



Presented to
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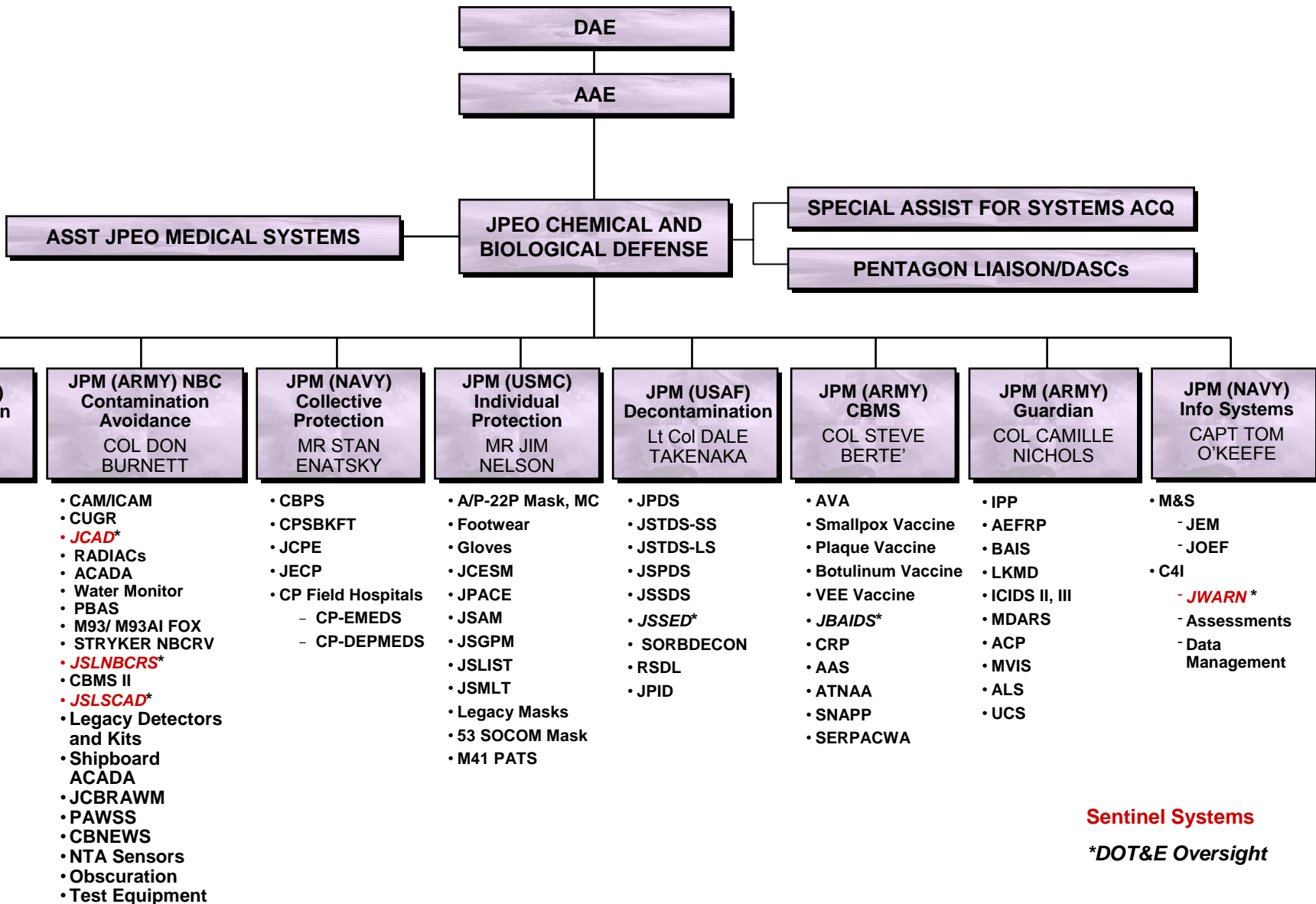


