

USAF Non-Lethal Weapons Program:

A Primer for Defense Professionals & De-Escalating Geo-Political Tensions Throughout the Competition Continuum

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Defense Systems
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USAF Non-Lethal Weapons Program: A Primer for Defense Professionals

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A Primer for Defense Professionals

- What is a Non-Lethal Weapon
- Non-Lethal Weapons Program Milestones
- Transition to Intermediate Force Capabilities
- The Future of Non-Lethal Options: Kinetic Energy, Directed Energy, or a Combination of the Two

De-Escalating Geo-Political Tensions Throughout the Competition Continuum

- Geo-Political Competition: The New Normal
- Integrated Campaigning
- NLWs/IFCs in Competition Planning
- Desired Outcomes
- Competition Hotspots
 - Middle East
 - Black Sea
 - Southeast Asia
- Questions and Answers

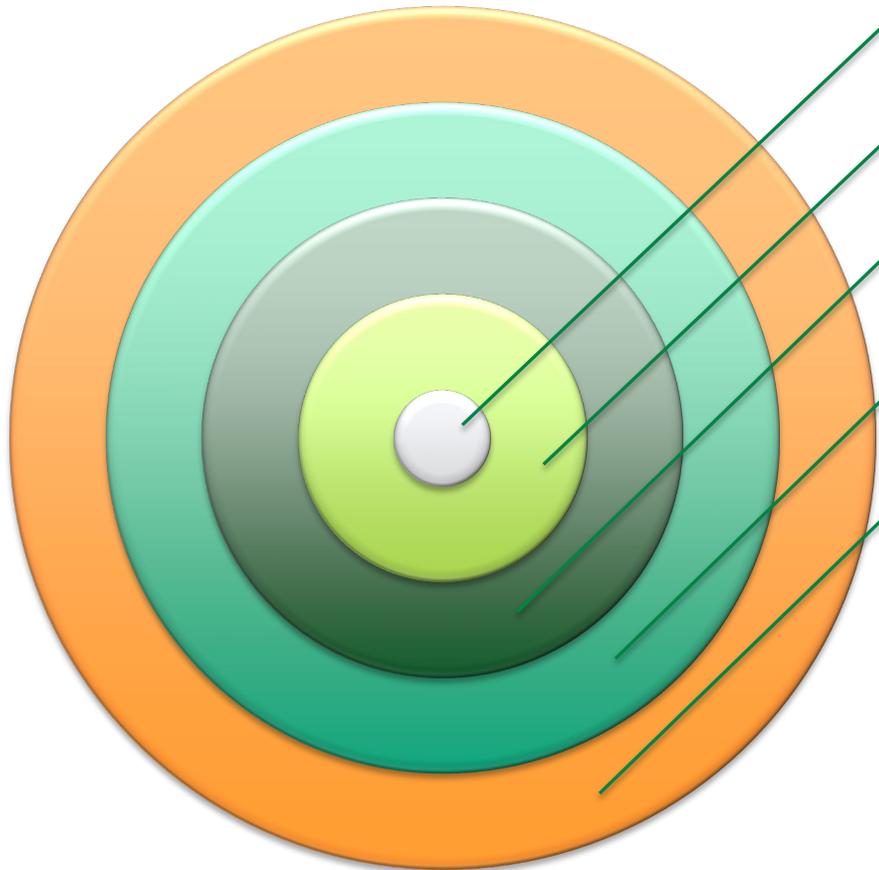
What is a Non-Lethal Weapon

- NLWs have immediate and relatively reversible effects on personnel or materiel
- Devices explicitly designed to:
 - Incapacitate personnel or materiel
 - Minimize fatalities and permanent injury to personnel
 - Minimize undesired damage to property, facilities, materiel, and the environment
- DoDD 3000.03E identifies 10 areas which NLWs have the potential to enhance a commander's ability to:
 - Deter hostile actions/activity
 - Deny movement
 - Escalate/De-escalate force
 - Protect personnel

What is not a Non-Lethal Weapon

- Information operations, cyber operations, or other military capability not explicitly designed and primarily employed to incapacitate personnel or materiel immediately while minimizing fatalities, permanent injury, and undesirable damage to property, facilities, materiel, and the environment, even though they may have these effects to some extent.
- Specific electronic warfare (EW) capabilities of electro-optical-infrared and radio-frequency countermeasures; electro-magnetic (EM) compatibility and deception; EM hardening, interference intrusion, and jamming; electronic masking, probing, reconnaissance, and intelligence; electronics security; EW reprogramming; emission control; spectrum management; and wartime reserve modes as described in Joint Publication 3-13.1 (Reference (d)).

