

12 November 2004

**State of Connecticut**  
**Mass Decontamination**  
**Mobilization Plan**

**DRAFT**

12 November 2004

**Table of Contents**

	Page
Table of Contents	i
Introduction	1
Purpose	1
Situation and Assumptions	2
Planning Factors	3
Concept of Operations	4
Organization and Assignment of Responsibility	5
Administration and Logistics	6
Plan Development and Maintenance	7
Authorities and References	7
Glossary of Terms	8
List of Acronyms	10
Bibliography	12
List of Diagrams, Figures, Illustrations and Tables	13
Appendices	
Appendix A Mass Decon Trailer Deployment Process	A-1
Attachment 1 Trailer Deployment Request Form	A-3
Attachment 2 Trailer Tracking Form	A-4
Attachment 3 Trailer Contact Information	A-5
Appendix B Chemical, Biological, and Radiological Agent Background	B-1
Appendix C Decontamination Methods and Background	C-1
Decontamination Tent Illustrations	C-10
Appendix D Hospital Based Decontamination Outline and Process	D-1
Appendix E Rapid Triage for Chemically Exposed Patients	E-1

## STATE OF CONNECTICUT Mass Decontamination Mobilization Plan

### **Introduction**

The State of Connecticut is comprised of 171 individual municipalities, towns and tribal nations with a total population of approximately 3.5 million residents. Located within the State's boundaries are 32 acute health care facilities. Connecticut's location and infrastructure combine a unique mixture of communications nodes, transportation corridors, tourist attractions and maritime commerce; all of which would provide excellent targets for the types of damage and disruption sought by terrorist groups and/or individuals. Approximately two-thirds of the State's population resides in its coastal communities. The population number increases significantly during the summer months with an influx of tourists to Connecticut's southern shoreline areas. The area of southeastern Connecticut includes military bases, a nuclear power plant, major defense contractors, and a pharmaceutical manufacturing company. Thus, the southeast area has been identified as a zone that needs special security arrangements to protect against and prevent potential use of Weapons of Mass Destruction (WMD) and/or acts of terrorism.

The diversity of fixed and transient populations in the state require standardization of equipment, training and operations as it relates to state wide domestic preparedness. Should there be either an accidental or deliberate release of a chemical, biological or radiological substance within the State, there will be a need to decontaminate people both at the scene of the release and at the primary healthcare facilities. This document contains a mass decontamination concept of operations that enables interoperability of resources throughout the State of Connecticut. The State of Connecticut Mass Decontamination Mobilization Plan does not supersede any emergency action plan or decontamination procedures currently in place at healthcare facilities for the more detailed technical decontamination process that might be employed as a base line pre-incident process prior to a large scale event. Nor does this Plan supersede the more traditional decontamination process employed by any fire department when working at a Hazardous Materials (HazMat) scene to assure personnel safety and equipment decontamination.

### **Purpose**

Federal law enforcement and intelligence agencies warn of the extreme likelihood of terrorist events in the future having to deal with Weapons of Mass Destruction resulting in substantial loss of life and casualties. Of particular concern is the use of chemical, biological or radiological agents that would contaminate large numbers of individuals. The State of Connecticut Mass Decontamination Mobilization Plan provides information on available decontamination resources within the State as well as a process to bring those resources to bear. Although a wide variety of information related to decontamination is provided, the main focus of the Mass Decontamination Mobilization Plan is on the deployment of the 34 decontamination trailers located throughout the State.

## **Situation and Assumptions**

Connecticut is the transportation hub for Southern New England. The State is literally bisected from north to south by I-91 and from east to west by I-84. Mass public transportation assets are very vulnerable in Connecticut. The State has substantial numbers of passengers serviced by AMTRAK and the Metro North Train systems. In addition, Bradley International Airport has grown significantly in recent years in the number of passengers and the amount of cargo handled. A terrorist attack closing any interstate highway or the airport would have major economic consequences for the region at a minimum and possibly cause a large number of human casualties.

There is an acceptable response capability for hazardous material incidents statewide and in certain large communities. However, while efforts are being taken to improve protection from acts of terrorism, there is still a lack of specialized equipment to effectively detect, identify, and defend citizens from weaponized chemical and biological agents or intentional releases of toxic industrial materials.

The State's population, facilities, and infrastructure dynamics present countless opportunities for potential acts of WMD/terrorism. However, the possibility of a terrorist attack in Connecticut including one involving a chemical, biological or radiological weapon is considered to be low. There are no internationally recognized symbolic targets (e.g. the White House, the World Trade Center, or the Washington Monument) located in Connecticut. None of the State's cities rank in the nation's top 120 cities in terms of population.

Given the low probability of a terrorist attack occurring in the State, only general statements can be made regarding the relative risk of the State's individual municipalities to a terrorist attack. Generally speaking, larger concentrations of the types of facilities that might be targeted by terrorists (e.g. courts, government offices and buildings, abortion clinics, transportation facilities, sports facilities, special event venues) are found in the larger cities. Therefore, it is reasonable to assess the risk to larger cities (i.e. those with over 100,000 in population) as somewhat greater than the risk to small to mid-sized municipalities.

An exception to the larger cities equals greater risk statement is made in the case of Bradley International Airport, and in the case of the resorts/casinos operated by the Mashantucket Pequot and Mohegan Tribal governments located in southeastern Connecticut. These facilities are considered to be at greater risk of a terrorist attack, even though they are located within, or adjacent to, municipalities under 100,000 in population. These facilities are relatively high-visibility, 24x7x365 operations with a considerable amount of transient traffic during any given period of time. Similarly, the concentration of military bases, defense contractors, nuclear power plant, and a large pharmaceutical complex in Southeastern Connecticut requires special consideration even though the population in the surrounding area is less than 100,000.