Agenda

- **JPM IS Overview – CAPT Tom O’Keefe**
- **JEM – Mr. Thomas Smith**
- **JOEF – Dr. Jerome Hoffman**
- **JWARN – Mr. Chuck Walker**
- **JPM IS Integrated Systems Architecture – Mr. Kevin Adams**



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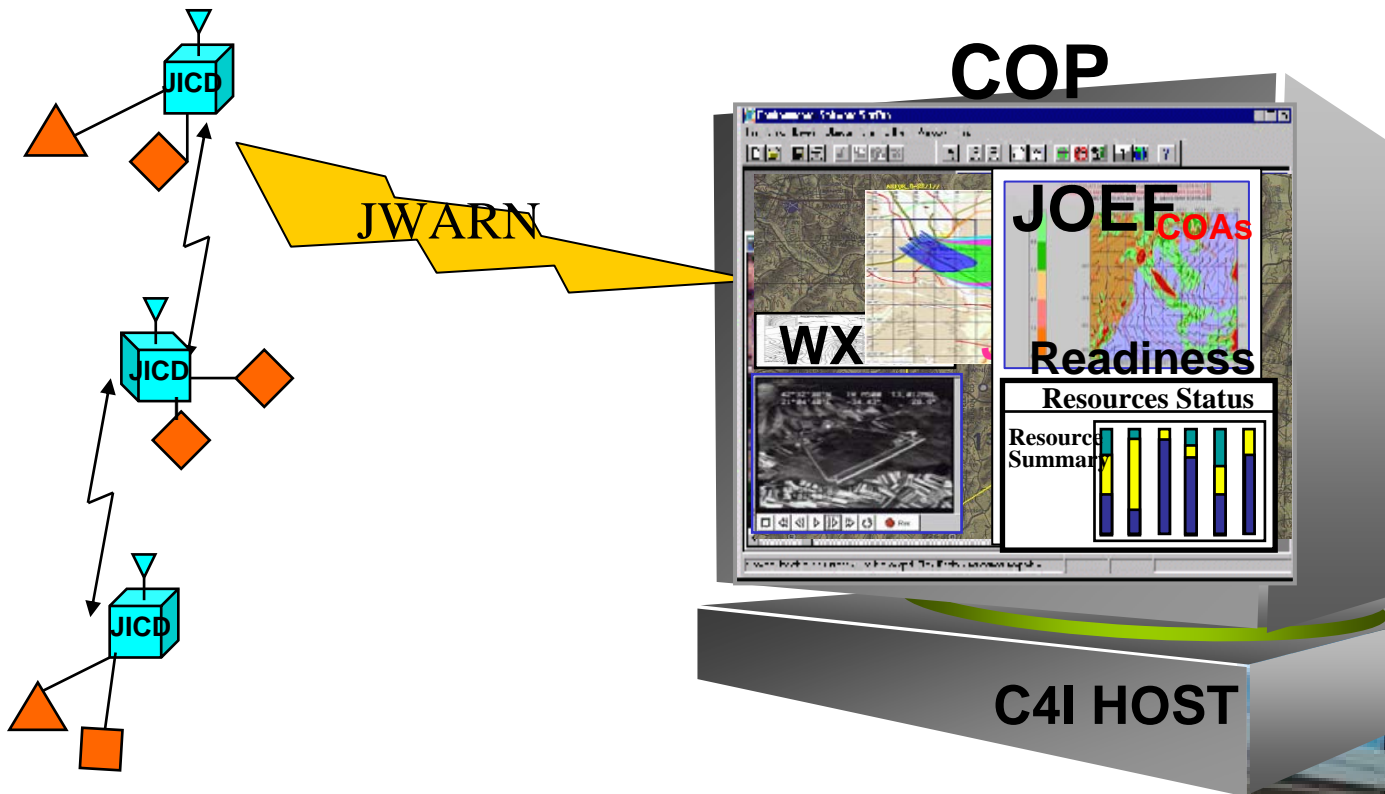
Sentinel Systems

