TECWAR®

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TACTICAL ENVIRONMENTAL COMPONENTS - WATER ASSET RECOVERY

# Tactical Water Purification Systems

Military Field Applications

Potable Water for Disasters

Emergency Water Supply

NBC Decontamination

Capture, Contain, Treat and
Dispose of Decon Runoff On Site

# OBJECTIVES

- Consider the logistical and practical challenges that face federal, state and local agencies concerned with mass casualty decontamination, and subsequent decontamination runoff issues
- A quick look at current methods, mind sets and mistakes
- Explore alternatives and a new approach

# BACKGROUND

- Mass decontamination operations require water and subsequent handling and treatment of contaminated runoff
- Current mind set: EPA has stated, that, in accordance with liability in CERCLA, the run-off is not a primary concern????

# EPA First Responders Liability Guidelines Statement:

- "Once any imminent threats to human health and life are addressed, first responders should immediately take all reasonable efforts to contain the contamination and avoid or mitigate environmental consequences."
- "First responders would not be protected under CERCLA from intentional contamination such as washing hazardous materials down the storm-sewer during a response action as an alternative to costly and problematic disposal or in order to avoid extra effort."

**USEPA Chemical Safety Alert**
Office of Solid Waste and Emergency Response **EPA 550-F-00-009**
July 2000 www.epa.gov/ceppo/

# THE PROBLEM

- Current decontamination procedures do not address the safe, secure and economic handling of decontamination runoff.

- Lack of preparation and training potentially allows perpetrators the windfall of poisoned land, water and economic disruption. (scenario 1)

- Traditional mind set views saving human life and environmental protection as mutually exclusive concepts

# THE PROBLEM

**REALITY CHECK**

**MASS CASUALTY VICTIMS VS GALLONS**

**5000 casualties X 8 GPP = 40,000 gallons**

**20,000 casualties x 8 GPP = 160,000 gallons**

**35,000 casualties x 8 GPP = 280,000 gallons**

**100,000 casualties x 8 GPP = 800,000 gallons**

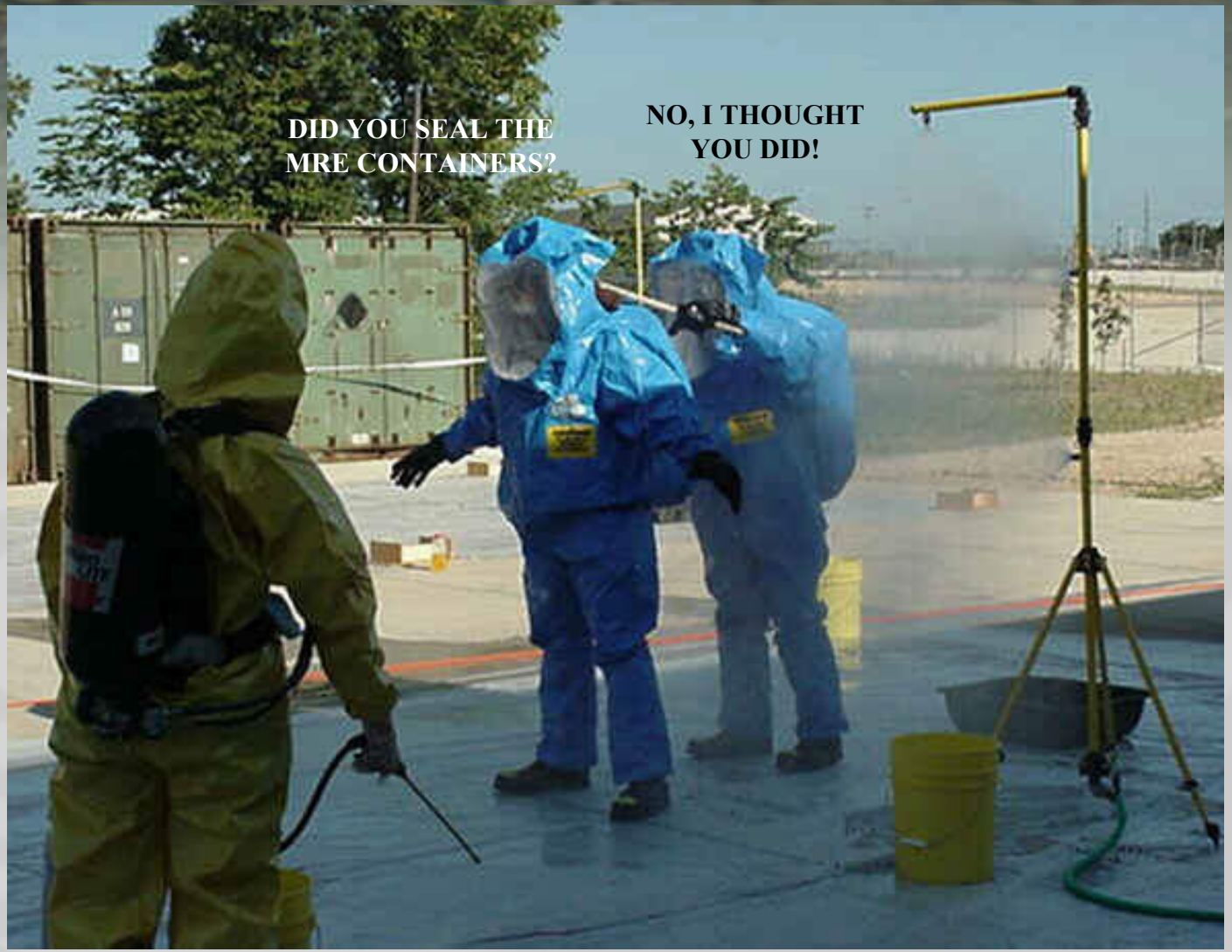
**Military Tanker Truck Capacity – 5000 gallons**