Program Milestones



1996 – Congress Appoints the USMC as Executive Agent for Non-Lethal Weapons

2011 – Joint Non-Lethal Weapon Program MOU Signed

2015 – Joint Non-Lethal Weapons Program Science and Technology Strategic Plan 2016 - 2025

2018 – Update of DoDD 3000.03E, *DoD Executive Agent for Non-Lethal Weapons (NLW), and NLW Policy*, and DODI 3200.19, *Non-Lethal Weapons (NLW) Human Effects Characterization*

2019 – Joint Non-Lethal Weapons Directorate becomes Joint Intermediate Force Capabilities Office

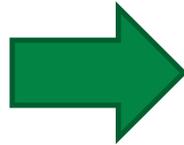
Air Force Doctrine Publication (AFDP) 3-10, Force Protection updated

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Transition to Intermediate Force Capabilities

- Non-doctrinal term adopted to reflect potential for increased capabilities beyond traditional non-lethal weapon
 - DoD and service doctrine references “non-lethal” options in planning and execution guidance (i.e., DOD publications, service instructions, etc.)
 - North Atlantic Treaty Organization still uses “Non-Lethal Weapons”
- Expands efforts to a larger group of operational stakeholders
 - NLWs align primarily to law enforcement/physical security functions
 - Focus on DoD lethality placed viewpoints at odds with idea of NLWs
- Represents a shift in functional paradigms to integrate/align:
 - Non-Lethal Weapon Capabilities
 - Military Information Support Operations
 - Electronic Warfare/Electro-magnetic spectrum management
 - Traditional modalities of lethality

Intermediate Force Capabilities at Work



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Future of Non-Lethal Weapons

- Leverage USAF Future Operating Concept
 - A modernized diverse range of munitions, emitters, and delivery systems capable of delivery scalable lethal and non-lethal options that span the range from exquisitely precise strikes to mass effects to include nuclear capabilities
- Foster relationships with AFRL and DoD S&T communities to identify suitable solutions regardless of energetic characteristics (i.e., Kinetic Energy or Directed Energy)
 - Partner with expanded stakeholders to identify requirements, test solutions, and generate desired outcomes
 - Leverage an estimated \$1.014B in DoD development of unclassified directed energy research, development, test, evaluation, and weapon system procurement
- Continue to field, sustain, and upgrade legacy systems to meet needs
 - Conducted Energy Weapons (i.e., TASER® and other Human electro-muscular incapacitation devices)
 - Flashbang Grenades (i.e., M84, MK20, and MK1, Mod 0 Lead-Free Flashbang Trainer)
 - Acoustic Hailing Devices
 - Ocular Interruption Devices/Dazzling Lasers (i.e., Glare RECOIL)
 - Compressed Air Launchers



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Geo-Political Competition: The New Normal

Rather than attempting to impose a false dichotomy of peace or war, or to assume an artificially static environment that can be broken into discrete *campaigns* with fixed end states, the [Joint Concept for Integrated Campaigning] recognizes the need for proactive, on-going *campaigning* that adjusts to fluid policy environments and changing conditions to create favorable and sustainable outcomes.

- **General (USAF) Paul J. Selva, Vice Chairman of the Joint Chiefs of Staff (July 2015 – July 2019)**

As we look at the competition paradigm, we find ourselves today, we are facing adversaries that are competing in ways that are below the level of armed conflict. Intermediate force capabilities are uniquely capable of helping the warfighter compete across that entire continuum, and especially in that area below the level of armed conflict where traditionally the United States military does not invest in a lot of capabilities.

