Outline, Approach, and Schedule as presented for execution**
- **Accept JCRG WG 97-02 Proposed Technology Investment Strategy and Goals**

**Proposed Actions Are In Accord With  
MOA**



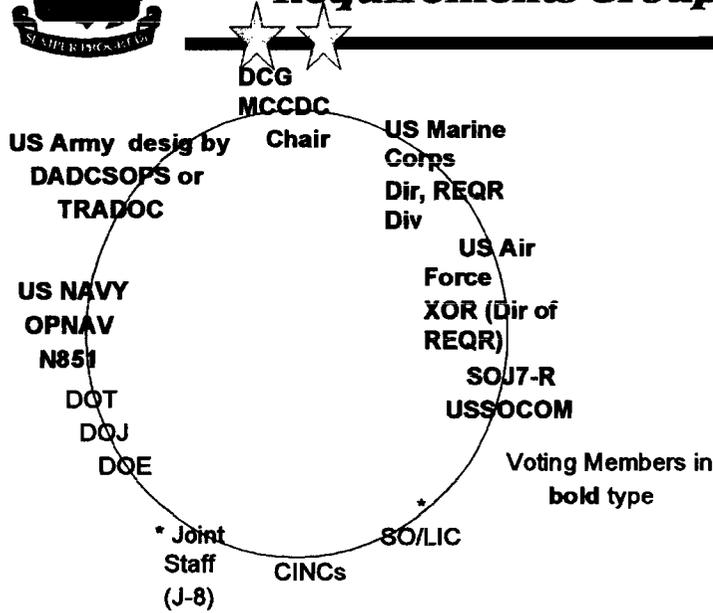
***JCRG 97-01 Principals  
08 April 1997***

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- **Slides Following are Background**



## Joint Concepts Requirements Group

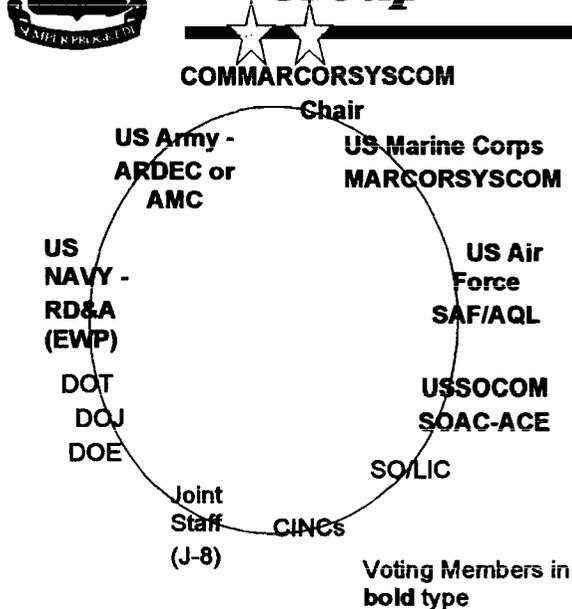


### RESPONSIBILITIES:

- Develop Joint:
  - Concept
  - Requirements
  - NLW Master Plan
- Review Service NLW Programs
- Participate in Joint Doctrine Development