Planning Factors

1. The all hazards approach to planning and implementing decontamination efforts has the greatest chance of providing a successful outcome when an event occurs.
2. A WMD/terrorist incident that causes mass casualties will require a response organized under the Incident Management System.
3. An intentional WMD release in all likelihood will occur without advanced warning.
4. An intentional WMD release/attack may not be initially recognized as a terrorist event. The first indications of an attack may be upon manifestation and recognition of the first medical symptoms hours to days later.
5. Physical control of the incident scene requires planning and advanced coordination by all first responders.
6. On scene care of persons exposed to chemical, biological or radiological materials as well as the protection of those who have not been exposed is critical. It is of the utmost importance to alert the healthcare system to these occurrences in a rapid and timely manner so that providers can implement procedures to effectively decontaminate exposed persons and limit contamination to others.
7. The basic concept in making gross mass decontamination work is repeated wash / rinse stages keeping the individuals moving to the next stage at the appropriate intervals.
8. Intentional WMD scenes may yield secondary devices meant to kill, or incapacitate, first responders. The scene should be searched for such devices as soon as practical. However, life saving operations should not be delayed. Instead, first responders should remain vigilant to the possibility of such devices.
9. As with any Mass Casualty Incident (MCI), the potential for substantial loss of life is significant and survival usually is dependent on resources availability. When victims exceed resource capacities, lives may need to be sacrificed for the good of the many.
10. Non-deliberate events can also create a need for Mass Decontamination procedures and equipment.
11. There are 34 mass decontamination trailers located throughout the State of Connecticut. Although owned and operated by State (4), local (28) and tribal (02) response entities, all decontamination trailers are available to respond upon request anywhere within the State.
12. Each of the 32 acute care hospitals has been provided mass decontamination systems that can be activated at or near their respective emergency room entrance.
13. Mass decontamination can be accomplished using one or more processes, independently or simultaneously. (See Appendix C)

## Concept of Operations

Detection and reporting of actual and perceived exposures requiring decontamination can be expected to occur in the following ways:

1. Reports to Public Safety Answering Point / Communications Centers of a real or a perceived release.
2. Discovery of a real or perceived release by emergency personnel arriving at an incident location
3. Real or perceived exposures on the part of individual(s) who choose to seek medical assistance at hospitals without the intervention of public safety agencies.

*If it is a suspected intentional release, or a forewarned event, the Incident/Unified Commander should request the proper notifications be made in accordance with the State of Connecticut Consequence Management Guide for Deliberately Caused Incidents Involving Chemical Agents, promulgated by the Office of Emergency Management.*

Experience has shown that there are more incidents with perceived exposures than actual incidents with exposures. However, delaying the activation of decontamination procedures until exposure confirmation could cause critical delays in system implementation. Once the determination has been made regarding the necessity of a mass decontamination operation, the Incident/Unified Commander must initiate a rapid access mass decontamination plan using available resources and practices. Within 30 minutes of plan activation, an affected area should have the capability of decontaminating 250 persons per hour.

Decontamination Trailers have the capacity of decontaminating approximately 100 – 120 individuals per hour. If the deployment of mass decontamination trailers is deemed part of the response solution, a request must be made for the appropriate number of decontamination trailers to be deployed to the scene. Deployment of additional trailers to the area hospitals most likely to be impacted by the arrival of contaminated individuals should also be considered.

An Incident/Unified Commander will notify his/her inherent dispatch center to activate the mass decontamination plan. The local dispatch center will notify the Statewide Decontamination Trailer Dispatch Center. Additionally, the local dispatch center will notify the Department of Environmental Protection dispatch center, the Regional CMED, local law enforcement and the Connecticut State Police Message Center. Contact numbers for Statewide Decontamination Dispatch Center, the Department of Environmental Protection and the Department of Public Safety dispatch centers can be found in Appendix A.

For the purposes of this plan, Tolland County Dispatch (TN) is the primary decontamination dispatch center. If TN is incapacitated, the secondary (and if necessary tertiary) Statewide Decontamination Dispatch Center will be contacted. The Colchester Regional Dispatch Center (KX) is the secondary decontamination dispatch center. The City of Groton Regional Communications Center (Groton Fire Alarm ) is the tertiary decontamination dispatch center.

12 November 2004

Once notified of the need for mass decontamination resources, TN will notify decontamination trailer providers to place their trailers in one of three categories: DECON ALERT, DECON STANDBY and DECON RESPOND.

DECON ALERT:

A situation where a report has been made to a responsible authority that an exposure may have taken place, but the number of exposures or the requirement for decontamination is unknown.

DECON STANDBY:

A situation where it has been determined that an event has occurred which will require the decontamination of persons prior to the provision of healthcare or release.

DECON REPSOND:

An order to move a decontamination trailer to the scene, a staging area or a hospital.

Contact information for the decontamination trailer providers can be found in Appendix A, Attachment 3. It is imperative that decontamination trailer providers keep TN informed as to the availability of the trailers at all times. If for any reason a trailer becomes unavailable (trailer maintenance, tow vehicle problem, personnel shortage, etc), the decontamination trailer provider must inform TN. TN will mark the trailer as "OUT OF SERVICE" until notified of its availability once the problem is corrected.

TN will use the Mass Decontamination Trailer Deployment Request Form to gather all pertinent information from the requesting Incident/Unified Commander. Decontamination Trailer Deployment Request Forms can be found in Appendix A, Attachment 1. Local dispatch centers should have the information needed to complete the request form readily available to provide to TN when the call is made. The local dispatch center is also responsible to notify TN when decontamination trailers complete the assigned mission and return to home base.

