



Joint Capabilities for Decontamination

**Joint Chemical, Biological, Decontamination &
Protection Conference**

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Joint Requirements Office for CBRN Defense

Directorate for Force Structure, Resources and Assessment (J-8), The Joint Staff



AGENDA

- **What the User Wants**
- **The Doctrine of Decontamination**
- **Threat Event**
- **Translating Wants to Requirements**
- **Assessment**
- **Re-thinking Decontamination**
- **Hazard reduction**



WHAT THE USER WANTS

- Clean every surface,
- of every chemical and biological warfare agent and toxic industrial chemical,
- in every conceivable environmental condition,
- without any damage to that surface,
- while being environmentally safe,
- with no effects on unprotected personnel,
- and in minimal time.

PRINCIPLES

- **Limited Area** - Decontaminate as far forward as possible
- **Speed** - Decontaminate as soon as possible
- **Need** - Decontaminate only what is necessary
- **Priority** - Decontaminate by priority

METHODS

- **Neutralization**- Most widely used and is the reaction of contaminating agent with other chemicals as far forward as possible
- **Physical Removal**- The relocation of contamination from one mission critical surface to a less important location
- **Weathering**- The contamination is exposed to sun, wind, heat, precipitation to dilute or destroy the contaminant

LEVELS

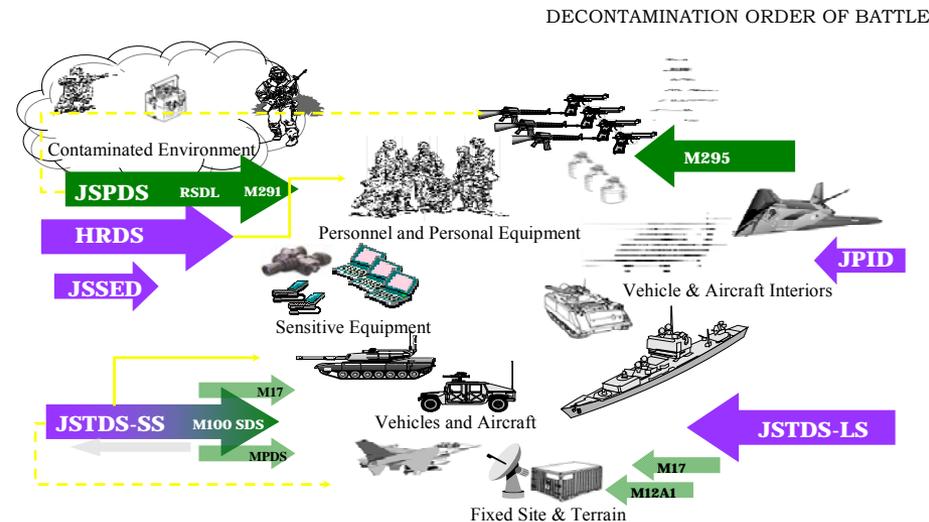
Immediate- minimizes casualties and limits the spread or transfer of contamination (recommended time after exposure 1-15 min)

Operational- The reduction of contamination for MOPP reduction and limits the spread of contamination (recommended time after exposure 1-6 hrs)

Thorough- The reduction of contamination for MOPP reduction/elimination to lowest detectable level (when time permits)

Clearance- Allows unrestricted transportation, maintenance, employment and disposal of previously contaminated items (when time permits HN and International MOUs)

ORDER OF BATTLE





THREAT EVENT

• Irregular

- Potential accidental or purposeful release of CBRN agents / materials in multiple geographical locations within the US and its territories
- Example: Most likely threat will come from terrorists (or criminal) actions

• Traditional?

- Potential CBRN threats to US Forces engaged in major combat operations or deployed in support of other missions
- Example: Adversary state-sponsored military actions against US Forces OCONUS

• Catastrophic

- Acquisition, possession, or employment of WMD (or WMD like effects) against high profile targets by terrorists, potential threat of exposure to Nuclear Electromagnetic pulse
- Example: WMD attack against symbolic, critical or other high-value targets with little or no warning

• Disruptive

- Potential terrorists actions intended to supplant U.S. advantages
- Example: Insider threat where a person with access intentionally disrupts operations through disruption of health and transportation networks