*DOT&E Oversight



CBDP - Program Overview

End-to-End Capability



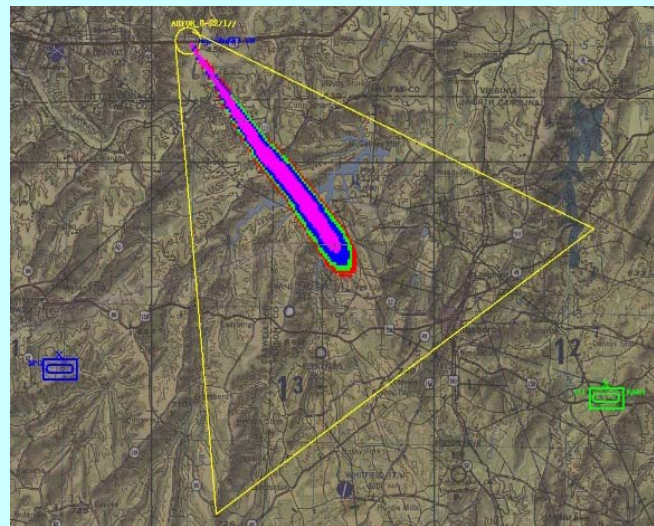
- JWARN warns and reports
- JEM calculates plume, given agent and WX
- JOEF assesses mission impact/provides COA analysis
- Result: Enhanced timely/seamless C4I-based situational awareness of CBRN events



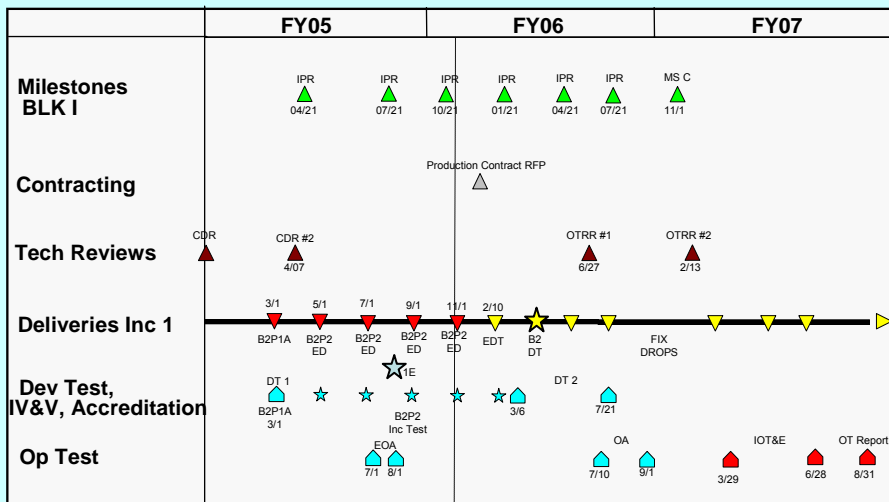
Joint Warning and Reporting Network (JWARN) Program Overview

DESCRIPTION

- JWARN is an ACAT III (Sentinel and Oversight Program) information system that networks NBC sensors, mission application software tools, and C4ISR systems
- JWARN builds on current manual capabilities by fully integrating with COE-based and tactical C4ISR systems
- Automatically generates alerts for warning and dewatering affected forces
- Automatically generates hazard area plots