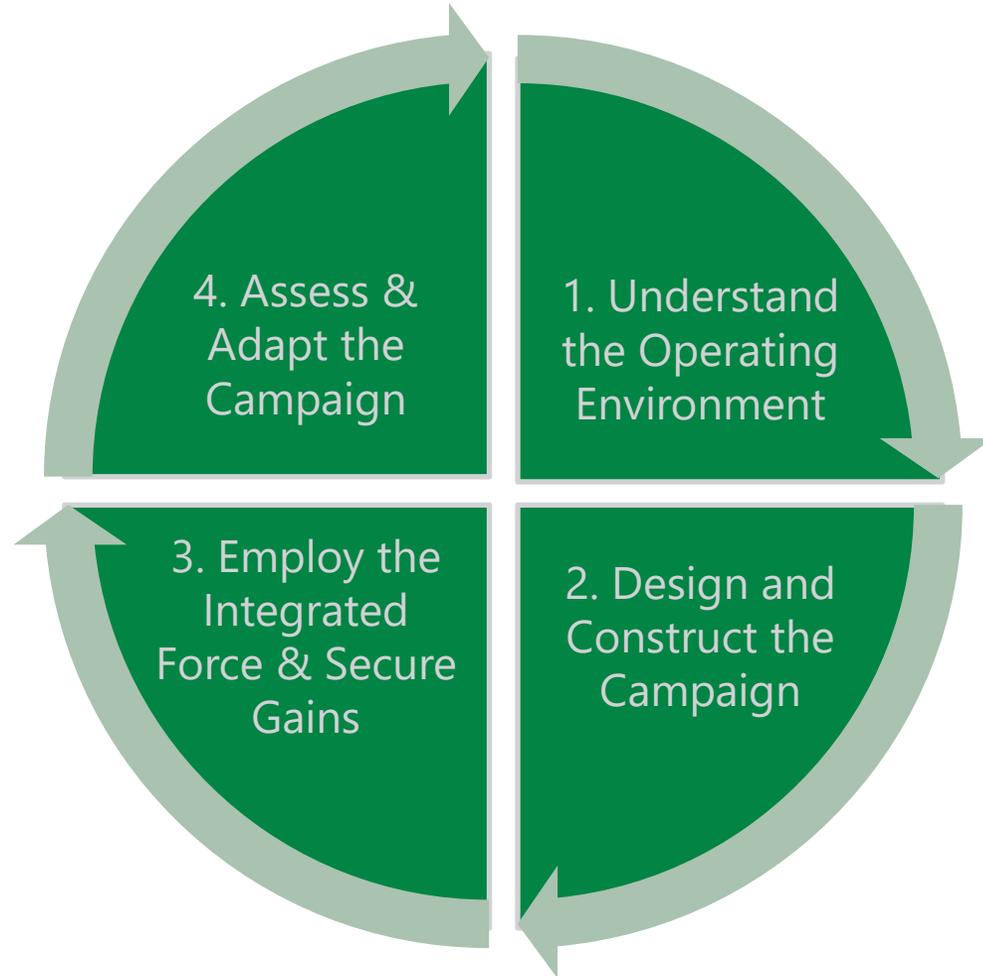
- **Colonel (USMC) Wendell Leimbach, Director, Joint Intermediate Force Capabilities Office**

We have learned lessons from our failures as well as our successes. The idea that we should compete with major autocratic powers to shape the international order enjoys broad support that is bipartisan at home and deepening abroad.