### **Organization and Assignments of Responsibility**

Incident/Unified Commanders are responsible for organizing the proper level of response to an event within his/her jurisdiction. Incident/Unified Commanders can call upon adjacent local, regional, State or even federal assets as the situation dictates. The protocol for requesting additional resources is well established through mutual aid agreements, regional response plans, statewide mobilization plans and beyond. It is the responsibility of the Incident/ Unified Commander to know of and understand how to request needed resources. Incident/Unified Commanders are responsible to initiate requests for the use of decontamination trailers under this Plan.

Local dispatch centers are responsible for knowing and understanding how to activate the State of Connecticut Mass Decontamination Mobilization Plan. Familiarization with the procedures, contact information and request forms is a bare minimum. Local dispatch centers are responsible to contact TN to request trailers. Local dispatch centers are also responsible to inform law enforcement (State and local), the Department of Environment Protection and the Regional CMED that the Plan has been activated.

12 November 2004

Regional CMEDs are responsible for knowing and understanding the elements of the Mass Decontamination Mobilization Plan. Upon notification of an event involving chemical, biological or radiological substances, the regional CMED will notify all hospitals within the area of the event and the activation of the decontamination plan.

Hospitals are responsible for having a mass decontamination plan. Hospitals are to insure that their staffs are assigned, trained to assemble and operate their portable decontamination systems. Hospitals are also responsible for knowing and understanding how to activate the Mass Decontamination Mobilization Plan through the local fire or police departments.

The State Office of Emergency Management (OEM) is responsible for maintaining the Connecticut Mass Decontamination Mobilization Plan. The Plan will be reviewed and updated annually or more frequently as needed.

TN is the focal point for the request, deployment and return of the decontamination trailers located in Connecticut (See Appendix A). TN will act as the control point for the movement of the decontamination trailers during activation of the Plan. TN will also track the status of each trailer to include but not be limited to maintenance, training and delivery issues. TN is responsible to keep the secondary and tertiary control centers updated on the status of the trailers.

The “owners” of the mass decontamination trailers are responsible to keep the trailers, the tow vehicles and all associated gear in good repair and ready to deploy. Deployment crews are to be assigned and properly trained on the operations of the trailers and the decontamination process. Owners are to keep TN informed of the status and the capability of delivering their respective trailer.

### **Administration and Logistics**

In order to reach and maintain a timely and sustained decontamination operation, the closest Decontamination Trailers shall be dispatched to the incident scene for use in the decontamination process. Additional Decontamination Trailers, as needed, shall be dispatched to the hospitals most likely impacted by the arrival of contaminated persons.

The overall number of trailers deployed is dependent on the number of persons contaminated and the type of contaminant. Factors to be considered when calculating how many Decontamination Trailers may be needed are:

1. Persistent contaminant requiring a longer “wash & rinse” time.
2. Providing quick access to individuals in need of decontamination.
3. Choke points at the entry and exit ways of the trailers.
4. Weather conditions.

With more trailers requested persons can have an extended wash and rinse time, or can be processed through trailers in tandem for multiple wash / rinse stages. Additionally, two to four trailers in tandem can be used for the expressed purpose of disrobement and drying/dressing after decontamination thereby greatly decreasing the congestion expected at the entry & exit ways of the trailers used for wet decontamination particularly during inclement weather.



Each decontamination trailer is also equipped with a tent which has decontamination capability either as part of the trailer operation, or a stand alone decontamination solution. The tent is available with a mixing valve that connects to either side of the trailer for water and soap solution supply. The tent can be attached to the rear entry doors or either of the side exit doors with a privacy curtain between the tent and the trailer. As a stand alone solution, the tent can be used for non-ambulatory victims on stretcher or in wheel chair, or as an additional decontamination line. The tent has two stations on each side, 1 rinse and 1 soap solution. The tent can be configured based on the incident.

Decontamination Trailers will be delivered by the “owner” of the trailer upon request. A request can be from an Incident/Unified Commander using a local mutual aid agreement. A request can be from TN in accordance with this Plan. Trailer providers are to insure that the trailers and tow vehicles are maintained in operating condition. Trailer providers are also to insure that crews are designated and trained to deliver and operate the decontamination trailers.

### **Plan Development and Maintenance**

The Connecticut Mass Decontamination Mobilization Plan was developed by the State Office of Emergency Management. The Plan is an adaptation of a regional decontamination mobilization plan developed by the Capitol Region Metropolitan Medical Response System. The Connecticut Fire Chiefs and Career Fire Chiefs Associations were major contributors to the Plan. The State Office of Emergency Management is responsible for maintaining the Connecticut Mass Decontamination Mobilization Plan.

### **Authorities and References**

Federal Environmental Protection Agency (EPA) Guidelines

National Institute of Standards & Technology, Special Publication 981

State of Connecticut General Statutes Title 28

State of Connecticut Fire Mobilization Plan

State of Connecticut Consequence Management Guide for Deliberately Caused Incidents Involving Chemical Agents

OSHA 29 CFR 1910.120

Connecticut Model Radiation Emergency Manual for Hospitals

## Glossary of Terms

### Biological agent

- Microorganisms or toxins from living organisms that have infectious or noninfectious properties that produce lethal or serious effects in plants and animals.

### Chemical agent

- Solids, liquids, or gasses that have chemical properties that produce lethal or serious effects in plants and animals. Common chemical agents fall into four categories:
  - Nerve agents: Substances that interfere with the central nervous system.
  - Blister agents: Substances that cause blistering of the skin.
  - Blood agents: Substances that injure a person by interfering with cell respiration.
  - Choking agents: Substances that cause physical injury to the lungs.

### Decontamination (DECON)

- The reduction or removal of a chemical, biological, or radiological material from the surface of a structure, area, object, or person.

### Hazardous Material (HazMat)

- Any substance or material that when involved in an accident and released in sufficient quantities, poses a risk to people's health, safety, and/or property. These substances and materials include explosives, radioactive materials, flammable liquids or solids, combustible liquids or solids, poisons, oxidizers, toxins, and corrosive materials.

