# DoD Counterproliferation Needs

Ellen M. Pawlikowski
Deputy Assistant to the Secretary of Defense for Counterproliferation

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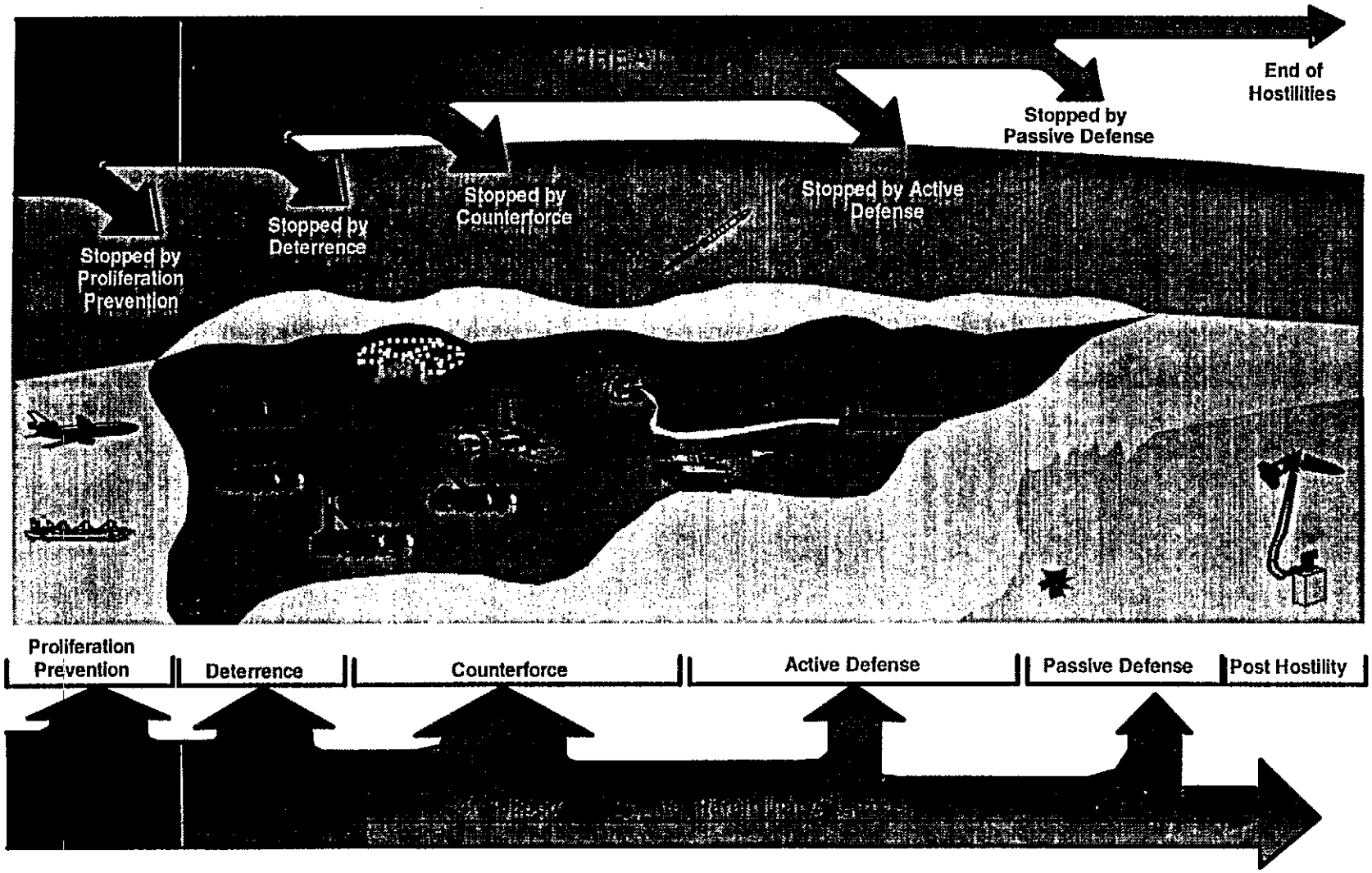
# Counterproliferation Responses
# A Multi-Tiered Approach