## Joint Acquisition Group

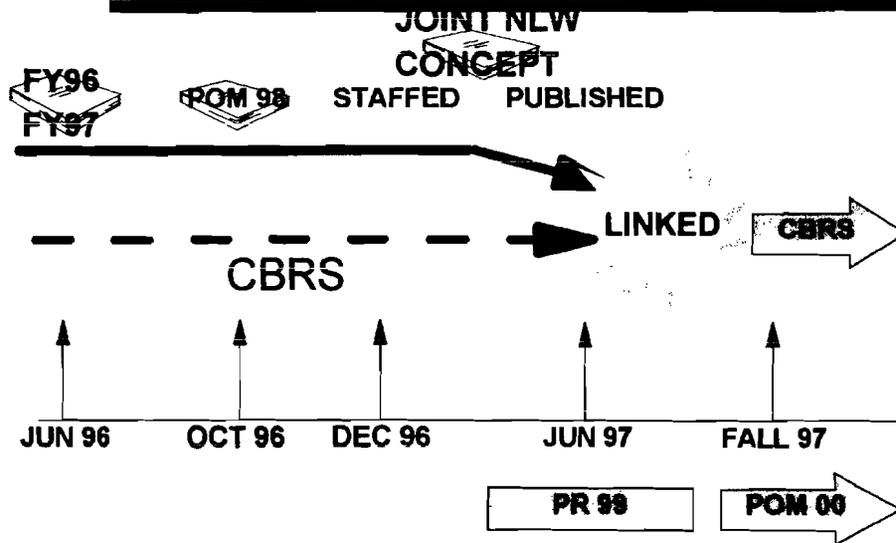


### RESPONSIBILITIES:

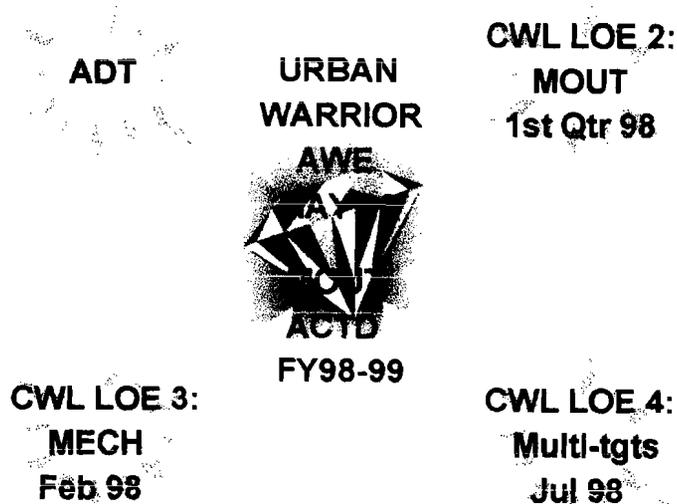
- Coordinate, integrate Service programs
- Recommend program priorities
- Develop Joint NLW RDA plan