SCHEDULE

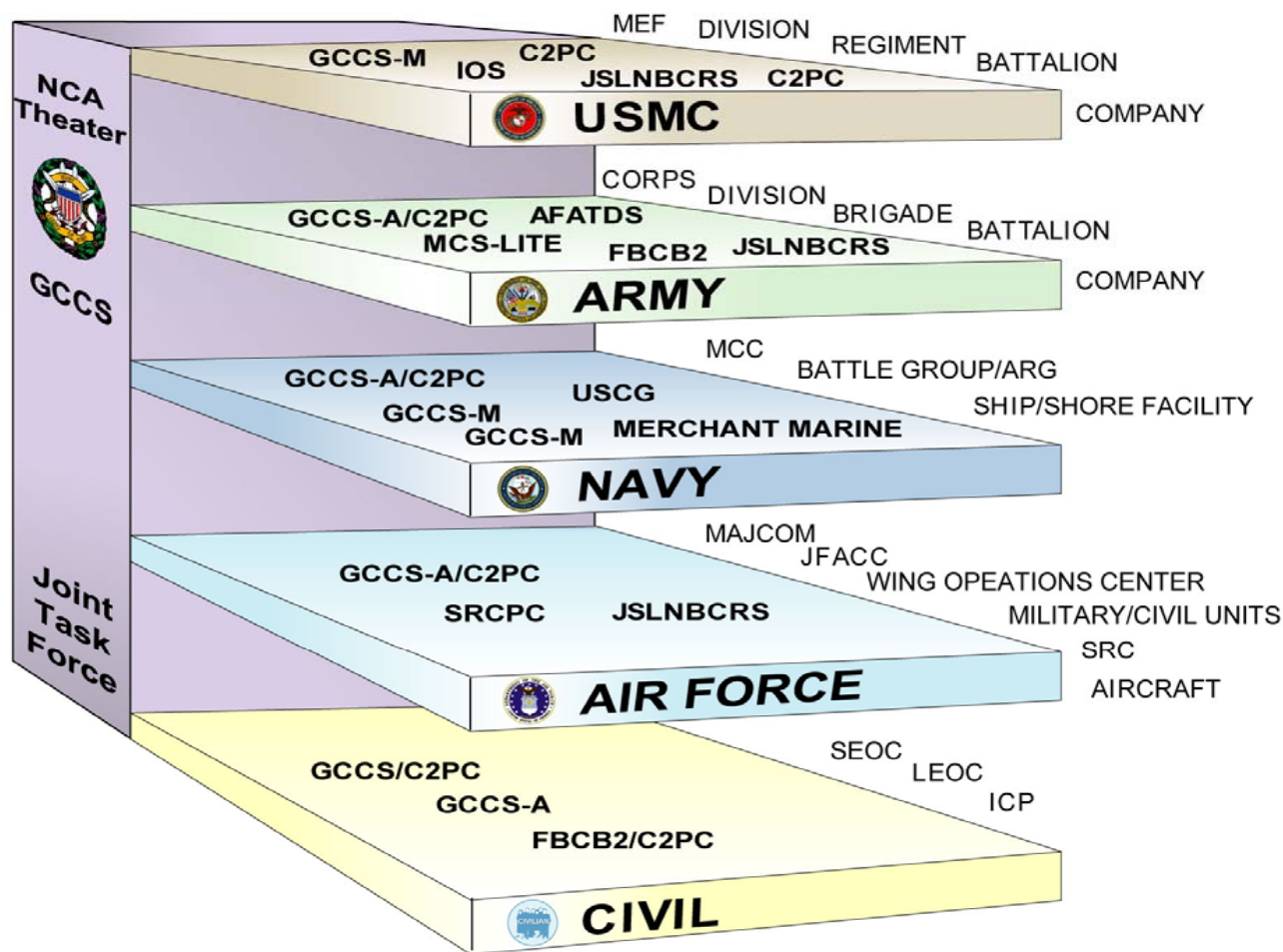


REQUIREMENTS

- Collect, generate, edit and disseminate NBC reports and plots and provide a means of ensuring all addressees have received a sent message
- Application support for MCS, AFATDS, FBCB2, C2PC, GCCS-J, GCCS-M, GCCS-A, and GCCS- AF COE Level 7 / DODIIS
- Allow NBC reports (NBC-1/NBC-4) to be formatted and transmitted within 2 minutes and allow operator selection of automatic, delayed or on-command sending of NBC reports
- Automated sensor interfaces for M8A1, M21, M22, IPDS, ADM 300, AN/VDR2, JBPDS



