

UNCLASSIFIED



Joint Program Executive Office for Chemical and Biological Defense

JPEO-CBD Update 2016 NDIA CBRN Defense Division Roundtable Breakfast

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for Chemical and Biological Defense

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Overview

- Mission/Vision/Structure
- Areas of Responsibility
- Changing Nature of the CBRN Threat
- Current Major Initiatives
- Whole-of-Government Approach to CBRN Defense
- Partnering and Advocacy Across CBRN Community





Joint Program Executive Office for Chemical and Biological Defense

Mission:

Provide Research, Development, Acquisition Fielding and Life Cycle Support of Chemical, Biological, Radiological and Nuclear Defense Equipment, Medical Countermeasures Capabilities for Army, Marine Corps, Air Force, Navy and Combatant Commands Supporting the National Strategies

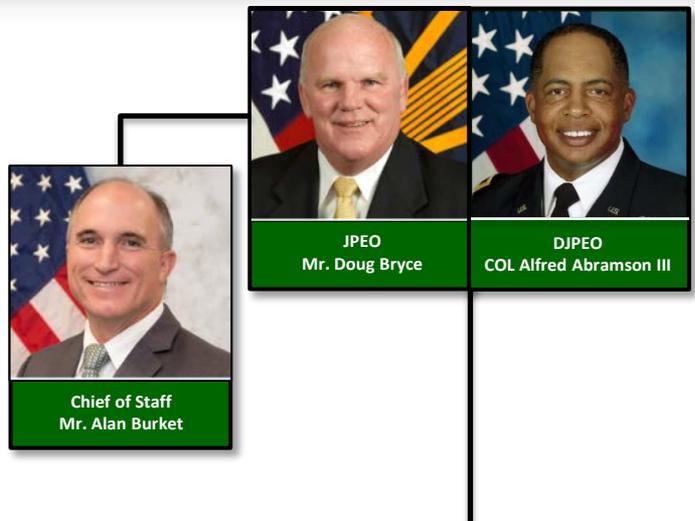
Vision:

An Agile, Results-Oriented, and Transformational Acquisition Enterprise Delivering Net-Centric, Modular, Tailorable and Multi-Purpose Capabilities to the Nation





Joint Program Executive Office for Chemical Biological Defense - Organization



- Army
- Marine Corps
- Navy
- Air Force

*Reported Personnel
Strength is as of
1 April 2016*

Our Joint Project Managers

NBC Contamination Avoidance
COL Jeffrey Woods

Information Systems
Mr. Scott White

Protection
Mr. Scott Paris

Medical Countermeasure Systems
COL Russell Coleman

Guardian
Col Daniel Garber

963 personnel Workforce Composition: Civilians (512)* / Military (44)*				
Army: 458	Air Force: 11	Foreign	Contract Support (All Services): 412	
Navy: 57	Marines: 24	Officer: 1	<i>* Numbers include Core, Matrixed, and Attached Personnel</i>	