### Incident Management System (IMS)

- A standardized management system designed for control and coordination of field emergency response operations under the direction of an Incident Commander through the allocation and utilization of resources within pre-defined functional and/or geographic areas. It is sometimes referred to as an Incident Command System (ICS).

### Mass Casualty Incident (MCI)

- Any single incident that causes emergency medical service providers to alter their normal pre-hospital patient care protocols in order to provide the most effective possible pre-hospital care.
- Any single incident with at least 6 casualties or some other threshold number of casualties established in the local mass casualty plan.

### Radiological Agent

- Any accidental or intentional release of radiation energy.
  - Alpha- radiation cannot penetrate the outer layer of skin.
  - Beta- radiation can penetrate the skin to a depth of a few centimeters.
  - Gamma- radiation can penetrate the entire thickness of a human body and represents a great hazard whether the material is either internal or external to the body.

### Terrorist Attack

- A violent act or an act dangerous to human life, property or the environment, in violation of the criminal laws of the United States or the State of Connecticut, to intimidate or coerce a government, the civilian population or any segment thereof, in furtherance of political or social objectives

12 November 2004

Weapon of Mass Destruction (WMD)

- Any explosive, incendiary, bomb, grenade or rocket having a propellant charge of more than four ounces; a missile having an explosive or incendiary charge of more than one-quarter ounce; a mine; or a device similar to the above.
- Poison gas.
- Any weapon involving a disease organism.
- Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life.

**List of Acronyms**

A.C.I.D.

- Assess/Activate
- Call
- Isolate
- Decontaminate

CMED-Centralized Medical Emergency Dispatch

CERCLA- Comprehensive Environmental Response, Compensation, and Liability Act (Super Fund)

CSP- Connecticut State Police

CTY- County

DECON- Decontamination

DEP- Department of Environmental Protection

DPS- Department of Public Safety

EM- Emergency Manager

EMS- Emergency Medical Services

EPA- Environmental Protection Agency

FC- Fire Chief

FFPE- Full Firefighter Protective Equipment

GPM- Gallons per Minute

HQ- Headquarters

HazMat- Hazardous Materials

HEPA- High Efficiency Particulate Air Filter

IC/UC- Incident/Unified Commander

ICALL/ITAC-International Calling/ International Tactical

IMS- Incident Management System

12 November 2004

JCAHO-Joint Commission on Accreditation of Healthcare Organizations

KX-Colchester Regional Dispatch Center

LE- Law Enforcement

LOC- Loss of Consciousness

MCI- Mass Casualty Incident

NST- National Standard Thread

OEM- Office of Emergency Management

PC- Police Chief

PH- Public Health

PPE- Personal Protective Equipment

PPV- Positive Pressure Ventilation

PSAP- Public Safety Answering Point

PSI- Pounds per Square Inch

SCBA- Self Contained Breathing Apparatus

TBSA-Total Burn Surface Area

TN- Tolland County Dispatch, aka Tolland County Regional Coordination Center, aka  
Tolland County Mutual Aid Fire Service, Inc.

WMD- Weapons of Mass Destruction

12 November 2004

**Bibliography**

Anchorage Fire Department Cold Weather Decontamination

California Bioterrorism Response Planning Guide

Capital Region Metropolitan Medical Response System Rapid Access Mass Decon Protocol

Connecticut Statewide Domestic Preparedness Strategy

**List of Diagrams, Figures, Illustrations and Tables**

<b><u>Name</u></b>	<b>Page</b>
Decontamination Trailer Notification Protocol (Figure A.1)	A-1
Mass Decontamination Trailer Contact Information (Table A.1)	A-5
CT Decontamination Trailer Locations (Figure A.2)	A-8
Nerve Agents (Table B.1)	B-1
Blister Agents / Vesicants (Table B.2)	B-1
Blood Agents (Table B.3)	B-2
Choking Agents (Table B.4)	B-2
Biological Agents (Table B.5)	B-3
Exposure Pathway/Source (Table B.6)	B-4
Radiation Sickness (Table B.7)	B-5
Possible Trailer Configuration (Figure C.1)	C-2
Decontamination Tent Illustrations (Figures C.II.1-14)	C-10
Decontamination Corridor (Figure C.III.1)	C-17
Apparatus Positioning (Figure C.III.2)	C-17
Wash Pattern (Figure C.III.3)	C-18
Establish Decontamination Path (Figure C.III.4)	C-18
Position Personnel (Figure C.III.5)	C-19
Levels of Protection (Table C.1)	C-22
Rapid Mass Decontamination Placards	C-26
Patient Triage (Diagram D.1)	D-4
PPE Hospital Setting (Table D.1)	D-5
Directions for Decon/Hospital (Diagram D.2)	D-6
Rapid Triage for Chemically Exposed Patients (Table E.1)	E-1

