



# JPEO-CBRND

Preventing the Worst by Providing the Best

## 2021 NDIA CBRN DEFENSE CONFERENCE & EXHIBITION

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Deputy Joint Program Executive Officer for  
Chemical, Biological, Radiological and Nuclear Defense - Operations  
and Modernization



# WE FACE A COMPLEX THREAT ENVIRONMENT



# WHO WE ARE AND WHAT WE DO



## JPEO-CBRND

**MISSION:** Protect the Joint Force from weapons of mass destruction by generating affordable capabilities

**VISION:** A resilient Joint Force enabled to fight and win unencumbered by a chemical, biological, radiological, or nuclear environment; championed by innovative, agile, results-oriented acquisition professionals



COVID CLAIMS OVER 2 MILLION LIVES



SALISBURY NERVE AGENT POISONING



SYRIA SARIN ATTACK



KIM JONG-NAM ASSASSINATION



## CBDP

**MISSION:** Anticipate future threats and deliver capabilities that enable the Joint Force to fight and win in CB-contested environments

**VISION:** A Joint Force ready to fight and win in CB-contested environments through a coordinated effort designed to neutralize adversarial CB threats



# A GLIMPSE AT **INTEGRATED LAYERED DEFENSE**



## PROTECT



### MEDICAL PROPHYLAXIS

Initial layer  
of protection

- Vaccination
- Pre-treatment



### PPE, COLLECTIVE PROTECTION

Reduction of  
primary and  
secondary  
exposure to  
CBRN threats

- Suits and masks
- Filtration
- Tents

## UNDERSTAND



### EARLY WARNING

Enable  
commander's  
operational  
decision making

- Data fusion
- Network sensors
- Communication
- Detectors

## MITIGATE



### DIAGNOSTICS

Lower echelon  
rapid diagnostics  
to determine  
treatment and  
reduce further  
exposure

- Point of need
- Laboratory and  
mobile
- Reconnaissance



### THERAPEUTICS/ DECONTAMINATION

Post exposure  
prophylaxis  
administered  
upon agent  
exposure

- Treatments
- Personnel and  
materiel  
decontamination



# **CBDP MODERNIZATION FOCUS AREAS**

Modernize Biological Defense  
Integrated Early Warning  
Unencumber the Warfighter



# JPEO-CBRND ORGANIZATION LEADERSHIP\*



Acting DJPEO – Assisted Acquisition/ Medical (COVID-19 Response)  
**Ms. Nicole Kilgore**  
Executive Assistant  
Ms. Megan Danjou



DJPEO – Operations and Modernization  
**Mr. Dan McCormick**  
Executive Assistant  
Ms. Heather Steinhilber



Director of Integration  
**Mr. Paul Gietka**



JPEO  
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Assistant JPEO – Medical  
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Senior Medical Regulatory Advisor/Director  
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Assistant Chief of Staff  
**Ms. Karen House**

## Joint Project Managers (JPM)



JPM CBRN Protection  
**Ms. Stacey Shephard (Acting)**  
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Ms. Tiffany Swidrak



JPM CBRN Medical  
**COL Ryan Eckmeier**  
Executive Assistant  
Ms. Jenn Scott



JPM CBRN Sensors  
**Mr. Chris Seacord**  
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Ms. Marjorie Giles (Margie)

## Joint Project Leads (JPL)



JPL CBRN Special Operations Forces  
**Mr. Michael Poe**  
Executive Assistant  
Ms. Tiffany Dickinson



JPL CBRN IM/IT  
**Mr. Scott White**  
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JPL CBRND Enabling Biotechnologies  
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# CONTACT

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# JPEO-CBRND PROTECTION PORTFOLIO

Today and Tomorrow



CURRENT

- ▶ Chemical Biological Protection Shelter (CBPS)
- ▶ Collectively Protected Field Hospital (CPFH)
- ▶ Joint Expeditionary Collective Protection (JECF)

- ▶ Alternative Footwear Solutions (AFS)
- ▶ Integrated Footwear System (IFS)
- ▶ Joint Protective Aircrew Ensemble (JPAGE)
- ▶ Joint Service Aircrew Mask - Rotary Wing
- ▶ Joint Service Aircrew Mask for Strategic Aircraft
- ▶ JSLIST Block 2 Glove Upgrade Non-Flame Resistant (JB2GU nFR) variant
- ▶ Joint Service Aircrew Mask - Tactical Aircraft (JSAM-TA)
- ▶ Joint Service Lightweight Integrated Suit Technology (JSLIST)
- ▶ M50/M51 Joint Service General Purpose Mask (JSGPM)
- ▶ M53A1 Mask