Areas of Responsibility



Areas of Responsibility

Vaccines



Treatments



Decontamination



WMD Elimination

Diagnostics & Integrated Advanced Analytics



Biosurveillance



Information Systems



Chemical, Biological & Radiological Agent Detection



Individual & Collective Protection



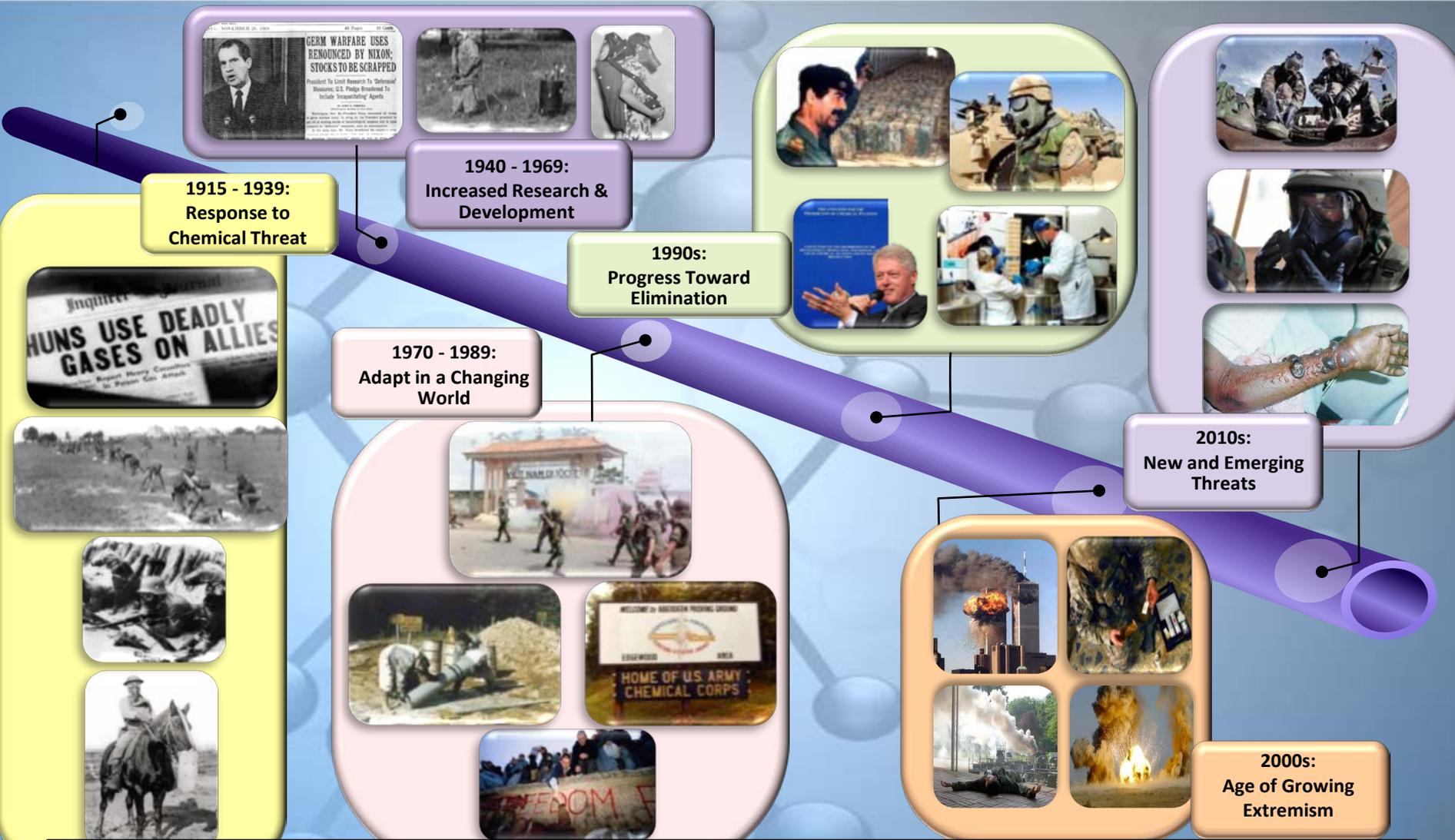
Rad/Nuc Defense



WMDs Civil Support

Total Life Cycle Management

Changing Nature of the CBRN Threat



And the threat will continue to evolve...



Current Major Initiatives



- **Biosurveillance**
 - Joint US Forces Korea Portal and Integrated Threat Recognition
 - Biosurveillance Portal



- **Global Crisis Response**
 - Diagnostics/Critical Reagents Program
 - Therapeutics/Vaccines



- **Emerging Threats**
 - NTA capabilities to WMD Civil Support Teams/active components



- **OCONUS Weapons of Mass Destruction Elimination - Expeditionary**



- **Radiological/Nuclear**
 - Joint Personal Dosimeter Program
 - Radiological Detection System