JWARN Connects NCS to the Foxhole





JWARN Functional Description

- **Enhanced NBC situational awareness**
 - Integrated with Joint and Service C2 systems
 - Battle management applications
 - Route planning
 - Obscurant planning
 - Heat stress calculation
- **Automatic generation of alerts**
 - Sensor to C4ISR host connectivity
- **Automatic generation and display of hazard area plots**
 - ATP-45
 - HPAC
 - VLSTRACK | Will be replaced by JEM
- **Automated warning and dewatering of units within the hazard area**
 - Reduces time from incident to warning from over 30 minutes to less than 2 minutes
- **Provides the means to configure, monitor, and manage sensor network**
 - JWARN Component Interface Device (JCID) provides the physical connectivity to sensors
 - Wired or wireless network



JWARN Initial Capability (JIC)

- **Operational prototype with complete sensor-to-C4ISR functionality**
- **Purpose:**
 - Support early Warfighter involvement with JWARN, Joint Effects Model (JEM), and Joint Operational Effects Federation (JOEF) technologies
 - Support of User Interface requirements
 - Support User Assessments (UA)
 - Support Technical Demonstrations and Experiments
 - Support early Integration and Data Management of an integrated System
 - Provide a venue to validate and refine Measures of Performance (MOPs) and Measures of Effectiveness (MOEs)
 - Provide an opportunity to refine the Joint CONOPS and Tactics, Techniques, and Procedures (TTPs)
- **Currently installed at:**
 - MCTSSA, Camp Pendleton, CA
 - Army Chemical School, Fort Leavenworth, MO
 - Langely AFB, VA

Operationally relevant platform for exercise support



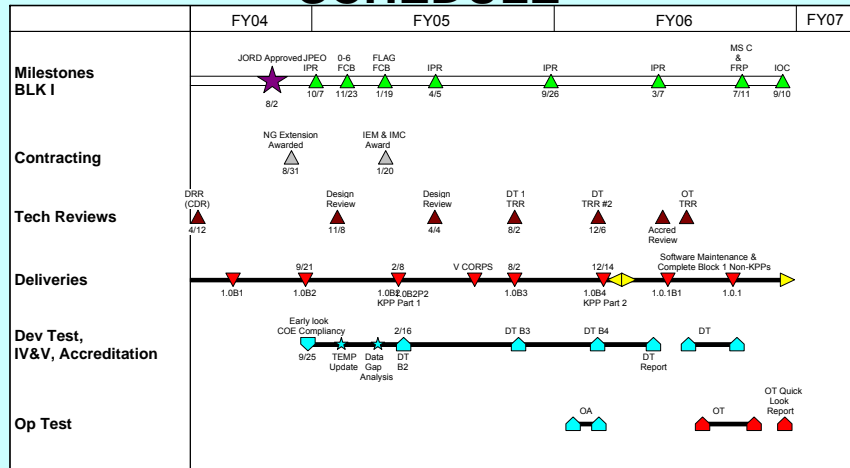
Joint Effects Model (JEM) Program Overview

DESCRIPTION

- JEM is an ACAT III Program that will provide a single, validated capability to predict the transport and dispersion of Chemical, Biological, Radiological and Nuclear/Toxic Industrial Hazard events and their effects
- JEM will be accredited for all uses currently supported by the three interim accredited DoD S&T Hazard Prediction Models
- JEM will be integrated with service Command & Control Systems and will also be available as Standalone



SCHEDULE



REQUIREMENTS

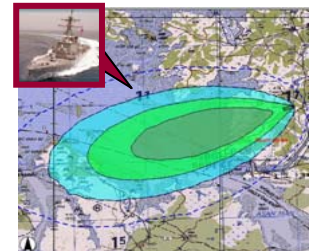
- Integrate VLSTRACK, HPAC, and D2PUFF capabilities
- Urban effects modeling
- High altitude missile intercept effects modeling
- High altitude weather effects and precipitation
- Improved transport and diffusion methodologies
- Waterborne Hazards
- Contagious Disease Modeling
- Complex structures
- Building interiors
- Human performance degradation