- ▶ CBRN Covers Coatings and Protective Overlays (C3PO)
- ▶ Contamination Indicator Decontamination Assurance System (CIDAS) - Nerve
- ▶ Joint General Purpose Decontaminant for Hardened Military Equipment (JGPD-HME)
- ▶ Joint Service Equipment Wipe (JSEW)
- ▶ M12A1 Decontamination Apparatus
- ▶ M26 Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS)
- ▶ Reactive Skin Decontamination Lotion (RSDL)

## ▶ COLLECTIVE



## ▶ INDIVIDUAL



## ▶ DECONTAMINATION



FUTURE

- ▶ Contaminated Human Remains System/ Contaminated Human Remains Transfer Case (CHRS/CHRT)
- ▶ Filter Improvements (Guard Bed for M98, M93/M59 Parts EMI Upgrade, M48A1 Redesign, etc)
- ▶ Next Generation Collective Protection for Ships and Buildings

- ▶ Advanced System for Protection and Integrated Reduction of Encumbrances (ASPIRE) (FY25)
- ▶ Ground Mask MWO (FY24)
- ▶ Uniform Integrated Protection Ensemble (UIPE) Family of Systems:
  - UIPE General Purpose
  - UIPE Air
  - UIPE Glove

- ▶ Contamination Indicator Decontamination Assurance System (CIDAS) - Blister
- ▶ Joint Biological Aircraft Decontamination System (JBADS)
- ▶ Next Generation Personnel Decontamination
- ▶ Tactical Contamination Mitigation System (TCMS)
- ▶ Service Equipment Decontamination System (SEDS)
- ▶ Wide Area Decontamination System (WADS)



# JPEO-CBRND MEDICAL PORTFOLIO

Today and Tomorrow



CURRENT

- ▶ Anthrax Vaccine (AVA)
- ▶ Anti-Ebola mAb
- ▶ Nucleic Acid Launched mAb Countermeasures
- ▶ Polyclonal Rapid Response Platform

- ▶ Smallpox Vaccine (SPX VAC)
- ▶ Virus like Particle Platform
- ▶ Vero Cell Platform

- ▶ Antidote Treatment Nerve Agent Autoinjector (ATNAA)
- ▶ Convulsant Antidote for Nerve Agents (CANA)
- ▶ Soman Nerve Agent Pretreatment Pyridostigmine (SNAPP)
- ▶ Single-Use Atropine Autoinjector

- ▶ Next Generation Diagnostic System (NGDS)
- ▶ NGDS – Sentinel & Food and Water Environmental Detection Panels

**CAPABILITY:**

- ▶ Dedicated DoD Biomanufacturing Network
- ▶ Special Immunization Program

▶ **PROPHYLAXIS**



▶ **DIAGNOSTICS**



▶ **THERAPEUTIC**

FUTURE

- ▶ Anti-botulinum Neurotoxin A/B Monoclonal Antibodies (BOT mAbs)
- ▶ Nucleic Acid Launched mAb Countermeasures
- ▶ Plague Monoclonal Antibodies (PLG mAbs)

- ▶ Smallpox Antiviral Post Exposure Prophylaxis (SPX AV PEP)
- ▶ Vaccine Acceleration by Modular Progression (VAMP) (FY22)\*
- ▶ Vaccine Storage and Stability Testing (VSST)

- ▶ 10 in 2 Interagency Antibody Challenge (FY23)\*
- ▶ Alternate Autoinjector (AUTOINJ)
- ▶ Advanced Anticonvulsant System (AAS)
- ▶ Antiviral Therapeutic (AV TX)
- ▶ Countering Emerging Threats – Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR)
- ▶ Improved Nerve Agent Treatment System – Centrally Acting (INATS CA)
- ▶ Phage Therapy
- ▶ Rapid Opioid Countermeasure System (ROCS)

- ▶ Modernization Medical (MOD MED)
- ▶ NGDS 2 – Man Portable Diagnostic System (NGDS 2 MPDS)
- ▶ NGDS 2 – Chemical Diagnostics (NGDS 2 CHEM DX)

**CAPABILITY:**

- ▶ Whole-of-government National Biomanufacturing Partnership
- ▶ Computational Acceleration of MCM Development

\*COVID-19 funded efforts

# JPEO-CBRND SENSORS PORTFOLIO

Today and Tomorrow



CURRENT

- ▶ Enhanced Maritime Biological Detection (EMBD)
- ▶ Joint Biological Tactical Detection System (JBTD)
- ▶ Joint Chemical Agent Detector (JCAD) - M4A1
- ▶ Joint Personal Dosimeter-Individual (JPD-IND)
- ▶ Man-Portable Radiological Detection System (MRDS)
- ▶ Radiological Detection System (RDS)

- ▶ Analytical Laboratory System Modification (ALS MOD)
- ▶ Common Analytical Laboratory System (CAL)
- ▶ CBRN Sensors Integration on Robotic Platforms (CSIRP) (on UGV and UAV)
- ▶ Dismounted Reconnaissance Sets, Kits, and Outfits (DR SKO)
- ▶ NBCRV CBR Sampling and Detection Suite
- ▶ Portable Isotopic Neutron Spectroscopy (PINS)