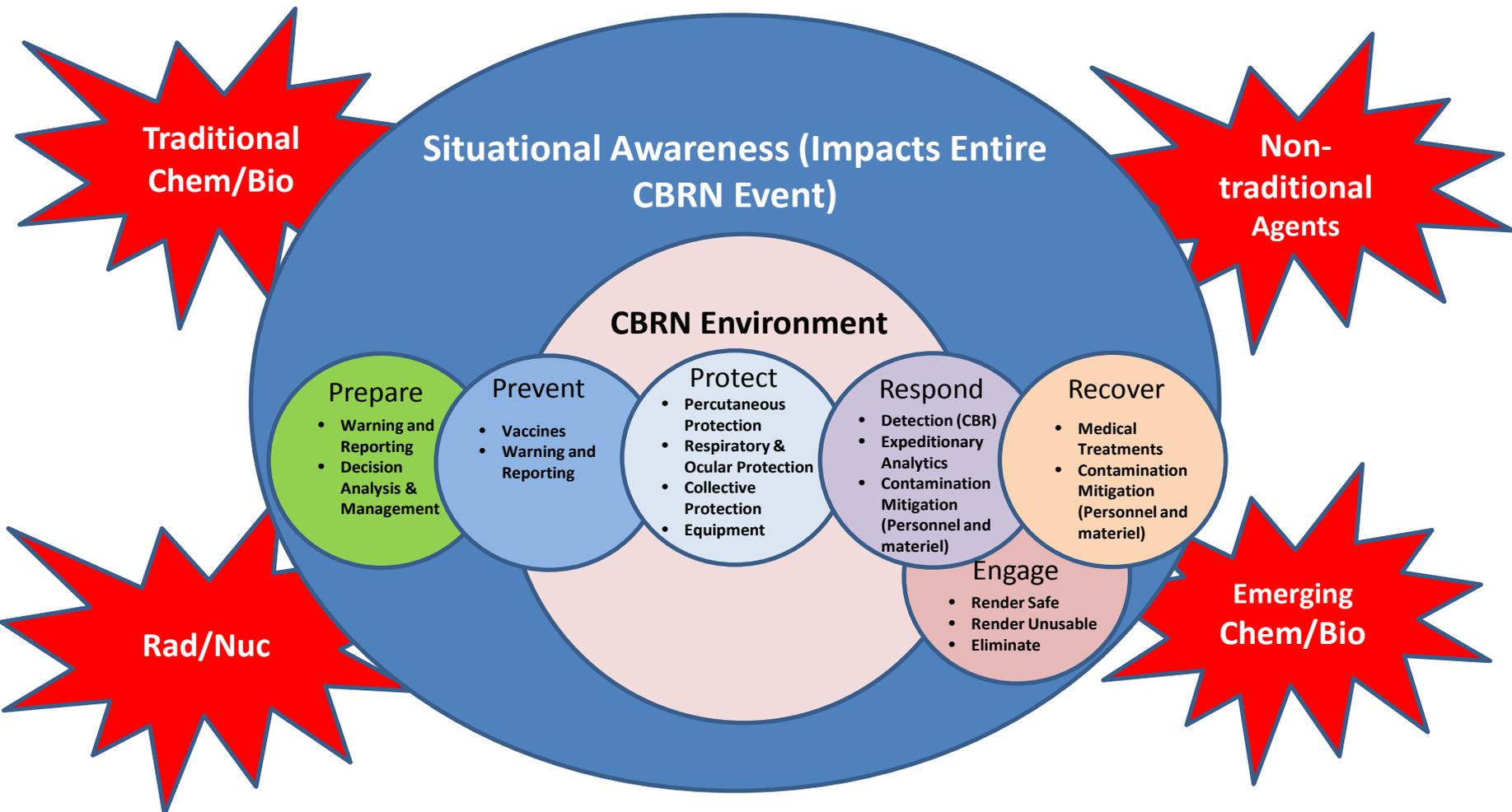
- **Long term planning and analysis (30yr Plan) – Update coming**



- **Advanced Technology Demonstrations (ATDs)**
 - Joint CBRNE Advanced Capability Sets (JCACS)



Whole-of-Government Approach to CBRN Defense, Response & Readiness



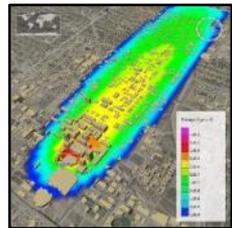


PREPARE

Implement hazard awareness and understanding activities, protection of critical assets, and contamination mitigation measures with ongoing preparation activities assists in the prevention of negative effects.