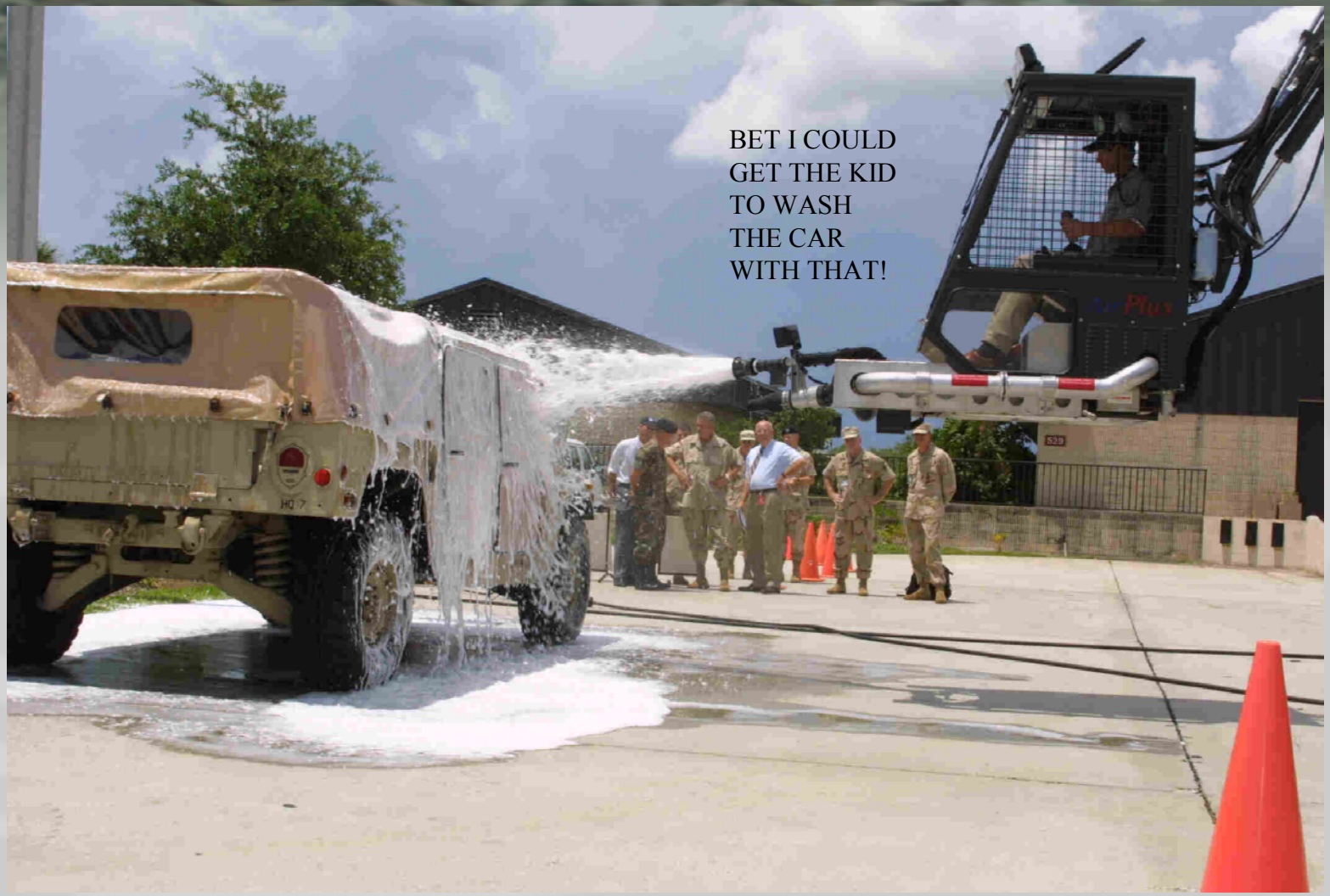
# Current Decon Runoff Options

1. **Raw Discharge** – unacceptable environmental impact

2. **Dilution** of contaminated runoff

3. **Haul Away** – potential spread of contamination outside the hot/warm zone – coordination logistics with mass casualty incident decon problematic


DID YOU SEAL THE MRE CONTAINERS?
NO, I THOUGHT YOU DID!


BET I COULD
GET THE KID
TO WASH
THE CAR