LIKELIHOOD

Higher

Higher

VULNERABILITY

Lower

Translating “USER WANTS” into Requirements



- **Example of Current requirements for program XXX**
 - **Contamination challenge (XXg/m²) of (XXXXXX) CWAS**
 - **Thorough Decontamination of multiple surfaces**
 - **Efficacy is < 0.0000XX Vapor and 0.000XX Contact**
 - **No premixing**
 - **Storage and Operational Environmental Conditions are -25°F to 160°F**
 - **Not exceed 500lbs**
 - **1 Person to operate/2 to carry/every Military Occupation Specialty**
 - **No degradation in Mission Essential Functions**
 - **30 minutes**



ASSESSMENT

- **The user can't have what he wants (right now or in the near future)**
- **Have we limited ourselves in how we have defined system attributes?**
- **There should be some “trade space”**
- **Apparent mismatch between future operating environment and doctrinal application of decontamination**
- **Focus on a task (decon) versus effect (hazard reduction)**

RE-THINKING DECONTAMINATION



- **Is the current doctrine still valid?**
 - **Linear battlefield**
 - **Current threat environment**
 - **What is the real purpose of Decon?**
- **If the user prioritizes the need, what is the benefit?**
 - **Hazard to personnel, Damage to Equipment, Select Agents, Select Surfaces, Select Environmental Conditions and Time.**