Current

Future



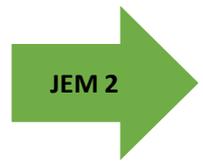
- **Warning and Reporting:**
 - No Networked Detectors
 - Limited C2 Integration
 - Limited Situational Awareness
 - Manual Warning and Reporting



- **Warning and Reporting**
 - Integrated Sensor Networks
 - Automated CBRN Warning Reports
 - Integrated Common Operating Environment
 - Sensor Fusion and False Alarm Reduction
 - Enhanced CBRN Situational Awareness
 - Cloud Based Dissemination of CBRN Information
 - Reduced Dependency on C2 Systems



- **Decision Analysis and Management:**
 - Standalone Capability
 - Not Networked
 - Limited Decision Support
 - Limited C2 Integration



- **Decision Analysis & Management**
 - Improved Hazard Prediction
 - Infectious Disease Models
 - Urban Models
 - High Altitude Missile Intercept
 - Cloud Based Hazard Prediction and Analysis Capability
 - Integrated into Army Common Operating Environment

Provide Systems that Fuse CBRN and Other ISR Sources into a Situational Awareness and Understanding (Enabled with Decision Support Tools)



PREVENT

Deter and prevent adversaries from taking actions that impose imminent threat to the Homeland or affect combat power

Current

- Vaccines: Limited Agents
 - One Vaccine One Bug
 - Multiple Shots, Long Time Until Protected
 - Lengthy, Costly, Risky Development



- Situational Awareness
 - Global Biosurveillance Portal

Multiple Vaccines
Chemical
Prophylaxis



CBRN IS

Future

- Vaccines
 - One Vaccine, Many Bugs
 - Rapidly Tailored Vaccine
 - One Shot, Short Time to Protection
 - Chemical Prophylaxis
- Advanced Development and Manufacturing of Medical Countermeasures
- Other Transaction Authority for Medical Community
- Alternate Auto injector Manufacturers for DoD and Nation
- Situational Awareness
 - Integrated Sensor Networks
 - Automated CBRN Warning Reports
 - Integrated Common Operating Environment
 - Sensor Fusion and False Alarm Reduction
 - Cloud Based Dissemination of CBRN Information
 - Reduced Dependency on C2 Systems

Deter Adversaries by Providing Warning Prior to Attack and Medical Countermeasures to Lessen Impact of Attack



PROTECT

Protect and mitigate the effects of CBRN hazards to protect military personnel, equipment, and infrastructure and secure the Homeland

Current

- Suits/Boots/Gloves/Masks: Good Protection

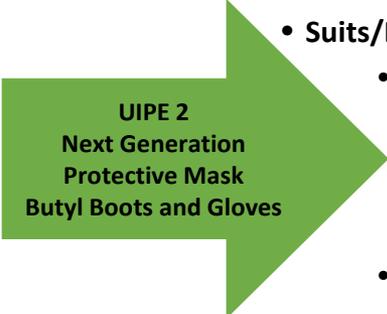


- Operational Burden
 - Thermal
 - Respiratory Burden
 - Bulk
 - Not Integrated (With Basic Soldier Kit)
 - Not Multi-Mission Capable (Infectious Disease, Sensitive Site Exploitation)
 - Communication Challenge

- Collective Protection: Limited Availability



- Some Chem/Bio Protective Shelters (TOCs)
- Some Medical Shelters
- Abrams/NBCRV
- Filters
 - Limited Agent Protection
 - Limited Life



Future

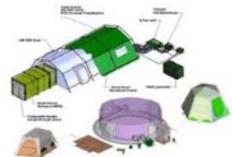
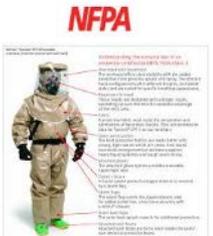
- Suits/Boots/Gloves/Masks



- Integrated with Basic Soldier Kit
 - Minimal Burden
 - Multi-Mission Protection
 - Rubber off of Face (Communication, Field of View)
- All Hazards Suit (Level A Protection)

- Collective Protection

- Extended Filter Life
- Extended Range of Agent Protection
- Scalable/Modular with Existing Tent Configurations



Provide Personnel and Collective Protection systems that Minimize Burden and Maximize Protection



RESPOND

Adopt an effective concept of operations that reduces the risk of casualties and cross-contamination, protects property and the environment and ensures the rapid resumption of operations after an incident, by understanding the CBRN contamination