12 November 2004

**APPENDICES**

**FOR THE CONNECTICUT**

**MASS DECONTAMINATION**

**MOBILIZATION PLAN**



# Appendix A

## Mass Decontamination Trailer Deployment Process

### I. DECONTAMINATION TRAILER NOTIFICATION PROTOCOL

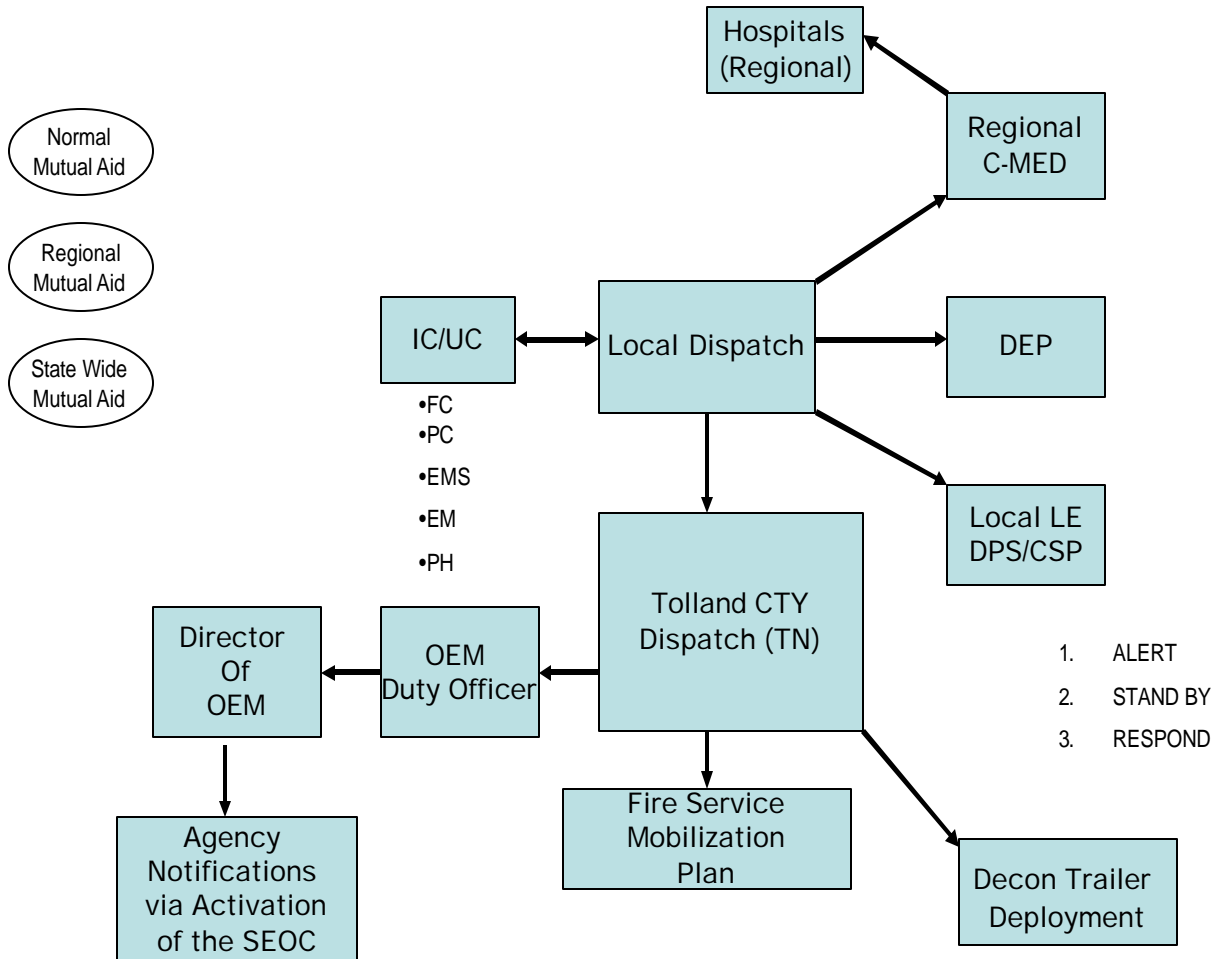


Figure A. 1

## Appendix A

### II. MASS DECONTAMINATION DEPLOYMENT REQUEST PROCEDURE

1. All requests for the mobilization of the Mass Decontamination Trailer system shall be made through the Statewide Decontamination Trailer Dispatch Center.

**Primary: Tolland County Dispatch (TN).**

Emergency Contact number: 860-872-7333

Routine Contact number: 860-875-2543

**Secondary: Colchester Regional Dispatch Center (KX)**

Emergency Contact number: 860-537-3411

Routine Contact number: 860-537-3414

**Tertiary: City of Groton Regional Communications: (Groton Fire Alarm)**

Emergency Contact number: 860-445-2497

Routine Contact number: 860-448-1562

2. Additionally local dispatch centers are to notify the Department of Environmental Protection (DEP) as well as local and Connecticut State Police (CSP).

DEP Dispatch number: 860-424-3333

CSP Dispatch Center: 800-843-0200

3. TN will use the Mass Decontamination Trailer Deployment Request Form to gather all pertinent information from the requesting agency. (Appendix A, Attachment 1)
4. The Decontamination Trailer locator map and contact list shall be used to determine the closest trailers to the incident to be deployed. The appropriate agencies will then be contacted for the purpose of dispatching the Decontamination Trailer(s) to the incident.
5. All pertinent information shall be transferred to the local dispatch centers by best possible media (phone, fax, radio, e-mail, etc).
6. The Tolland County Dispatch (TN) shall be kept informed as to the availability status of all Decontamination Trailers at all times. If for any reason a trailer becomes unavailable for deployment due local use or maintenance, TN will be contacted and the trailer shall be noted as "OUT OF SERVICE" for response. Upon return to service, Tolland County Dispatch will be advised of the status change.