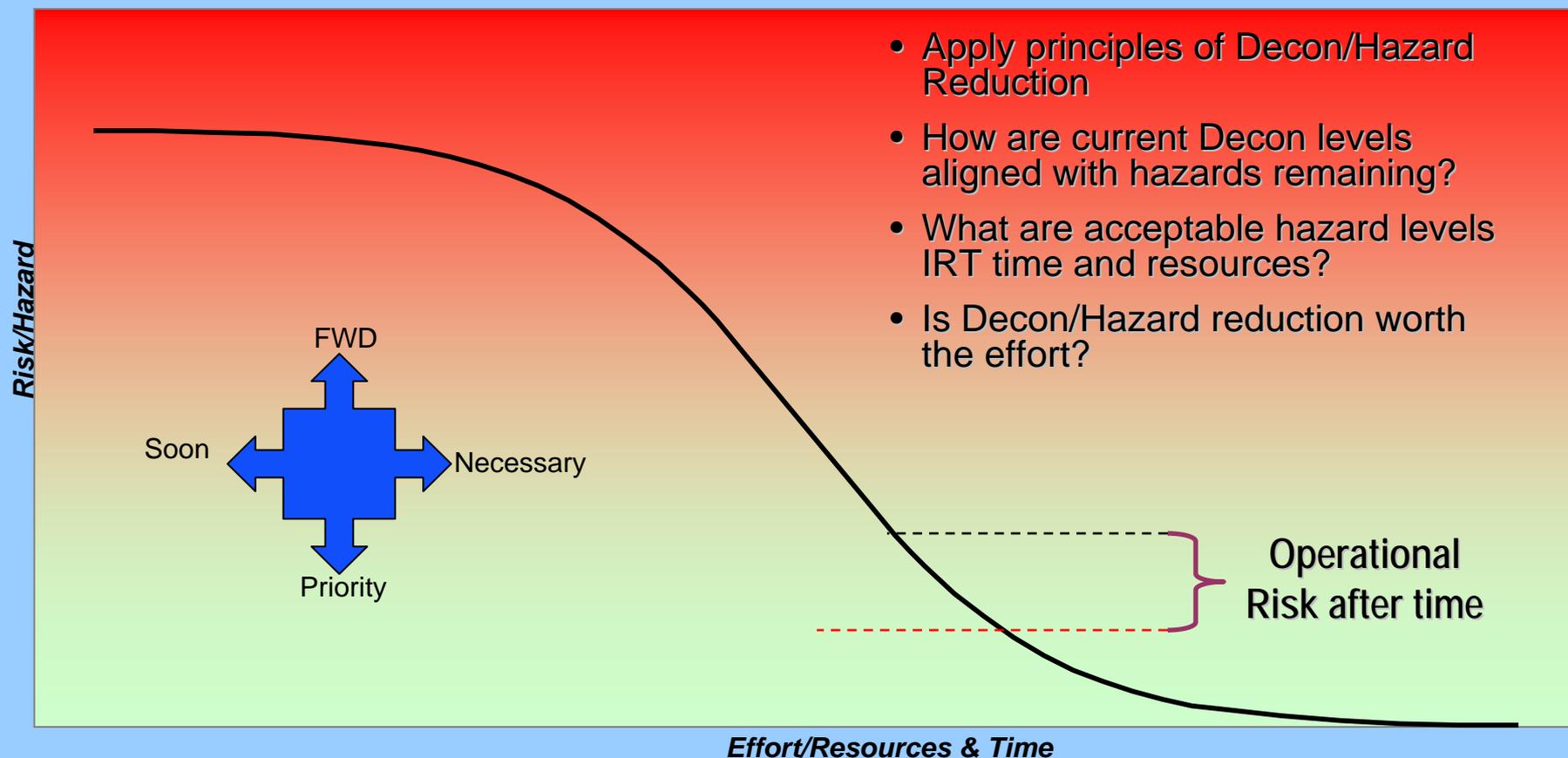
QUESTIONS TO ASK

- **Focus on neutralization only?**
- **Scale the solution to the problem?**
 - High demand low density items?
 - Focus on sensitive equipment and interiors?
- **What other “solutions” are available?**
 - Coatings
 - “Sense, Shield and Sustain” – combined technologies