- **2022 National Security Strategy**



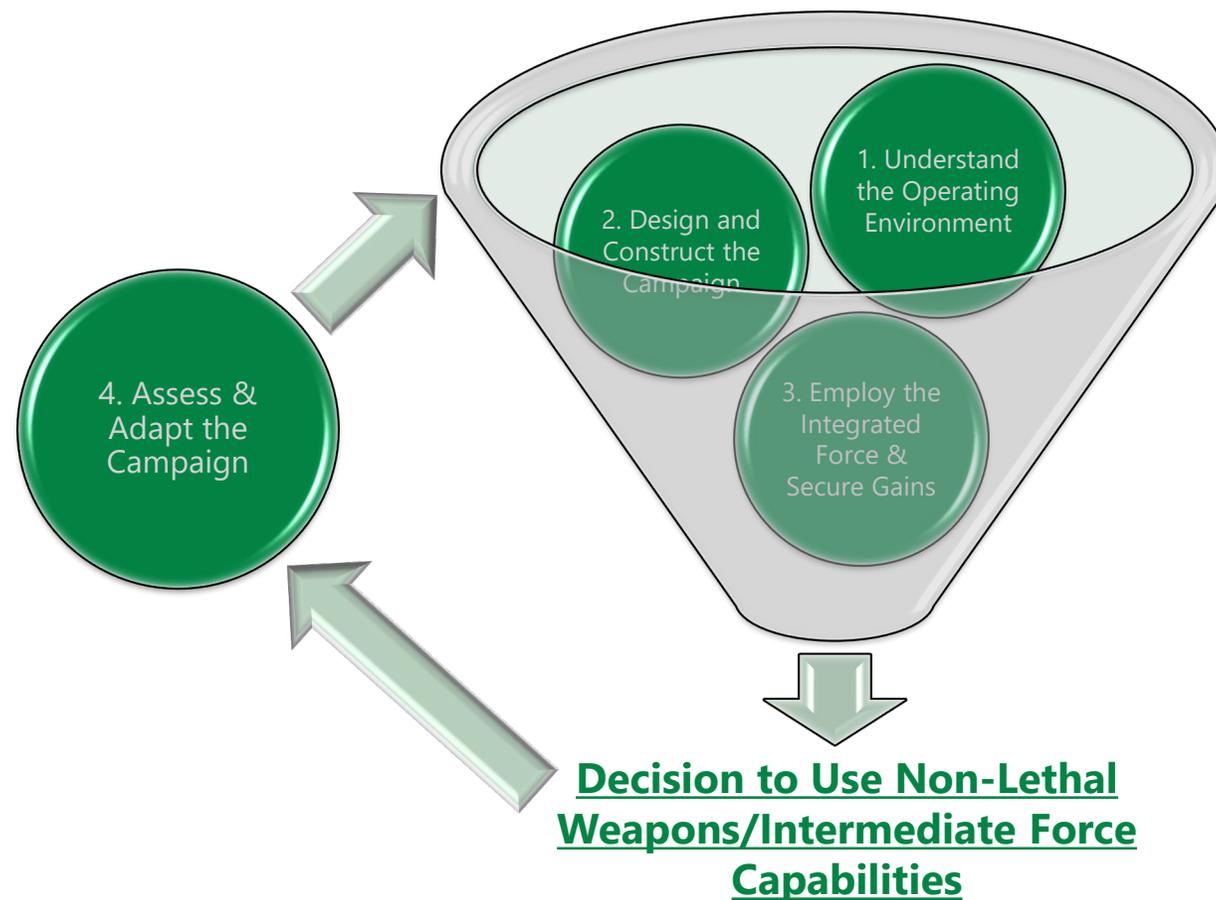
Integrated Campaigning



1. Incorporates “civil-military” dialogue (e.g., DoD, USG, Partner Nations, NGOs)
2. Creates strategic advantage through leverage of tailored military and non-military actions
3. Executes mission based on primary stakeholder needs
4. Assesses outcomes, consequences, and next steps

NLWs/IFCs in Competition Planning

- Operating environment defined as cooperative, competitive, or combative
- Campaign planners identify capability needs to support strategic outcomes
 - DoD
 - USG
 - Coalition Partners
 - NGA
- NLW/IFC packages designed/deployed to operating locations
- Tactical forces conduct missions using organic capabilities, including NLWs/IFCs
 - NLWs/IFCs bolster narrative of proportionality and cooperation
 - NLWs/IFCs do not prohibit use of lethal force (when necessary)
- Campaign planners develop further actions based on adversary activities/response