Current

• CBRN Detection



- Limited Ability
- High Operating Costs For Biological Detection
- Time to Identify Biological Threat Agents
- Logistical Burden

• Reconnaissance

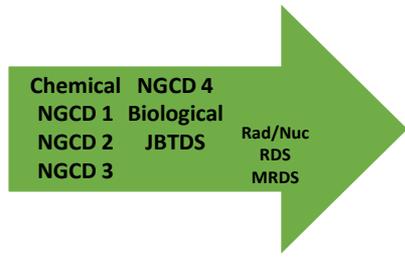


- Very Limited Availability
- Detection Capabilities
- Limited Maneuverability
- Time Consuming

• Laboratories



- One Sample, One Threat Identification
- Limited Capacity
- Requires Specialist
- State Based



Future

• Chemical Detection

- Increased Capability
- Lower Logistics Burden
- Lower Operating Costs
- Improved Portability
- Lower Operating Costs

• Reconnaissance:

- NBCRV Sensor Upgrades
- Increased DR SKO Capabilities
- Air Reconnaissance /Mapping of Rad/Nuc Field

• Laboratories

- One Sample, All Chem/Bio Threats ID
- Simplified Operation
- Deployable

Provide In-Depth Detection Capability, Contamination Mitigation and Situational Awareness



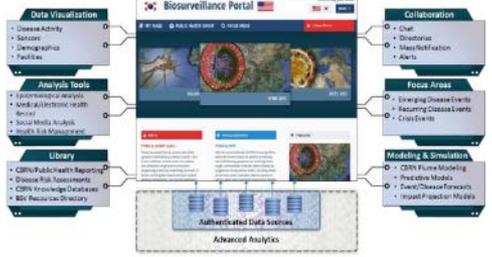
RESPOND (cont'd)

Adopt an effective concept of operations that reduces the risk of casualties and cross-contamination, protects property and the environment and ensures the rapid resumption of operations after an incident, by understanding the CBRN contamination

Current

Situational Awareness

Global Biosurveillance Portal



Contamination Mitigation

- Limited Decon Capability
- Limited Ability to Decon Human Remains
- Limited Personnel Decon
- Materials Compatibility
- Resource Intensive



Future

Situational Awareness

- Integrated Sensor Networks
- Automated CBRN Warning Reports
- Integrated Common Operating Environment
- Sensor Fusion and False Alarm Reduction
- Cloud Based Dissemination of CBRN Information
- Reduced Dependency on C2 Systems

Contamination Mitigation

- Improved Decon capability
- Contaminated Human Remains System
- Improved Decon Capabilities
- Personnel
- Equipment
- Sensitive Equipment
- Concentrated Decontaminant
- Manpower & Resource Reduction
- Coatings (Sealants, Strippable)

Provide In-Depth Detection Capability, Contamination Mitigation and Situational Awareness



RECOVER

The planning and initiation of actions that will enable the force and the homeland to continue operations despite threats and hazards from CBRN material through the conduct of contamination control and medical countermeasures and to recover effectively from the CBRN material exposure

Current

• Medical Treatment

- Nerve Agent Treatments Available for Traditional Threats
- Limited Ability to Treat NTAs
- One Bug, One Drug



• Contamination Mitigation

- Limited Decon Capability
- Limited Ability to Decon Human Remains
- Limited Personnel Decon
- Materials Compatibility
- Resource Intensive



- Antibiotics
- Improved Nerve Agent Treatment System
- Advanced Anti-Convulsant System

- Joint Decon Family of Systems
- Contaminated Human Remains System

Future

• Medical Treatment

- Nerve Agent Treatment For All Threats
- One Drug, Many Bugs



• Contamination Mitigation

- Improved Decon capability
- Contaminated Human Remains System
- Improved Decon Capabilities
- Personnel
- Equipment
- Sensitive Equipment
- Concentrated Decontaminant
- Manpower & Resource Reduction
- Coatings (Sealants, Strippable)



Allow Continuation of Operations by Providing Capabilities which Treat the Affected and Mitigate the Effects of CBRN Materials