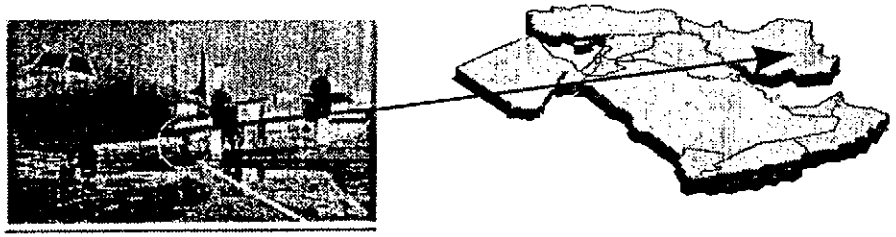
# Prioritized CINC Staff CP Required Capabilities (OPW)

1. CP Intelligence Cycle
2. Conventional Response with Minimal Collateral Effects
3. SOF Response and Intelligence Collection/Analysis Targeting Covert/Paramilitary/ Terrorist Threat
4. Battlefield NBC Detection and Warning
5. TMD with Minimum Collateral Effects
6. Defeat Underground Targets
7. Target Planning/Analysis including Collateral Effects Prediction and Post-Strike Assessment
8. Individual Protection
9. Proliferation Pathway Analysis
10. CMD/Aircraft Defense with Minimum Collateral Effects
11. Collective Protection
12. Mobile Target Defeat
13. Offensive Information Warfare
14. CP Consequences Logistics Capability
15. Decontamination
16. NBC Medical Treatments

# Challenges in Proliferation Prevention

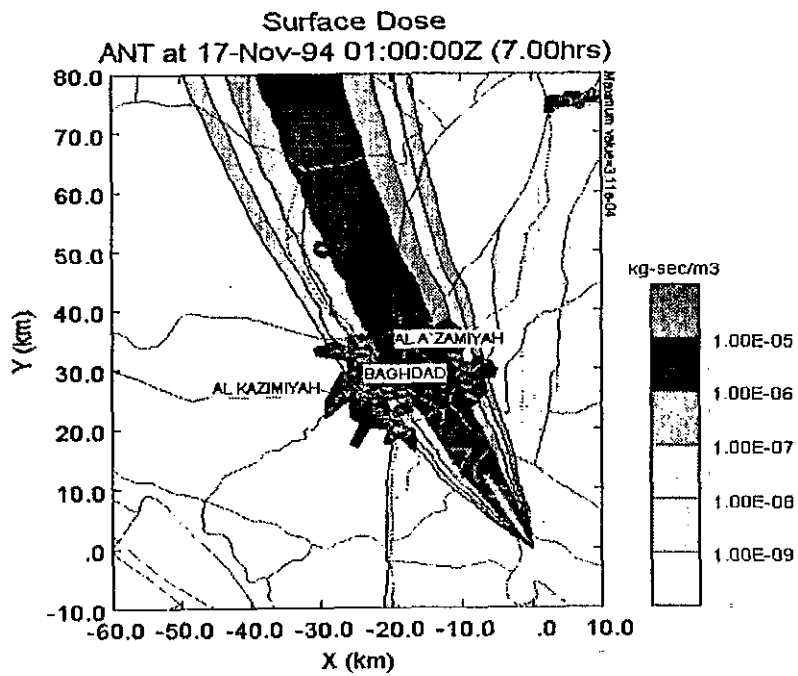
- Diffuse non-secure borders in developing countries
- Detection and tracking of shipments of WMD materials
- Fusion of fine grain intelligence (MASINT, SIGINT, HUMINT etc.) software tools to assess proliferation paths
- Active Prevention measures to deny a capability

# Technologies in Proliferation Prevention



- Adaptation of DoD WMD detection technology and training for Customs, FBI, State, IAEA
- Detection and tracking of shipments of WMD materials
- ELINT signature at defined choke points using DoD platforms
- Fusion of fined grain intelligence (MASINT, SIGINT, HUMINT etc..)
  - Data fusion models, nodal and path analysis for high level planning
- Active prevention and denial techniques

