



Joint Non-Lethal Weapons Program Overview

Non-Lethal Weapons Research & Technology Development Industry Day

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Department of Defense (DoD) Non-Lethal Weapons (NLW) Program



- Established in 1996 with the Commandant of the Marine Corps as the DoD NLW Executive Agent
- The Joint Non-Lethal Weapons Directorate serves as the Executive Agent's day to day management office, coordinating activities with the Services, Coast Guard, and other government agencies
- The Executive Agent has a research budget dedicated to developing and advancing the suite of non-lethal weapons available to U.S. forces
- The military Services (Army, Air Force, Navy, Marine Corps) are responsible for NLW procurement and sustainment

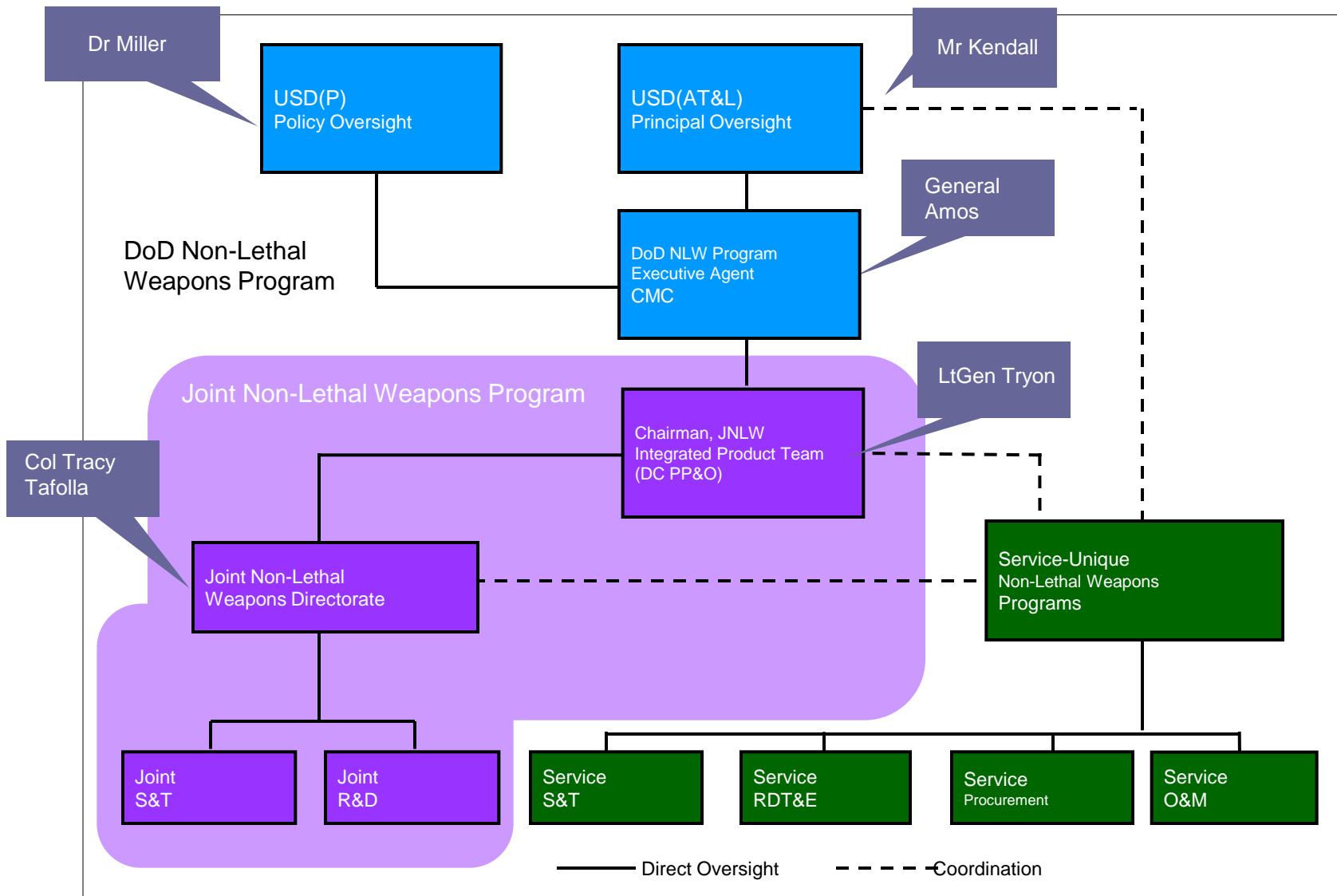


General James F. Amos
Commandant of the U.S.
Marine Corps ★★★★★

“Non-lethal effects are part of the Department of Defense portfolio of capabilities that enhance the Joint Force Commander’s ability to act in a timely manner to detect, deter, prevent, defeat, or, if necessary, mitigate effects of an attack.” General James F. Amos