WITH THAT!

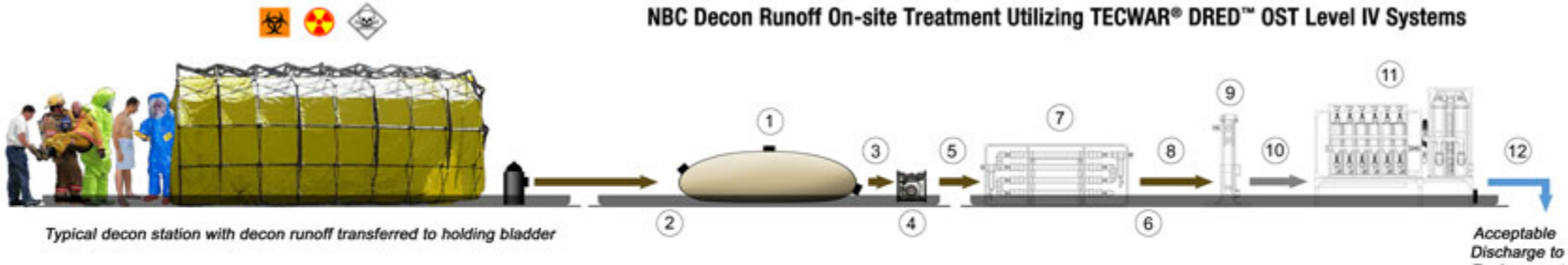

DECON SHOWER
DECON SHOWER
WHAT DO WE DO WHEN THE BAG'S FULL?
TELL THEM TO BE PATIENT, TANKER IS ON THE WAY

# RECOMMEND SOLUTION

1. **Capture, contain, treat and dispose on-site** – minimizes first responders liability, mitigates environmental impact, avoids risk of spreading contamination during transport and allows uninterrupted decontamination of victims

