

Headquarters Air Combat Command

IH's Role in CBRNE: Innovation



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**This Briefing is:
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Overview

- **Current DODI 6055.5, *Industrial Hygiene and Occupational Health***
- **Draft DODI 6055.5, *Occupational and Environmental Health***
- **EOH/ORM Process**
- **Joint Preventive Medicine Equipment Sub-Group (JPMESG) Role**
- **Interoperability and Joint Ops**
- **Questions**



DODI 6055.5

- **Addresses in-garrison occupational risks**
 - Applies worldwide
 - Focused on traditional workplace, not environmental/operational hazards
 - Does not adequately address CBRNE or deployed surveillance
- **States surveillance result should be a “definite...determination as to the presence, absence, or degree of health hazard”**
 - Appropriate standard
 - Difficult to achieve with limited and basic equipment set
 - Entire process not supported with IM systems in deployed environment
 - Assessments tied to standards vs health risks

Little role in CBRNE, not specifically addressed



Draft DODI 6055.5 Overview

- **Risk-based perspective: ORM process**
- **Addresses environmental health surveillance, combat operations, and workplace surveillance in-garrison and deployed**
- **Train to protect workers from CBRNE hazards**
- **Components responsible for:**
 - **ID/assess health effects of mil unique occ/env conditions**
 - **Mitigate impact of mil-unique ops on health/mission**
 - **Support field level OEH operational effectiveness**
 - **Asst development of methods to rapidly/accurately assess health consequences from CBRNE events and to control exposures**

Components shall collect and use health information for supporting the risk management process during all phases of military operations (DoDI 6490.3, DoDI 6055.1 and Presidential Review Directive (PRD)-5, references (c), (d), and (l))

IHs have large role in CBRNE, similar to workplace surveillance



Draft DODI 6055.5: Risk Management

A CBRNE Perspective

- 1. Identify/assess hazards**
 - a. Characterize hazards
 - b. Identify SEG
 - c. Develop monitoring plan
- 2. Assess the risk**
 - a. Exposure characterization: Time and Severity of exposure
Personal exposure monitoring, extrapolation from similar operations, area monitoring (ie, environmental sampling), mathematical modeling
 - b. Exposure determination: Is it acceptable? Stds? Judgment? Tox data?
- 3. Develop controls/make risk decisions**
 - a. Recommend controls
 - b. Report exposures to commanders, medics, line personnel
- 4. Implement controls: Edu and Training**
- 5. Supervise and re-evaluate**
 - a. OEH control evaluation
 - b. Clinical/Medical monitoring: Occ exams, epi, trend analysis





Equipment Limitations: Challenges, Shortfalls, LL from OEF/OIF

Risk Management Process	Typical Equipment Set	Equipment-related Limitations
1. Identify/assess hazards		Knowing our equipment capabilities/limitations
2. Assess risk		Occupational stds, presence/absence detectors, high LOD, false+/-, chem-bias, limited scope of detection
3. Develop controls Implement risk decisions		False sense of security Ad hoc exposure reporting to personnel
4. Implement controls		Under/over-responding to hazards, potentially leading to unexplained disease
5. Supervise and Evaluate		Over-reliance on negative doc, exposure assessment based on models, not sampling/analysis/monitoring



Joint Preventive Medicine Equipment Sub-Group

- **History**
 - 2002: Ad-hoc group comprised of multi-service, interagency SMEs
 - 2003: Sought joint equipment, doctrine, SOPs, training
 - 2004: Delivered solutions
 - 2005: Chartered sub-group to JESWG; merged w/equipment grp
- **Mission**
 - Enhance interoperability through common equipment, training, doctrine
 - Optimize current equipment to enhance risk management
- **Accomplishments**
 - HAPSITE Gas Chromatograph/Mass Spectrometer
 - HAZMATID Fourier Transform Infrared Spectrophotometer
 - DR4000U VIS Spectrophotometer
 - Explore other equipment, doctrine/organization improvements