Desired Outcomes

Tactical

- Minimize risk of significant injury to civilian population
- Demonstrates legal tenants of military operations
 - Military necessity
 - Humanity
 - Distinction
 - Proportionality

Strategic

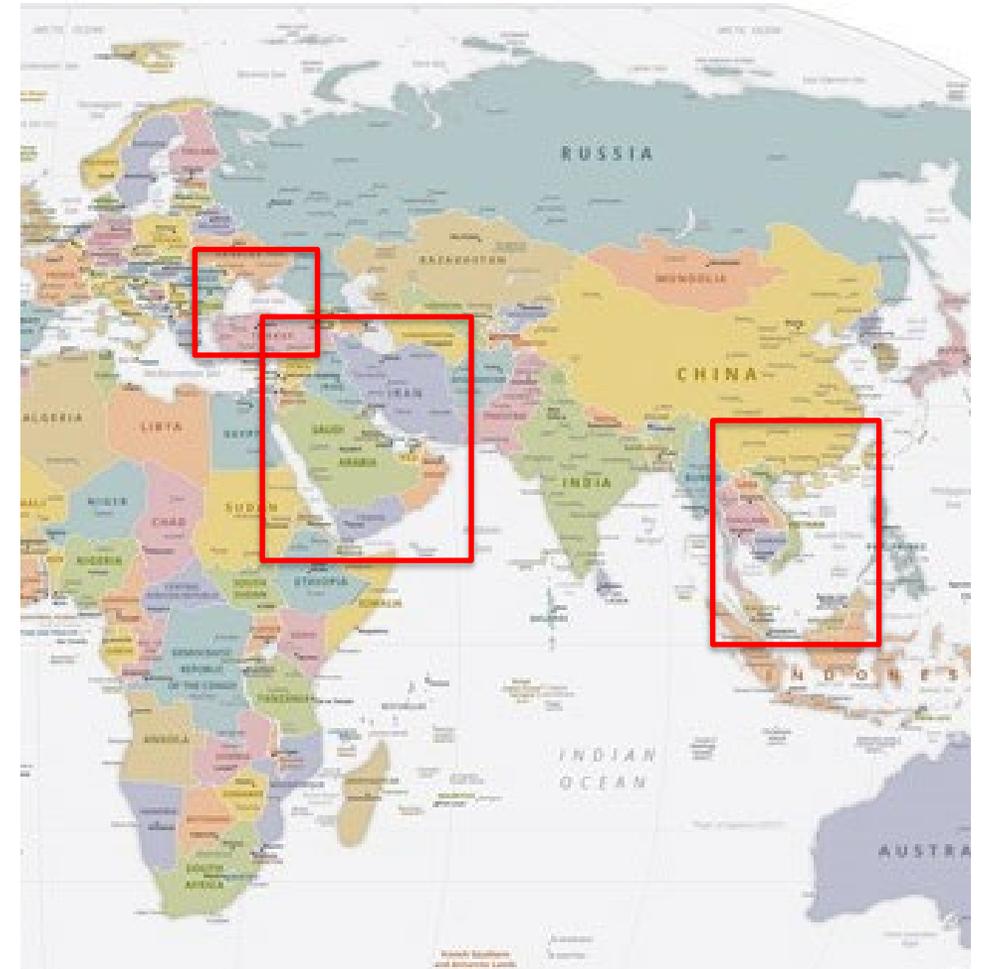
- Establish/Maintain rules-based international order
- Strengthen partnerships and alliances
- Re-establish local norms/quality of life
- Preempt competing/false narratives

Cross-functional Outcomes (Amended from *Major Combat Operations JOC Lines of Effort*)

- *Shape* the competition domain
- *Deter* belligerent behavior
- *Seize* competitive initiative
- *Stabilize* countries/regions/continents
- *Enable* civil authority

Competition Hotspots

- Middle East – Iranian Harassment & Interdiction Operations
- Black Sea – Ukraine/Russian War
- Southeast Asia – South China Sea