2. **Equipment Profile**
    1. Portable
    2. Modular
    3. Scalable
    4. User Friendly/Minimal Technical-Operational Training
    5. Disposable Components
    6. Adaptable to any Decontamination Corridor

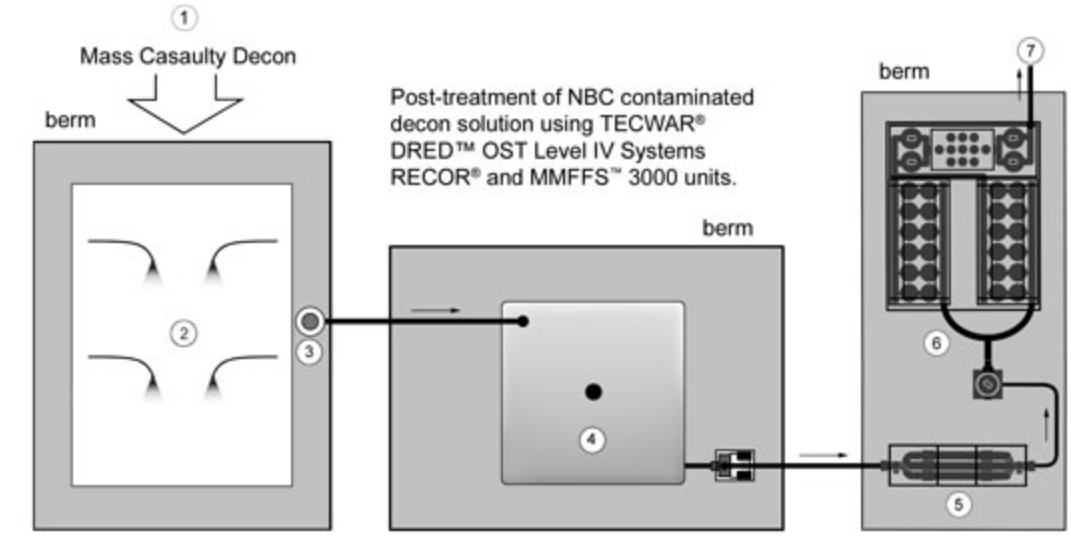
# Decontamination runoff treatment system components




*Typical decon station with decon runoff transferred to holding bladder*

1. 1K pillow tank with all fittings, vents and adaptors to accomadate ¾", 1", 2" feed hose
2. Berm for pillow tank
3. 10' section of 2" hose
4. Diesel powered 125 poly pump 2" inlet and outlet
5. 10' section of hose
6. Berm for DRED™ OST System
7. RECOR® Reticulated Electro-Catalytic Oxidation/Reduction Pak
8. 10' section of hose
9. Tri-Flo bag filter
10. 10' section of hose
11. MMFFS™ 3K Multi-Functional Modular Fluid Filtration System™
12. 30' section of hose