# Joint Non-Lethals Weapons Transition Plan

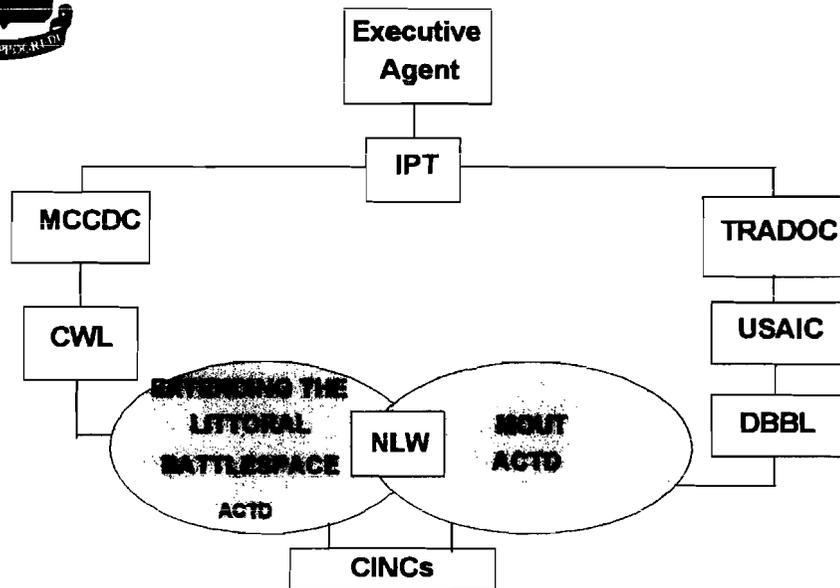


# Experimentation

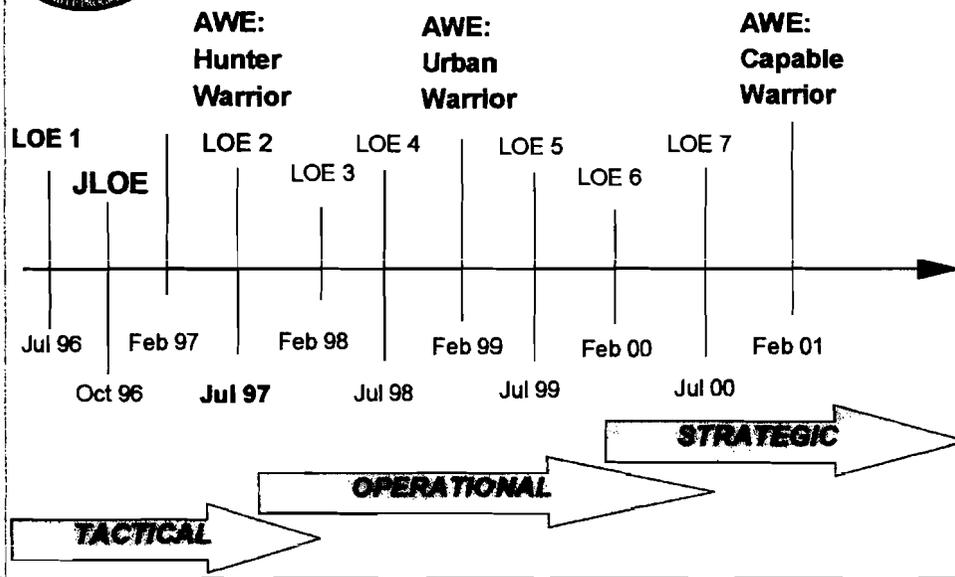




## NLW ACTD Interface

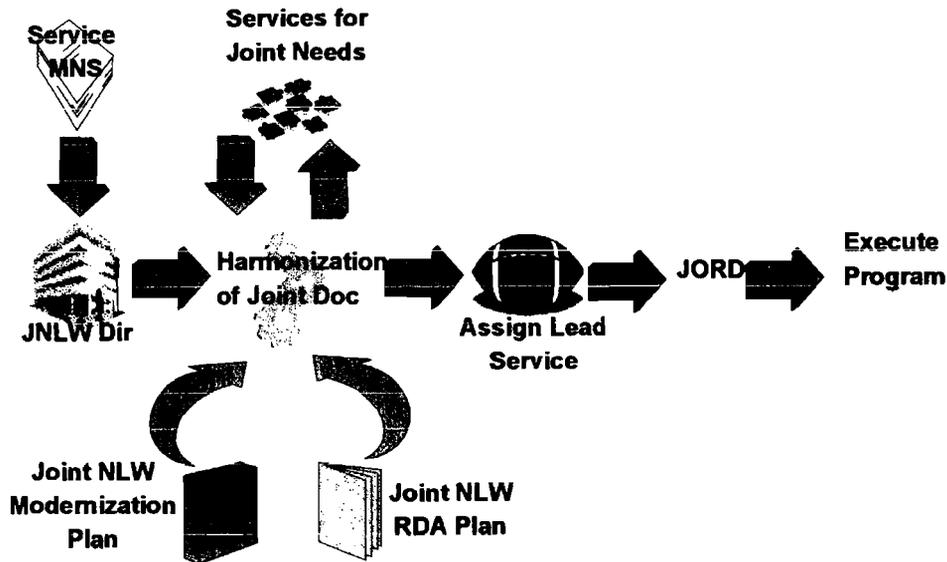


## Experimentation





## ***PROCESS to get a piece of gear***



## ***Approved USMC MNS***

***Dated 20 February 1996***

"Operational Capability in MOOTW"  
Describes a MAGTF need for items and systems that:

- \*Enhance Survivability in Expeditionary Environments
- \*Ensure Safety of Noncombatants
- \*Enable Separation of Belligerents
- \*Provide Effective Crowd Control
- \*Support Humanitarian Efforts



## ***USMC NLW Capability Sets***

- \*40 mm NL Cartridges
- \*12 Ga NL Cartridges
- \*OC Dispensers
- \*Stinger and Flashbang Grenades
- \*High Intensity Searchlights
- \*Face and Full Length Riot Shields
- \*Expandable Riot Batons
- \*Portable Bullhorns
- \*Caltrops
- \*Training Devices



## ***Concept of Employment for NLW Capability Sets***

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- Enhance the MEF in Near Term
- Control Non-Traditional Battlefield
- Suited for Use Against Non-Combatants
- Minimization of Collateral Damage
- Comprised of COTS & GOTS
- Equip 200 Man Reinforced Rifle Co.
- Ease of Training and Transport

## SUMMARY OF TASKINGS

1. (BGen Clark) Be sure to include a good discussion of ACTDs in the Master Plan.

Maj Jim Budway gave a brief history of the NLW experiments in previous ACTDs and plans for incorporating NLW systems into the Army's MOUT and the Marine Corps' LOEs. Mr. Willard agreed to include ACTDs in the Master Plan.

2. (Ms. Baldwin /HQDA ODCSOPS) Request the participation on the panel that develops the DoD NLW Program Technology Investment Plan be expanded. She explained that TRADOC has several very talented and knowledgeable individuals. Ms. LeVine acknowledged her recommendation.

3. (MajGen Rhodes) Be sure the Master Plan looks well into the future (e.g., the "Army after the next" and the Sea Dragon) and describes "where we think we are going to go". Plan to revise the Master Plan at least every two years. Mr. Willard agreed.

4. (MajGen Rhodes) Provide a copy of the final draft of the Joint NLW Concept to each Service so they can see how their input was treated. Mr. Willard agreed.

5. (MajGen Rhodes) Provide feedback from the 15th MEU's deployment with the first NLW Capability Set. Specifically, address:

- \* Will they be able to train with the equipment?
- \* How rugged are the items when it comes to rough handling (aboard ship) of storage, issuing, and use?
- \* If they use the items, what lessons did we learn?

Maj Budway and Mr. Willard acknowledged.

6. (MajGen Rhodes) Hold a VTC for the JCRG principals to review and approve the Technology Investment Plan developed by the Director, Joint NLW Directorate and his panel. Ms. LeVine acknowledged.

Enclosure(4)

DRAFT: A Joint Concept for Nonlethal Weapons,  
[REV 04 with revisions from  
service comments highlighted]

*Attached*