**Appendix A Attachment 1.**

**MASS DECONTAMINATION TRAILER DEPLOYMENT  
REQUEST FORM**

**DRAFT**

**DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**1. REQUESTING AGENCY:** \_\_\_\_\_

**2. OFFICER IN CHARGE:** \_\_\_\_\_

**3. INCIDENT TYPE:** \_\_\_\_\_

**4. INCIDENT LOCATION:** \_\_\_\_\_

**5. INCIDENT TOWN/CITY:** \_\_\_\_\_

**6. REQUESTING DISPATCH CALL BACK NUMBER:** \_\_\_\_\_

**7. SCENE CALL BACK NUMBER:** \_\_\_\_\_

**8. NUMBER OF TRAILERS REQUESTED:** \_\_\_\_\_

**9. NUMBER OF TRAILERS TO SCENE:** \_\_\_\_\_

**10. NUMBER OF TRAILERS TO STAGING LOCATION:** \_\_\_\_\_

**11. STAGING LOCATIONS:** \_\_\_\_\_

**12. BEST ACCESS ROUTES:** \_\_\_\_\_

**13. COMMUNICATIONS:** \_\_\_\_\_

**ON SCENE CONTACT PERSON:** \_\_\_\_\_

**RADIO SYSTEM:** \_\_\_\_\_

**CELL PHONE:** \_\_\_\_\_

DRAFT

**Appendix A Attachment 2.**

**DECON TRAILERS TRACKING FORM**

**TO SCENE:**

**TRAILER NUMBER:      AGENCY:      CONTACT NUMBER:**

---

---

---

---

---

---

---

---

**TO STAGING:**

**TRAILER NUMBER:      AGENCY:      CONTACT NUMBER:**

---

---

---

---

---

---

---

---

**Appendix A Attachment 3.****MASS DECONTAMINATION TRAILER CONTACT INFORMATION**

TRAILER NUMBER	DEPARTMENT NAME	EMERGENCY CONTACT PHONE NUMBER	ROUTINE CONTACT PHONE NUMBER
1	WATERBURY FIRE DEPARTMENT	203-597-3400	203-597-3450 A 203-597-3453 T 203-597-3453 M
2	GREENWICH FIRE DEPARTMENT	203-622-7801 203-622-7802	203-622-3950 A 203-622-3951 T 203-869-1388 M
3	NEW LONDON FIRE DEPARTMENT	860-442-4444 860-442-2345	860-447-5291 A 860-447-5292 T 860-447-5292 M
4	STAMFORD FIRE RESCUE	203-977-5555	203-977-4673 A 203-977-4673 T 203-977-4668 M
5	DEPARTMENT OF ENVIRONMENTAL PROTECTION (OLD SAYBROOK)	MONDAY-FRIDAY 860-424-3338 AFTER HOURS 860-424-3333	860-424-3024 A 860-424-3377 T 860-424-3377 M
6	BRIDGEPORT FIRE DEPARTMENT	203-367-5351	203-576-7683 A 203-576-8059 T 203-576-7682 M
7	EAST HARTFORD FIRE DEPARTMENT	860-528-4171 ext. 515 860-528-4401 ext. 515	860-528-4171 A 860-528-4171 T 860-528-4171 M
8	NEW HAVEN FIRE DEPARTMENT	203-624-2123	203-946-6237 A 203-946-6215 T 203-946-6243 M
9	BRADLEY AIRPORT FIRE DEPARTMENT	TROOP W 860-292-7400	860-627-3367 A 860-627-3361 T 860-627-3361 M
10	UCONN HEALTH CENTER FIRE DEPARTMENT (FARMINGTON)	860-679-2525	860-679-3317 A 860-697-2393 T 860-679-3317 M

Table A.1

A= administrative  
T= training  
M= maintenance

TRAILER NUMBER	DEPARTMENT NAME	EMERGENCY CONTACT PHONE NUMBER	ROUTINE CONTACT PHONE NUMBER
11	MASHANTUCKET PEQUOT TRIBAL NATION FIRE DEPARTMENT (LEDYARD)	860-396-6662	860-396-6726 A 860-296-6724 T 860-396-6726 M
12	FAIRFIELD COUNTY HAZMAT (EASTON FD)	203-459-0159	203-341-5044 A 203-341-5044 T 203-341-5044 M
13	DANBURY FIRE DEPARTMENT	203-797-4616	203-796-1555 A 203-796-1550 T 203-796-1556 M
14	MOHEGAN TRIBAL NATIONS FIRE DEPARTMENT (MONTVILLE)	860-862-7460	860-862-6190 A 860-862-7327 T 860-862-7327 M
15	UNIVERSITY OF CONNECTICUT (STORRS)	860-486-3131	860-486-4925 A 860-496-4925 T 860-496-4925 M
16	TORRINGTON FIRE DEPARTMENT	860-489-2255	860-489-2255 A 860-489-2255 T 860-489-2349 M
17	WEST HARTFORD/ CRCOG REGIONAL HAZMAT	860-523-5263	860-570-3807 A 860-570-3807 T 860-883-1432 M
18	NORWALK FIRE DEPARTMENT	203-866-3311 203-866-3312	203-866-3313 A 203-866-3313 T 203-866-3313 M
19	NEW HAVEN AREA SPECIAL HAZARDS GUILFORD FD	203-453-8000	203-453-8056 A 914-674-5576 T 203-453-8056 M
20	CT EASTERN REGIONAL RESPONSE INTEGRATED TEAM (NORWICH FD)	860-886-5561	860-892-6080 A 860-572-7567 T 860-823-3794 M
21	NEW BRITAIN FIRE DEPARTMENT	860-826-3000 860-826-2660	860-826-2614 A 860-826-2645 T 860-826-2652 M
22	NORTHWEST REGIONAL HAZMAT (Water Witch Hose Co. NEW MILFORD)	860-355-3133	860-354-4023 A 860-354-4023 T 860-354-4023 M

Table A.1

A= administrative  
T= training  
M= maintenance

12 November 2004

Proposed (not in State until 01 Dec 04)