JPEO-CBD Priorities

Procurement

1. Dismounted Reconnaissance – Sets, Kits & Outfits
2. Joint Mask Family (Ground)
3. Joint Expeditionary Collective Protection
4. Chemical Biological Protective Shelters
5. Joint Decontamination Family of Systems (Joint Service Equipment Wipe)
6. Joint Warning and Reporting Network increment 1 (JWARN)
7. Joint Effects Model Increment 1 (JEM)

R&D

1. CBRN Information System (*Integrated Early Warning, *Biosurveillance Portal and Decision Support Tools)
2. Non Traditional Agent Protection (NTA Defense)
3. Common Analytical Laboratory System
4. Joint Biological Tactical Detection System
5. Next Generation Chemical Detector Increments 1, 2, & 3
6. Next Generation Diagnostic System
7. Dismounted Reconnaissance Sets, Kits & Outfits Upgrade
 1. Sensors for Unmanned Aerial/Ground Vehicles
 2. Sensors for Robotics
8. NBC Reconnaissance Vehicle Sensor Suite Upgrade
 1. Sensors for Unmanned Aerial/Ground Vehicles
 2. Sensors for Robotics
9. Joint Personnel Dosimeter
10. Uniform Integrated Protective Ensemble Increment 2
11. Joint Mask Family (Air Crew)
12. Multivalent Vaccines
13. Advanced Anticonvulsant System
14. Scalable Elimination Sets, Kits & Outfits
15. Joint Decontamination Family of Systems
16. Therapeutics (Chemical and Biological)
17. Field Deployable Destruction Systems
18. Joint Warning and Reporting Increment 2 (JWARN)
19. Joint Effects Model Increment 2 (JEM)
20. Contaminated Human Remains System

S&T

1. Integrated Early Warning Advanced Technology Demonstration
2. Operational Effects Modeling
3. Risk-Based Planning and Analysis/Operation Effects
4. Expand Device-to-Cloud capability to Other Sensor Platforms
5. S&T in hazard prediction and warning and reporting (Supporting JEM)
6. Biosurveillance
7. Early Warning Sensing
8. Exploration of wearable utility for Biosurveillance
9. Toxicological studies and modeling
10. Next Generation Chemical Detector
 - Enhanced Colorimetric Sensors
 - Tactical Air Monitor
11. Next Generation Diagnostics System
12. Improved Detection and Identification Sensitivity
13. Improved Aerosol Detection
14. Toxic Industrial Material Detection and Identification
15. Improved Sample Collection Capability
16. Non Traditional Agent Protection
17. All-Hazards Integrated Protection
18. Multifunctional Materials
19. Improved Filtration Media
20. Advanced Respiratory Protection
21. Alternatives to Traditional Vaccines
22. Residual Life Indication
23. Less invasive delivery methods for Vaccines
24. Continue to Explore Improved Prophylaxis/Pretreatment Materiel Solutions and Technologies Against Traditional CWAs and NTAs
25. Scalable Elimination Sets, Kits & Outfits
26. Personnel Decon
27. Joint Decontamination Family of Systems
28. Wide Area Decontamination of Anthrax Spores
29. Sensitive Equipment Decon
30. Coatings
31. Improved CWA, NTA and Emerging Threat Therapeutic Technologies
32. Investigate Currently Approved FDA Licensed Drugs for Therapeutic Application Against Emerging Threats (continue RDT&E)
33. Animal Models
34. Therapeutics (Chemical and Biological)
35. Explore Novel Sulfur Mustard and Cyanide Therapeutics
36. Field Deployable Destruction Systems
37. Improved JEM Models
38. JWARN Technology Refresh and Maturation
39. Contaminated Human Remains



Mission Partners and Advocates



Strategic Partnerships and Advocates Critical to Developing Innovative Solutions



Doing Business w/the JPEO-CBD

- **Updated contract opportunities:**

www.jpeocbd.osd.mil

- **See us at these events:**

CBRN Conference and Exhibition
3-4 May (Fort Leonard Wood, MO)

Annual CBRN Defense Conference and Expo
2-4 Aug (Aberdeen Proving Ground, MD)

Acquisition Planning Briefing to Industry
Nov/Dec (Aberdeen Proving Ground, MD)

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***The BEST Technology and Equipment
At the RIGHT PLACE
At the RIGHT TIME
At the RIGHT COST***



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