HAZARD REDUCTION

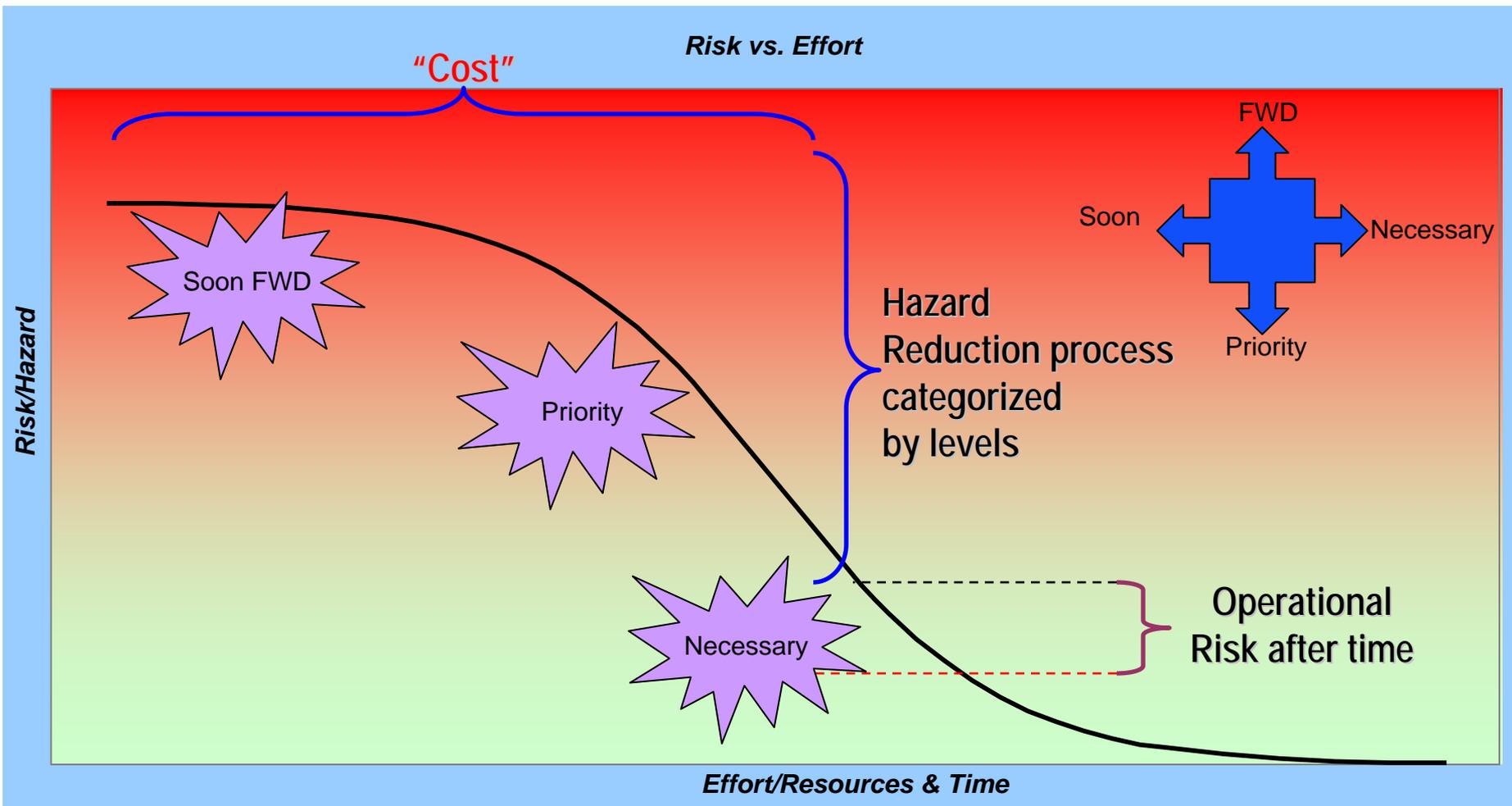
Risk vs. Effort



- Apply principles of Decon/Hazard Reduction
- How are current Decon levels aligned with hazards remaining?
- What are acceptable hazard levels IRT time and resources?
- Is Decon/Hazard reduction worth the effort?

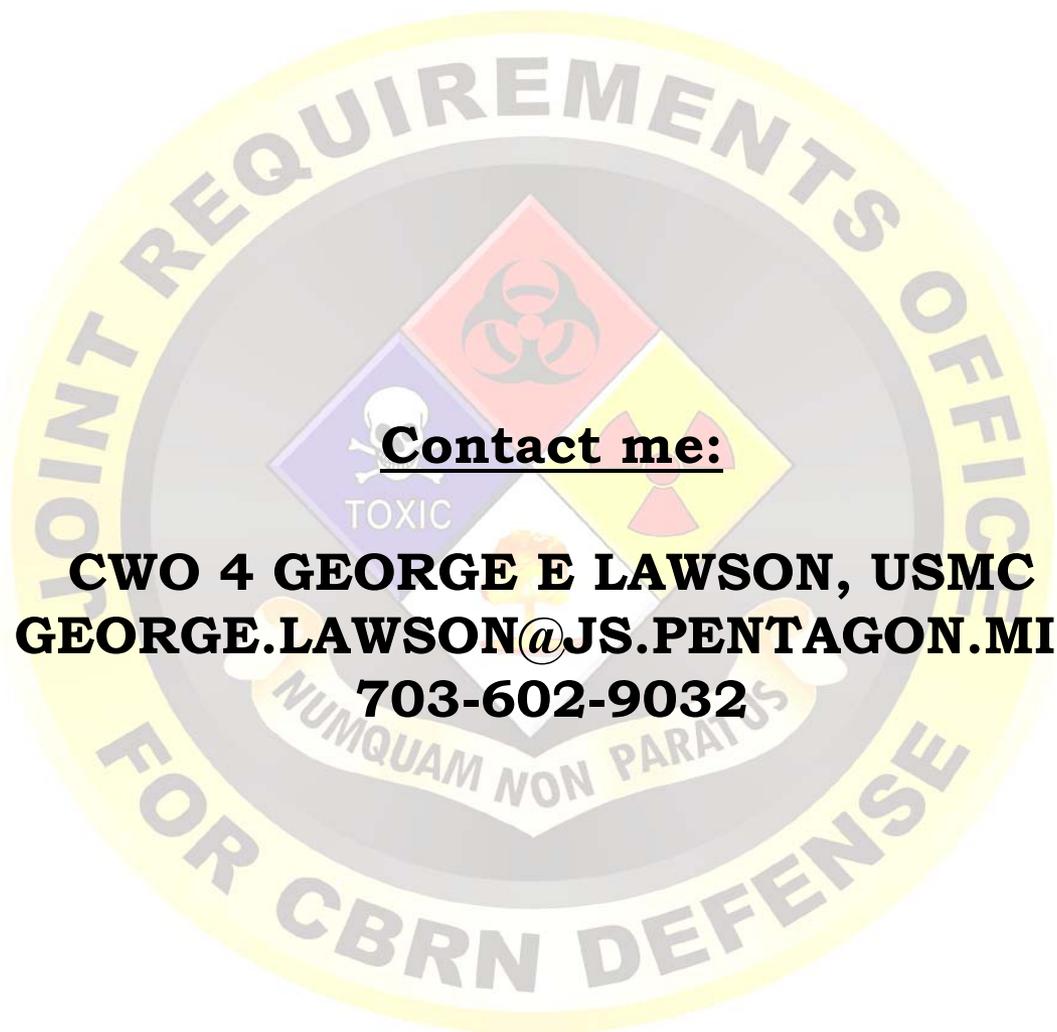


HAZARD REDUCTION





QUESTIONS?



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