Operational Relevance: Middle East



- Multiple Iranian naval force attempts to capture USN unmanned surface vessels
- Numerous instances of Iranian Republican Guard Corps vessels harassing USN/partner vessels conducting maritime security operations
- Attempted seizure of BP-owned oil tanker prevented by HMS Montrose

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Operational Relevance: Black Sea

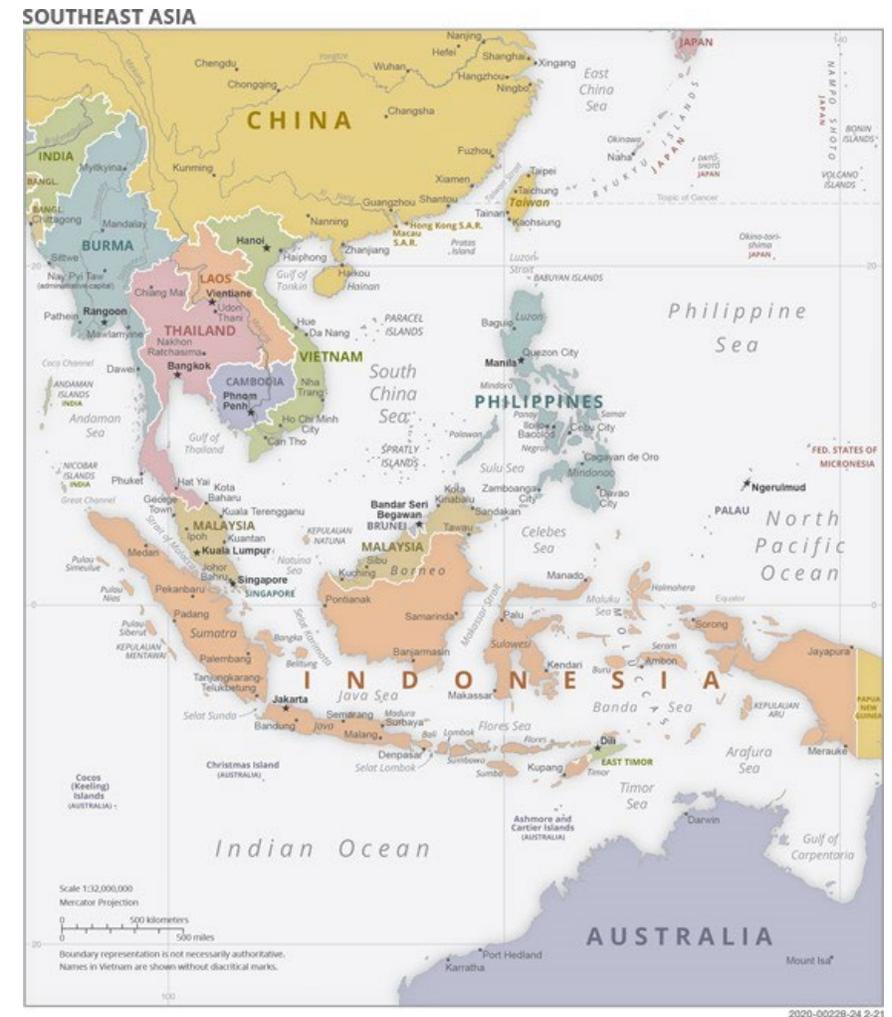


- \$3T in combined nominal GDP; 300M people; 48,000 ships pass through Bosphorus Strait annually
- 70% of Ukrainian exports transit Black Sea ports (pre-war)
- 5M Tons of food per month (pre-war)
- Limited road/rail capacity (current)
 - 10% of exports by land
 - Transport to alternate ports on Black Sea and Baltic Sea
 - Poland
 - Lithuania
 - Romania

Operational Relevance: South China Sea

The importance of the Taiwan Strait and the South China Sea to world commerce eclipses that of the Black Sea. It isn't only computer chips whose global supply chain would be crippled by war over Taiwan. Everything made in China, Vietnam, Korea, and Japan would become scarce. Global financial markets would tank. Japan and Korea would face critical shortages of fuel and food. Africa and Latin America would face massive economic damage

- Walter Russell Mead



Questions & Answers

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