JEM Functional Description

CBRN / TIC / TIM Hazard Effects Modeling on C4I systems will support:

- **Consideration of Environmental Effects in *Strike Planning***
 - Significant potential of hazard creation and down wind effects resulting from strikes
 - Mitigate troop impacts
 - Mitigate friendly nation impacts
- **Rudimentary *Missile Defense* Support with initial fielding, advanced support with first update**
 - C4I System interoperability sends the Intercept Point possibilities to decision aid
 - Decision aid for “When to shoot” choices that minimize the post intercept effects
- **Actively supports *Force Protection / maneuver* requirements**
 - Supports force protection planning
 - Decision aid for increasing/decreasing MOPP levels
 - Enables decisive maneuver decisions
- **Supports *Special Operations***
- **Provides high fidelity *Consequence Management* information**
 - Focuses the response
 - Reduces area to concentrate decontamination and treatment efforts





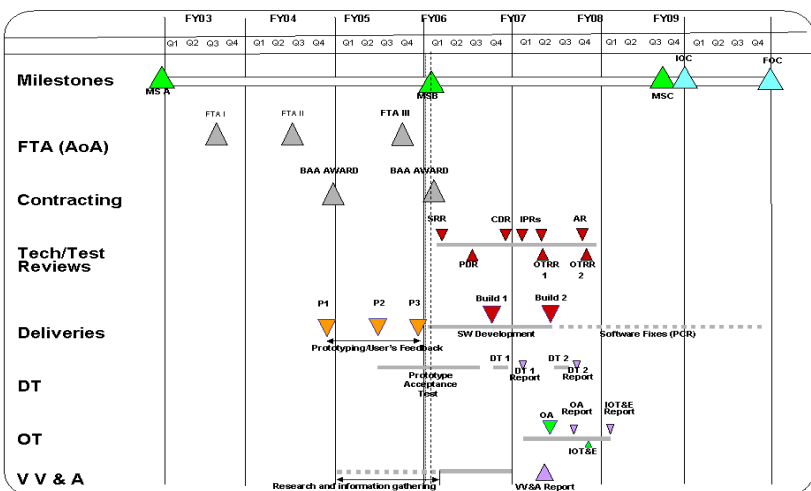
JOEF Program Overview

DESCRIPTION

- JOEF is an ACAT III Modeling & Simulation Program that will provide the Joint Warfighter a model based CBRN decision support information system that will:
 - Estimate hazardous effects on personnel and operations
 - Support advance and operational planning
 - Integrate with other CBDDP models
 - Deploy on C2 systems of all services



SCHEDULE



REQUIREMENTS

- Fighter Bases Aerial Port of Debarkation (APODs)
- Sea Port of Debarkation (SPODs)
- Mobile Forces
- Automated Tactics, Techniques, and Procedures (TTPs)
- Medical
- Consequence Management



JOEF Functional Description

- **Fighter Bases Aerial Port of Debarkation (APOD)s**
 - Assess the effects of CBRN on sorties, materiel throughput, use of Mission Oriented Protective Posture (MOPP) gear
- **Sea Port of Debarkation (SPODs)**
 - Assess the effects of CBRN on cargo throughput, logistics, medical casualties, MOPP gear
 - Safety and decontamination for SPODs and other land based ports, such as depots
- **Mobile Forces**
 - Combat power
 - Avoid contamination and impede adversary planning
 - Sensor placement/optimization
 - Dispersion to reduce target value
- **Automated Tactics, Techniques, and Procedures (TTPs)**
 - User friendly access to CBRND procedures
 - Basis for decision logic in warfare operations
 - CBRND process automation
- **Medical**
 - MEDEVAC plans
 - Resource management
 - Casualty estimates
- **Consequence Management**
 - Supports trans-attack and post-attack actions
 - Incident management and hazard control
 - Planning, operations, logistics, and finance/administrations



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