# Challenges in Counterforce

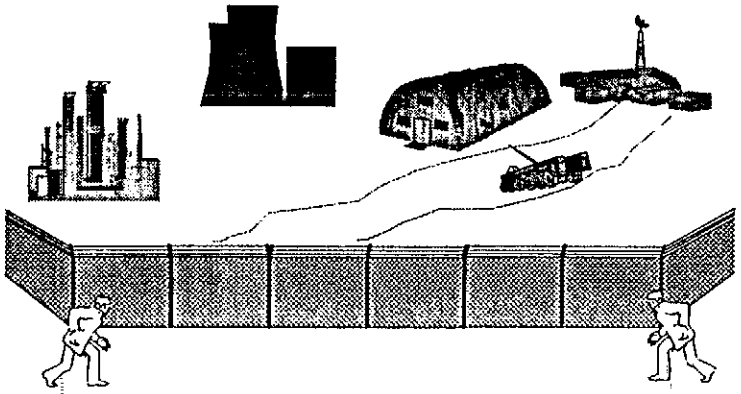



- No Capability to Assess and Minimize Collateral Effects from attacks on NBC Facilities
- No Means to Defeat Hard and Deeply-Buried or Tunneled NBC Targets
- No WMD Target Planning Tools
- No Capability to Defeat Mobile Missile Launchers

# Technologies in Counterforce

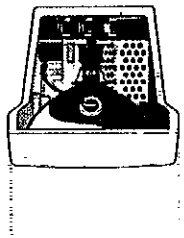
- Improved Ground and Airborne Sensors
- Improved Data Fusion
- Improved Penetrators
- Agent Defeat technologies
- Enhanced Special Warheads
- Unconventional Attack Methods
- Prompt kill Mechanisms Which Minimize Collateral Effects
- PC based targeting tools
- Improved location of mobile targets

# Challenges in Paramilitary and SOF Actions



- Inadequate Ability to Respond to Biological agent Attacks
- Outdated Ability to respond to Chemical agent Attacks
- Improved Policy formulation and training