# Decontamination corridor footprint



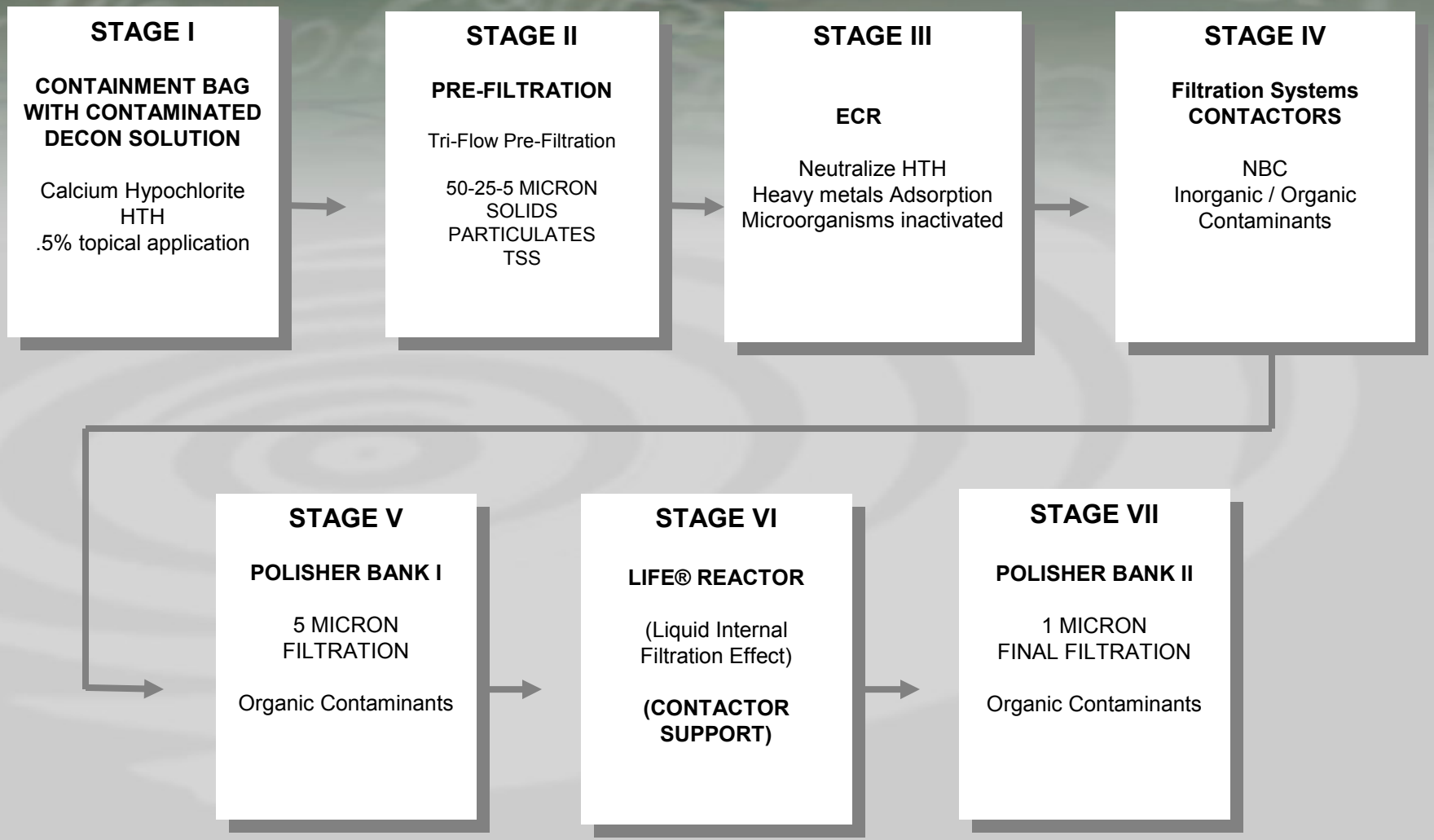

**Decon Corridor**

1. Hot zone
2. Decon station
3. Sump pump

**DRED™ OST Level IV System:**

4. Decon runoff holding bladder (1K, 3K, 10K or 25K)
5. RECOR® Reticulated Electro-Catalytic Oxidation/Reduction Pak
6. MMFFS™ 3000 or 2000 Multi-Functional Modular Fluid Filtration System™
7. Safe discharge to the environment

# Decon Runoff Treatment Process Flow



# Complete Decon Corridor

# Conclusion

- How prepared is the organization to respond to a strike scenario involving a mass casualty NBC incident and subsequent decontamination operation?
- An effective response requires a coordinated plan for first responders and support personnel that is based upon pre-positioned assets.
- Training strategy must include realistic mass casualty drills and environmental impact of response operations
- Budgets / Assets must include a disaster response plan addressing all of the above
- Procurement Strategy must be streamlined to support mass casualty incidents

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# Are we ready


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