TRAILER NUMBER	DEPARTMENT NAME	EMERGENCY CONTACT PHONE NUMBER	ROUTINE CONTACT PHONE NUMBER
23	Storm Ambulance HazMat (Derby)	203-789-0123	203-410-6001 A 203-401-2735 T 203-710-9964 M
24	Northeast Connecticut HazMat (Tentatively Putnam Police Department)	860-928-6565	860-928-6565 A 860-377-6928 T 860-928-6565 M
25	Sharon Fire Department	860-567-3877	860-364-5584 A 860-364-5124 T 860-364-5487 M
26	Meriden Fire Department	203-630-5868	203-630-5868 A 203-630-5878 T 203-630-5827 M
27	Middletown Fire Department	860-347-2541	860-343-8026 A 860-343-8004 T 860-343-8004 M
28	Willimantic Fire Department	860-423-2525	860-465-3120 A 860-465-3124 T 860-465-3124 M
29	Vernon Fire Department	860-875-2573	860-871-8684 A T 860-875-8267 M
30	Milford Fire Department	203-878-5991	203-783-3750 A 203-783-3773 T 203-877-2220 M
31	Bristol Fire Department	860-583-4141	860-584-7964 A 860-584-7957 T 860-584-7964 M
32	Manchester Fire Department	860-533-8625	860-647-3275 A 860-647-3275 T 860-647-3249 M
33	Southington Fire Department	860-620-1518	860-621-3202 A 860-621-0495 T 860-628-4458 M
34	Stafford Fire Department	860-872-7333	860-684-5492 A 860-684-0675 T 860-684-3341 M

Table A.1

A= administrative  
T= training  
M= maintenance

DRAFT

# Connecticut Decontamination Trailer Locations

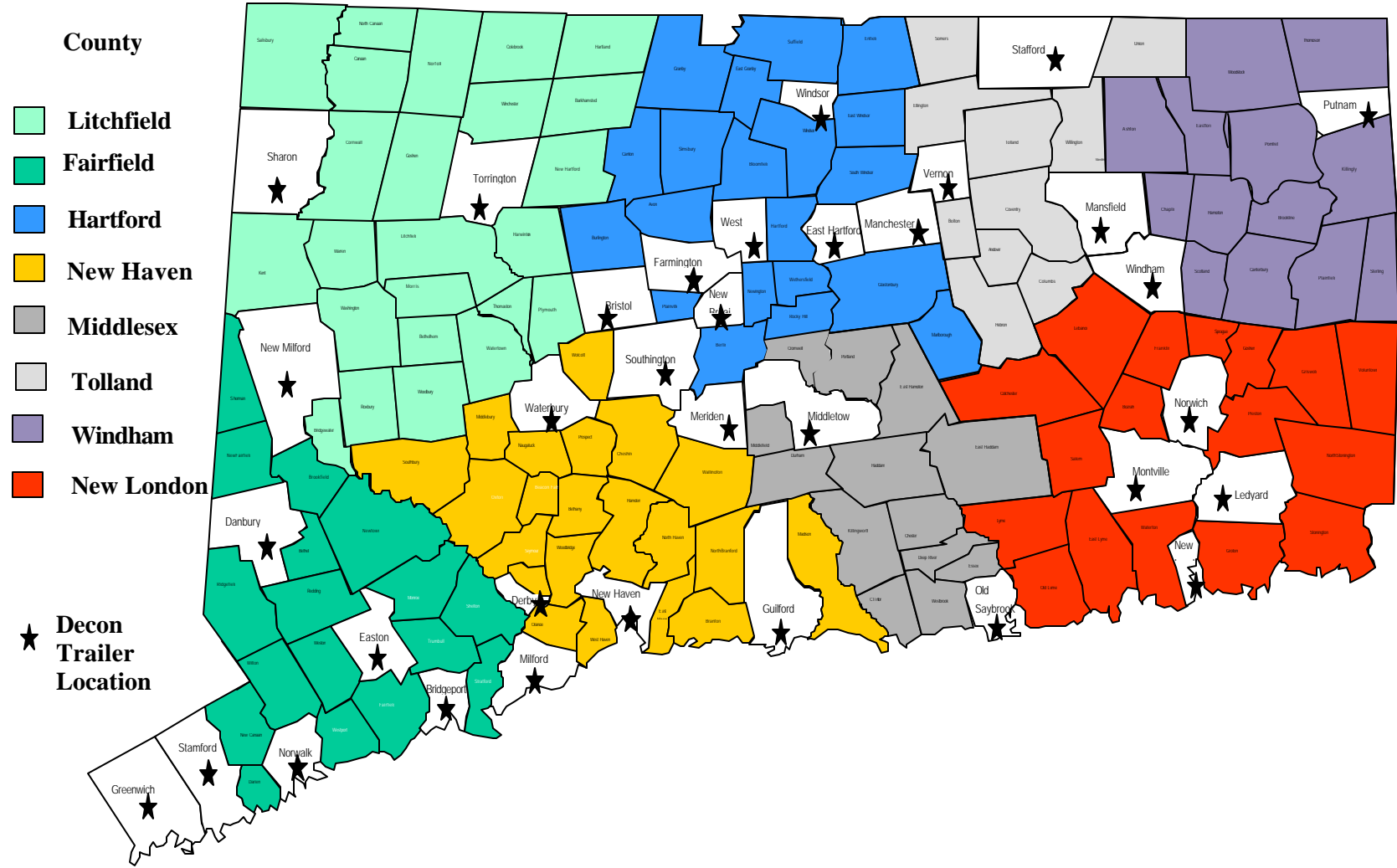


Figure A.2



**APPENDIX B****Chemical, Biological and Radiological Agent Background****I. Chemical Agents**

Common chemical agents fall into four categories: nerve agents, blister agents, blood agents, and choking agents. The dispersal of these agents can be by air, ingestion, or simple contact. The three most common routes of exposure are inhalation, skin/surface contact, and ocular. Although not always the case, it is common that release of chemical agents can be characterized by rapid symptom onset (minutes to hours) and may produce other environmental clues such as dead animals/insects, dead foliage, pungent odors and residues.