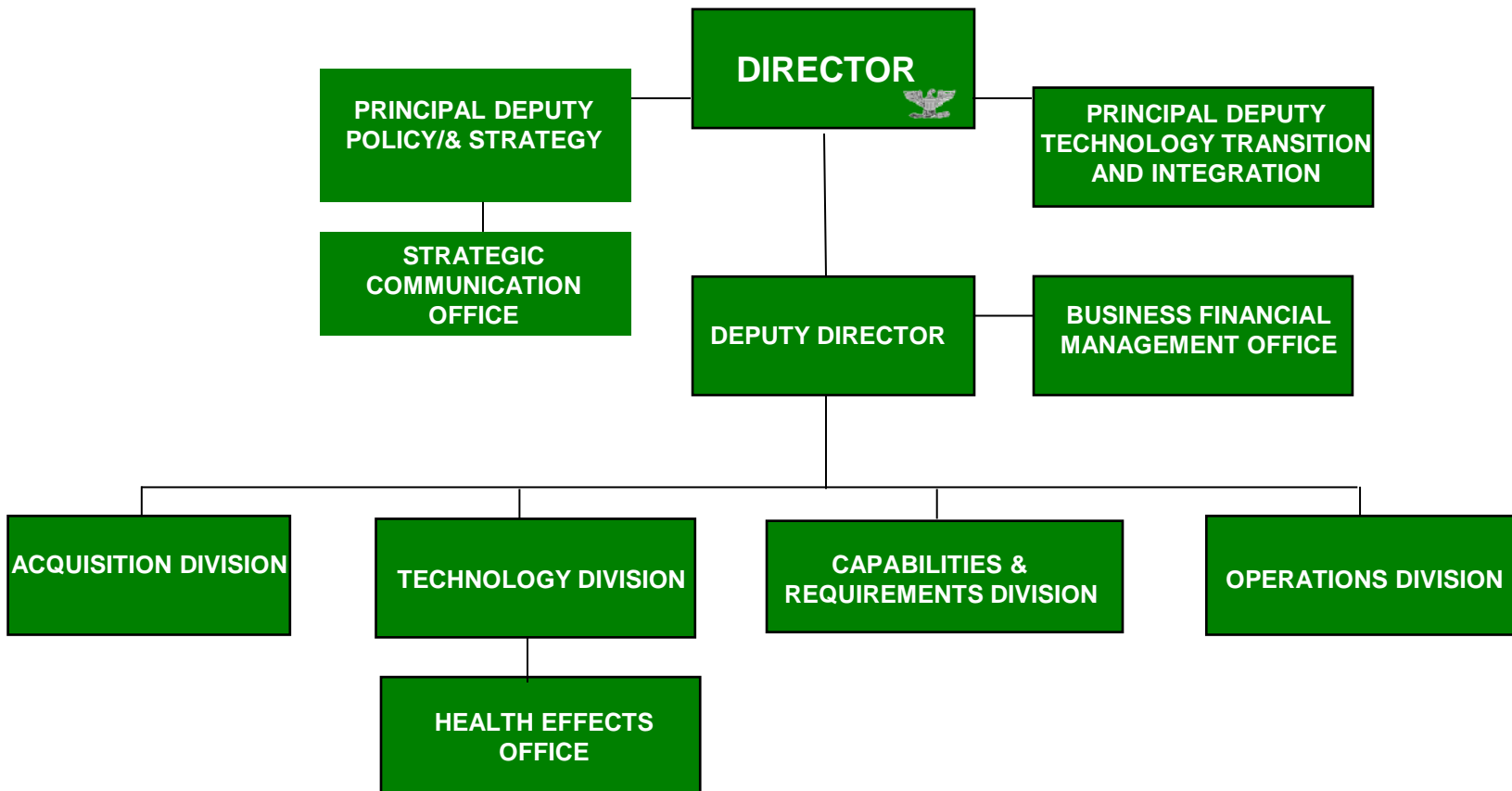


DoD NLW Program Management Structure





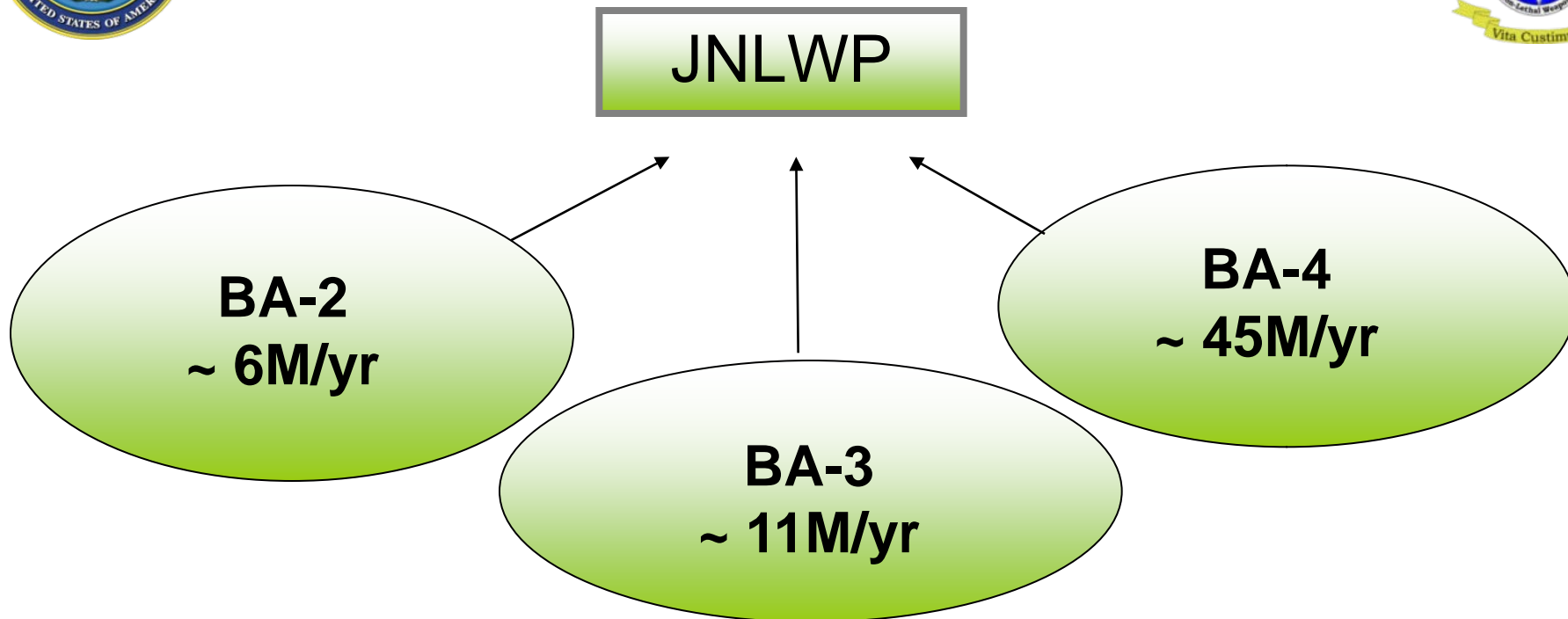
Joint Non-Lethal Weapons Directorate



JNLWD DESIGNATED AS
JOINTLY MANNED ACTIVITY
18 NOVEMBER 1999



JNLWP Budget



BA-2: Applied Research (USN ONR/OSD Oversight)