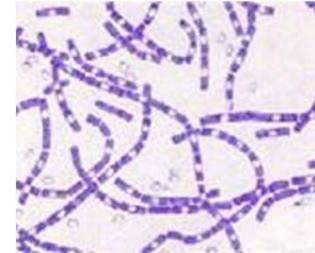
Equipment Optimization

- **HAPSITE® Testing – Product enhancements:**
 - Program Manager WMD-CSS
- **HAPSITE® Optimization – Calibration curves:**
 - Marine Corps Systems Command
 - Navy Environmental Health Center
- **HazMatID® Optimization – Toxins/Anthrax:**
 - Air Force
- **HAPSITE®/HazMatID® Course Curriculum Development**
- **Proficiency in Testing Quality Assurance Program (Proficiency Analytical Test (PAT) Rounds):**
- **USUHS Student Projects:**
 - Hapsite/SPME
 - Hapsite Transportability of Cal Curves Project
 - HazMatID Pesticide Library Development
 - Hach DR 4000 Project

- AF
- Navy



- AF
- Navy



- AF
- Navy

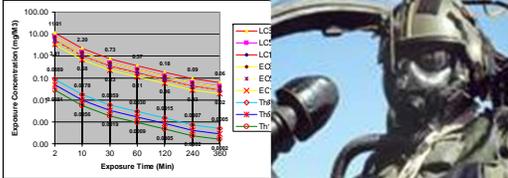
- AF
- CBIRF
- Navy
- NGB (CSTs)

- USAF
- USN
- USA

•JPMESG



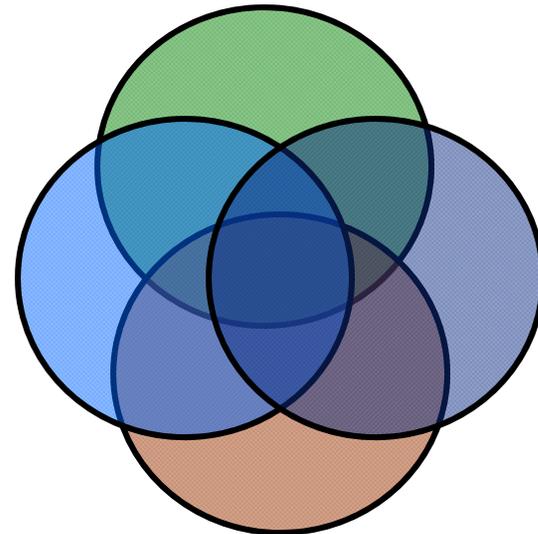
JPMESG Enhancements

Risk Management Process	Optimized Equipment Items	Equipment-related Enhancements
1. Identify/assess hazards		Broader hazard ID scope
2. Assess risk 		Less false+/-, very low LOD, enable quantitative analysis, support ORM model in draft DODI 6055.5, shorten collection-results loop, higher confidence
3. Develop controls Implement risk decisions		Informed decision-making, improved operational effectiveness
4. Implement controls 		Limit time in PPE/MOPP, limit decon burden
5. Supervise and Evaluate		More thorough health risk assessments



Interoperability and Joint Ops

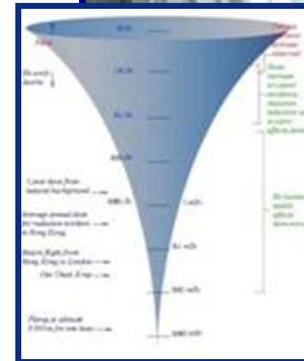
- **Sharing a common capability...**
 - Equipment
 - Training
 - Operator proficiency testing, equipment performance standard
 - Knowledge, doctrine
- **...while retaining our service specific capabilities and culture**
- **Improved interoperability enhances joint ops**





Way Ahead

- Optimize other equipment
- Drive standardization
 - Equipment
 - Training
 - Doctrine
 - Proficiency – PAT
 - Organizational
- More complete tox data
- Full-spectrum analysis
- Joint Preventive Medicine capability concept
 - Interoperable PM teams
 - Standardized equipment, training, capability





The Future

- **Joint PM team:**
 - **Analyzing real-time geo-spatial data streaming from Joint Personnel Dosimeters and Area Monitors, that collect operationally relevant CBRNE-P exposure data, which is tracked in the Joint Medical Information System, and backed up into the Joint Health Record.**



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Questions



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