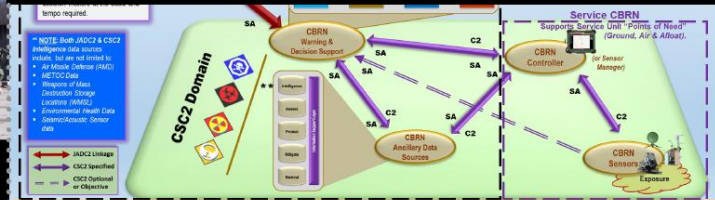
- ▶ Limited Heat Strain Monitoring Capabilities
- ▶ Robotics, Autonomy & Artificial Intelligence (AI)
- ▶ Biosurveillance Portal
- ▶ Joint Warning and Reporting Network (JWARN)

## ▶ POINT/STANDOFF



## ▶ RECONNAISSANCE

## ▶ INTEGRATED EARLY WARNING



FUTURE

- ▶ Aerosol Vapor Chemical Agent Detector (AVCAD)
- ▶ Multi-Phase Chemical Agent Detector (MPCAD)
- ▶ Compact Vapor Chemical Agent Detector (CVCAD)
- ▶ JCAD Solid Liquid Adapter (SLA)
- ▶ Nuclear, Biological, Chemical Reconnaissance Vehicle (NBCRV) Sensor Suite Upgrade (SSU)
- ▶ Proximate Chemical Agent Detector (PCAD)
- ▶ Reactive-Chemistry Orthogonal Surface and Environmental Threat Ticket Array (ROSETTA)

- ▶ CALS
- ▶ CSIRP (on UGV and UAV)
- ▶ DR SKO
- ▶ NBCRV SSU

- ▶ Biological Defense Innovation Program (BDIP) (FY23)
- ▶ CBRN Support to Command & Control (CSC2) (FY22)
  - IEW ECD is an integral part of CSC2
  - Collaboration between JPM S and JPL IM/IT
- ▶ Wearable Monitors for Total Health Awareness (FY21)

*Sensors Modernization effort will manage technology refresh and modernization for all programs*

# JPEO-CBRND SOF PORTFOLIO

Today and Tomorrow



CURRENT

- ▶ All Purpose-Personal Protective Ensemble (AP-PPE) Modernization
- ▶ Chemical-Biological Aircraft Survivability Barrier (CASB)
- ▶ CASCADE
- ▶ Modular Powered Air Purifying Respirator (MPAPR)
- ▶ Sub-Terranean Mission (SUB-T)
- ▶ Tactical Advanced Threat Protective Ensemble (TATPE)

- ▶ Enhanced Warfighter Augmented Training (EWAT)
- ▶ Gas Atmospheric Sample Processor (GASP)
- ▶ Gamma-Ray Analysis of Chemical Elements (GRACE)
- ▶ Joint Handheld Biological Agent Identifier (JHBI)
- ▶ Rapid Austere Environment Sample Preparation (RASP)
- ▶ Wintergreen

- ▶ Contaminated Casualty Containment Litter (C3L)
- ▶ Chemical Biological Aircraft Survivability Barrier (CASB)
- ▶ Chemical Biological-Ground Mobility Barrier (CB-GMB)
- ▶ Chemical Warfare Agent Device Packaging (CWA DP)
- ▶ Contaminated Waste Mitigation System (CWMS)
- ▶ Non-Standard Chemical Biological Aircraft Survivability Barrier (NS-CASB)

## ▶ PROTECT



## ▶ MITIGATE



## ▶ UNDERSTAND

- ▶ Assault Respirator (AR)
- ▶ Micro Powered Air Purifying Respirator (MICRO PAPR)
- ▶ Modular Self-Contained Breathing Apparatus (M-SCBA)
- ▶ Optimized CBRN Hydration System

- ▶ Carbide-Derived Carbon Solid Phase Micro Extraction (CDC-SPME)
- ▶ Hyperspectral Imaging Unmanned Aircraft System (HIS UAS)
- ▶ Lightweight Flame Photometric Detector (LFPD)
- ▶ Low Temp Plasma Mas Spec (LTPMS)
- ▶ Next Generation Bio Sequencing (NGBS)
- ▶ Targeted Handheld Optical Recognition (THOR)
- ▶ Unmanned Ground and Aerial Vehicle Sensor Integration (UGV UAV)

- ▶ Clear Decon Slurry (CDS)
- ▶ Expedient Liquid Barrier System (ELBS)
- ▶ Forward Area Mobility Spray System (FAMS-S)
- ▶ Houndfish
- ▶ Paper on Demand (POD)
- ▶ Sensitive Equipment Decontamination System (SEDS)

FUTURE