NL studies and analysis to augment and support current JNLWP areas of interest as well as explore new NLW technology opportunities: Includes experimentation and model development. (TRL 2&3)

BA-3: Advanced Technology Development (USN ONR/OSD Oversight)

Next generation NLW concepts and advanced prototype development to support challenging mission needs: Includes laboratory and field testing and model verification and validation. (TRL 4&5)

BA-4: Advanced Component Development and Prototypes (ACD&P) (DC PP&O and ONR Oversight)

Primary source of funds. Supports research and development of JNLWP efforts: includes efforts necessary to evaluate integrated technologies, prototype systems and to expedite technology transition from laboratory to operational use. (TRL 6&7)



DoD NLW Definition

“Weapons that are explicitly designed and primarily employed so as to incapacitate personnel or materiel, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment.”

Key Attributes: Incapacitation and Reversibility

Representative Mission Applications

- *Humanitarian Assistance/Disaster Relief*
- *Vehicle/Vessel Stopping*
- *Clearing Structures/Facilities*
- *Check-Point /Convoy Security*
- *Crowd Control*
- *FOB/Facility Security*
- *Maritime Stability Operations*
- *Support to Civil Authorities*
- *Detainee Operations*
- *Counter Piracy*



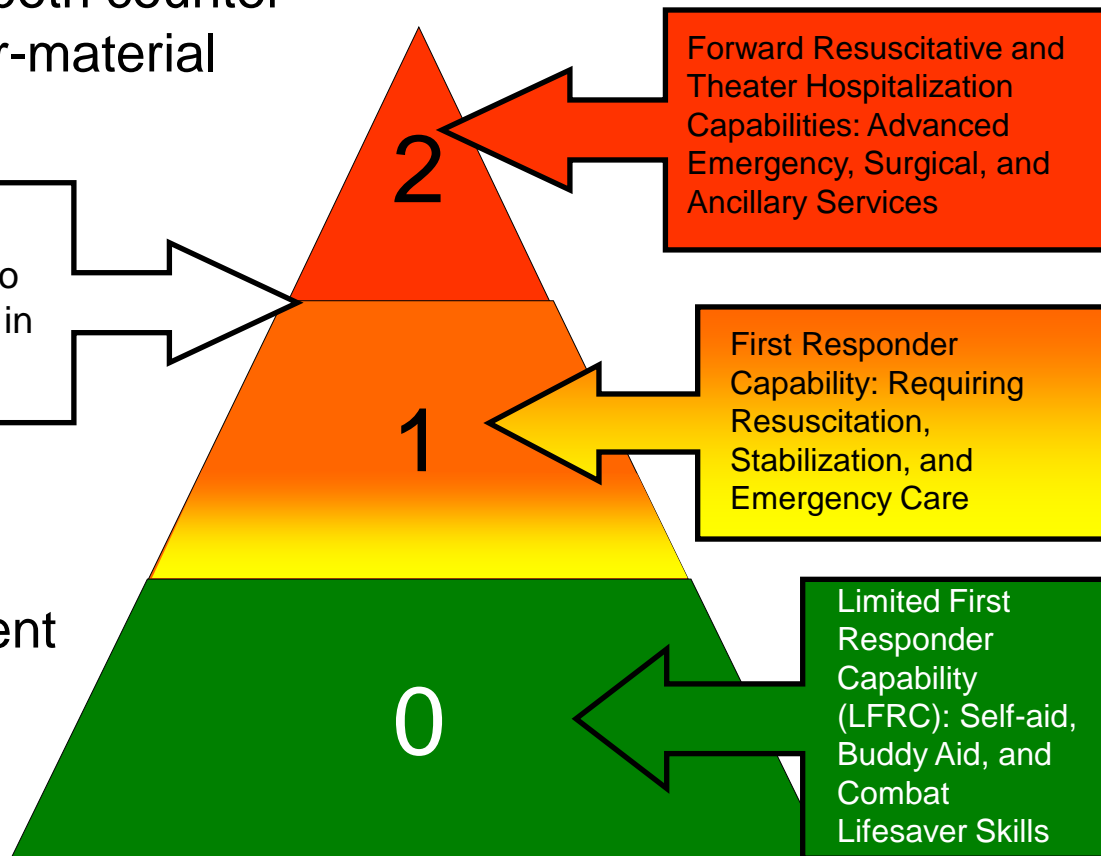


Risk of Significant Injury (RSI)