# Technologies in Paramilitary and SOF Actions



• Chem Munitions Detector

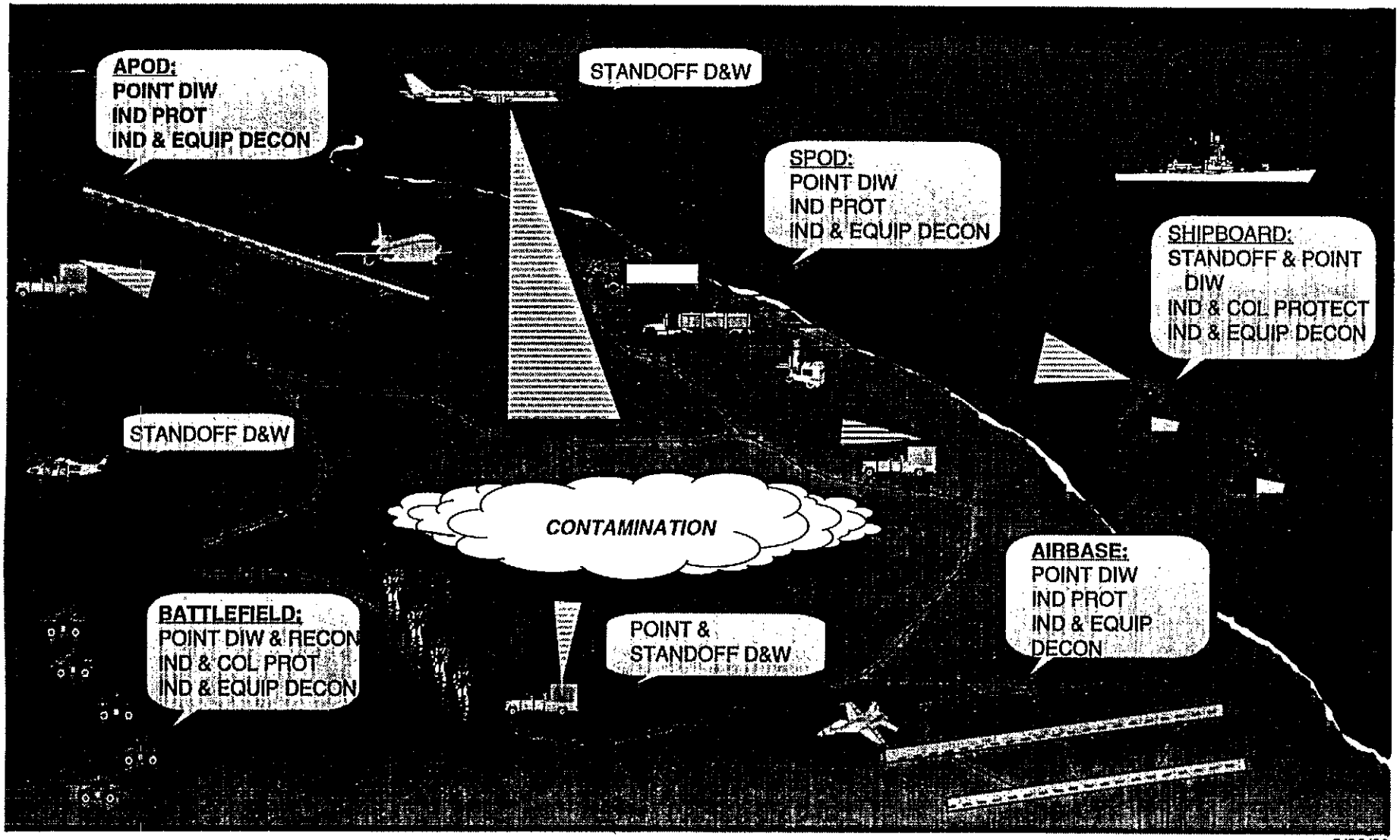
• SAP Programs

• Perimeter Monitoring Sensors

• Vented Suppressive Shield

- Emergency response for counterterrorism with WMD
  - Transferring DoD technologies to simple one-time usage
    - "quick masks", WMD EOD equipment , simple detectors (FBI, FEMA, Secret Service, Tech. Escort Units)
- SOF peculiar equipment for CP (non-permissive environments)
  - WMD facility defeat by SOF operators
    - SOF unique WMD detection equipment
    - SOF unique access and defeat tools for WMD targets
- Technology for early action activities for active denial

# CB Defense Capabilities in the Combat Environment



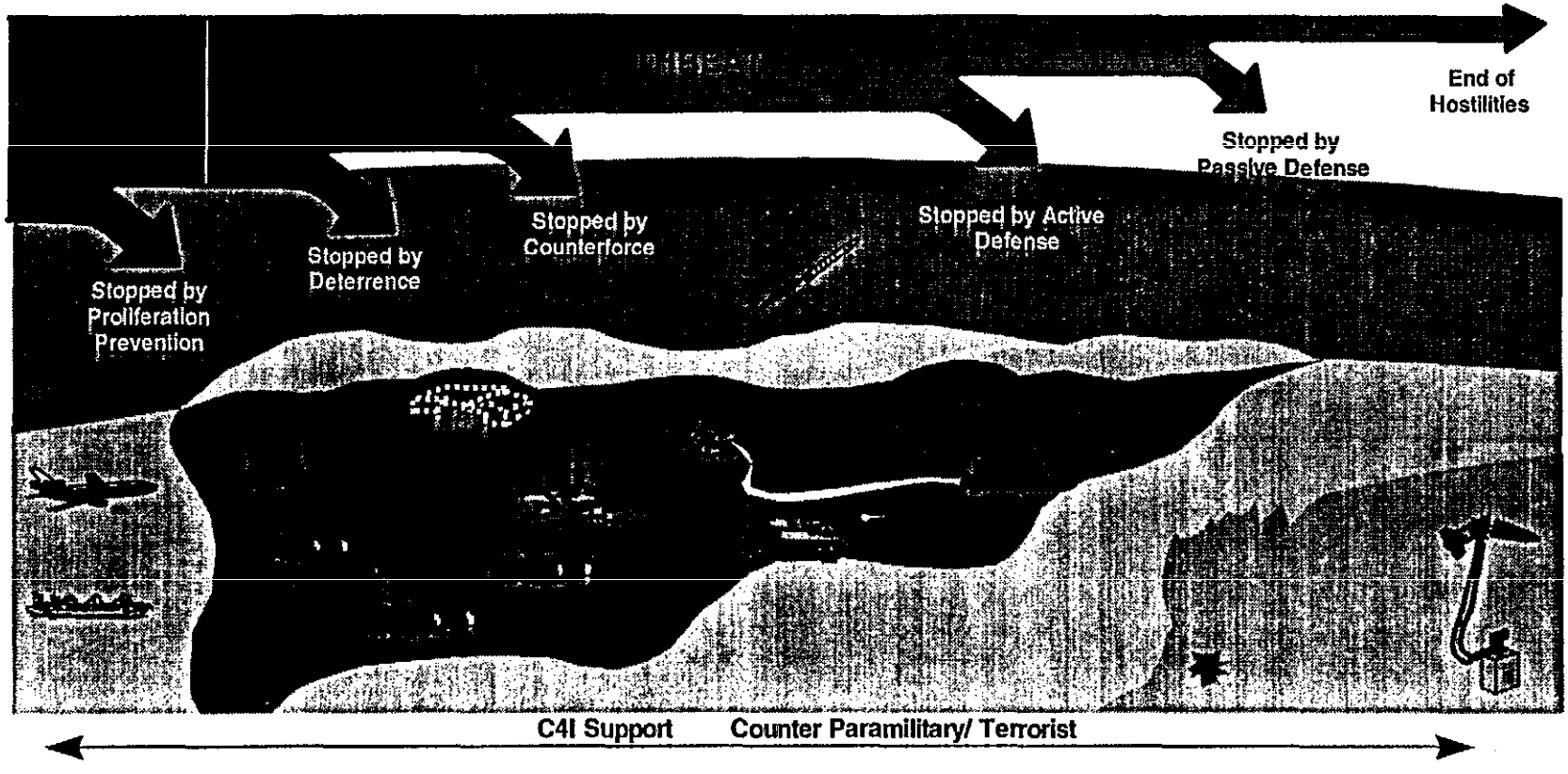
# Formulation of Biological Early Warning ACTD

- **Key Ingredients**
- **BW Sensor**
  - FOWG
  - Refractometer
  - UV laser
- **Platform/Deployment Mode**
  - UAV
  - Artillery Shell
  - Aerostat
  - Ground Network
- **Supportive capabilities**
  - IR Lidar
  - Air Sampler/concentrator
  - UAV guidance
  - C3
  - Sensor Network Protocols
  - CP Architecture studies
- **Concepts of Operations**
  - BW scenarios
  - BW sensor/platform integration
  - Supportive capabilities
  - Logistics/support
  - Improved collective and individual protection
  - Medical pre and post treatments for chem/bio agents

**Candidates for Demonstration**

- **IR Lidar + UAV**
  - FOWG
  - Small air sampler/concentrator
  - ABCD aircraft
  - ABCD Guidance Package
  - ABCD C3 Package
  - Concept of Operations #1
- **IR Lidar + Artillery Shell**
  - Special miniature BW sensors
  - Special miniature C3 packages
  - Standard artillery round with airburst fuse
  - Concept of operations #2
- **Ground network of BW sensors**

# DoD Counterproliferation Technology Needs




- Detection and tracking of shipments of WMD materials
- Fusion of fine grain intelligence
- Active prevention and denial techniques
- Improved ground and airborne sensors
- Improved penetrators, agent defeat, enhanced warhead
- Mobile target tracking
- SOF peculiar technology
- Chem/biological detection
- Medical chem/bio countermeasures
- ABL beam propagation
- Locating, tracking, and pointing technology