- RSI is a measure of reversibility
- Health care capability (HCC) indexes are used as the basis to determine RSI from NLW.
- RSI is considered for both counter-personnel and counter-material technologies

RSI is measured as a weapon's likelihood to cause injury resulting in HCC1 or HCC 2

- RSI is relevant to all NLW research and technology development efforts





Fielded Non-Lethal Weapons



12 Gauge / 40 MM
Point, Area and
Warning
Munitions



FN303



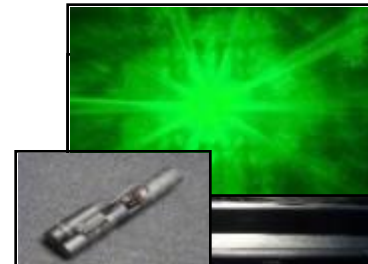
Washable Paint



Permanent Paint



Training



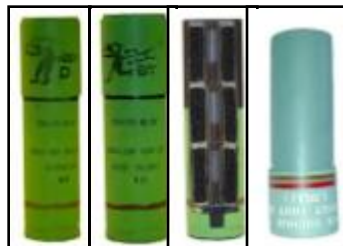
Optical Distractors



TASER® X26™



Modular Crowd
Control Munitions



66mm Vehicle
Launched NL
Grenades



Flash Bang Grenades



Portable Vehicle
Arresting Barrier



Vehicle Lightweight
Arresting Device
M2 Net



Stingball Grenades &
Launch Cups



Pen Flares



Acoustic Hailing
Devices



Joint Non-Lethal Weapons Program: Capability Focus Areas



Counter Personnel :

- Deny areas to individuals
- Move individuals
- Disable combatants
- Suppress combatants



Counter Material :

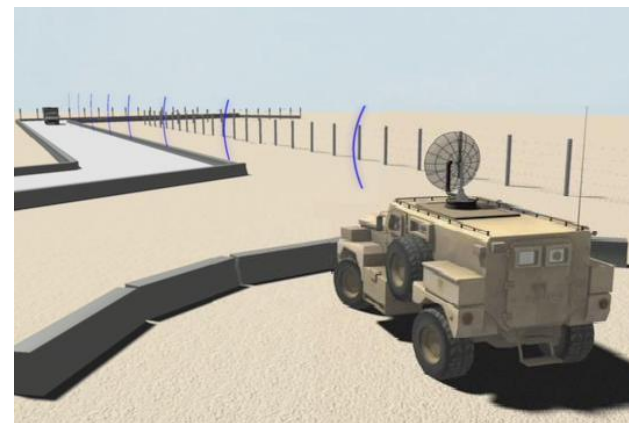
- Stop/disable vehicles
- Stop/disable vessels
- Stop/disable/divert aircraft
- Deny access to a facility



Joint Non-Lethal Weapons Program: Technical Focus Areas



- Non-Lethal Directed Energy
 - Active Denial Technology
 - Laser Technology
 - Radio Frequency / High Power Microwaves (Counter-Electronics)
- Vehicle/Vessel Stopping
- Independent Technical Reviews
- Human Effects and Effectiveness
- Human Electromuscular Incapacitation
- Nanosecond Electrical Pulse
- Blunt Impact Technologies
- New/Advanced Non-Lethal Materials





Non-Lethal Weapons Research and Technology Development Goals



- Provide warfighters with additional escalation-of-force options while minimizing casualties and collateral damage
- Stimulate innovative solutions to the toughest non-lethal technology challenges
- Conduct the scientific research necessary to understand the risk of injury and build confidence in the effectiveness of emerging technology solutions
- Accelerate technology development to support the current fight and conduct science and technology research to help address uncertain future needs



Questions?

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