**Nerve Agents**

Common Name (Military)	Tabun (GA)	Sarin (GB)	Soman (GD)	VX
Volatility / Persistency	Semi – persistent			Persistent
Rate of Action	Rapid			
Route of Entry	Respiratory and skin			
Odor	Fruity		Camphor	Sulfur
Signs/Symptoms	Headache, runny nose, salivation, pin-point pupils, difficulty in breathing Tightness in chest, seizures/convulsions			
Self-protection	Respiratory and skin			
First Aid	Remove from contaminated area, treat symptoms – Atropine / 2 Pam Chloride			
Human Decontamination	Remove agent from skin If time and resources permit flush with warm water soap, if not copious amounts of water			

Table B.1

**Blister Agents / Vesicants**

Common Name (Military)	Mustard (H)	Lewisite (L)	Phosgene Oxime (CX)
Volatility / Persistency	Persistent		
Rate of Action	Delayed	Rapid	
Route of Entry	Skin, inhalation, eyes		
Odor	Garlic	Geraniums	Irritating
Signs / Symptoms	Red, burning skin, blisters, sore throat, dry cough. Pulmonary edema, memory loss, seizures, coma. Some symptoms may be delayed up to 24 hours.		
Self-Protection	Respiratory and skin		
First Aid	Copious amounts of water, removal of clothing, airway maintenance, treat symptoms		
Decontamination	Removal of agent from skin, flushing with warm water and soap, or copious amounts of water.		

Table B.2

**Blood Agents**

Common Name (Military)	Hydrogen Cyanide (AC)	Cyanogen Chloride (CK)	Arsine (SA)
Volatility / Persistency	Non – persistent		
Rate of Action	Rapid		
Route of Entry	Inhalation, skin and eyes		
Odor	Burnt almonds or peach kernels	Garlic	
Signs / Symptoms	Cherry red skin/lips, rapid breathing, dizziness, nausea/vomiting, seizures, pulmonary edema, respiratory arrest, dilated pupils, salivation		
Self – Protection	Respiratory and skin		
First Aid	Remove from contaminated area, administer cyanide kit, support ventilations, treat symptoms		
Decontamination	Remove clothing, remove contaminate from skin, flush with copious water, aerate.		

Table B.3

**Choking Agents**

Common Name (Military)	Chlorine (CL)	Phosgene (CG)	Diphosgene (DP)
Volatility / Persistency	Non – persistent Vapors may be sustained in low areas		
Rate of Action	Rapid in higher concentrations Up to 3 hours in lower concentrations		
Rate of Entry	Respiratory and skin		
Odor	Bleach	Newly mown lawn	Cut grass or green corn
Signs / Symptoms	Eye and throat irritation, dizziness, chest tightness, headache, nausea, pulmonary edema, painful cough		
First Aid	Remove from contaminated area, remove clothing, assist ventilations		
Decontamination	Flush with copious amounts of water, aerate		

Table B.4

**Non-persistent agent, dissipates in minutes to hours**  
**Semi-persistent agent, dissipates in less than 12 hours**  
**Persistent agent, dissipates over time greater than 12 hours**

**APPENDIX B****II. Biological Agents**

Biological agents, like chemical agents, can be dispersed in air, ingested, or spread through surface contact. Detection of a biological agent may not come about until days after the exposure when the first medical symptoms might be manifested. The first indications to a release of a biological agent may be from a rise in the sick & dying within a community, animals as well as humans. Without some type of forewarning first responders most likely will have already been exposed also. Given the incubation periods and associated lack of timely exposure detection patient decontamination in most cases is not necessary. Exceptions may be announced releases, or early detection, with residual gross contamination.

<b>Agent</b>	<b>Dissemination</b>	<b>Transmission (person to person)</b>	<b>Incubation</b>	<b>Lethality</b>
Anthrax	Aerosolized spores	No Exception – Cutaneous	1 – 5 days	High
Botulinum Toxin	Ingestion & aerosol	No	Hours to days	High
Ricin	Ingestion & aerosol	No	Hours to days	High
Plague	Aerosol	High	1 – 3 days	High if untreated
Ebola	Aerosol & contact	Moderate	4 – 16 days	Moderate to high
T-2 Mycotoxins	Ingestion & aerosol	No	2 – 4 days	Moderate
Tularemia	Aerosol	No	1 -10 days	Moderate if untreated
Cholera	Ingestion & aerosol	Rare	12 hours – 6 days	Low if treated
Smallpox	Aerosol	High	10-12 days	Low if treated
VEE	Aerosol & infected organisms	Low	1 – 6 days	Low
Q Fever	Ingestion & aerosol	Rare	2 – 3 weeks	Very Low
Staphylococcal Enterotoxin	Ingestion & aerosol	No	Hours	Very Low

Table B.5

**APPENDIX B****III. Radiation Concerns**

Nuclear accidents, terrorist attacks using nuclear devices, or a radiation dispersal device (dirty bomb) pose a threat with the release of ionized radiation. The threats are exposure in nature and are resultant from alpha & beta particles, gamma rays and neutrons. The ability to detect a radiological release is a must for all first responders. Time, distance, and shielding have always been the best methods to guard oneself against the exposure to the radiological threat. (For further information refer to Connecticut Model Radiation Emergency Manual for Hospitals.)

Alpha particles can be stopped easily by a sheet of paper, but they can cause damage if exposed for too long, too close, with no shielding. The greatest danger from Alpha particles is usually a result of ingestion, inhalation, or penetration through openings in the skin.

Beta particles penetrate deeper and move faster than Alpha particles. If able to penetrate a few layers of clothing, Beta particles can cause injury to the skin and some radiation damage. As with Alpha particles, the greater threat is through ingestion, inhalation, or penetrations through openings in the skin. The external threat from Beta radiation is to the skin & eyes.

The layers of shielding, provided by a fire fighter's standard structural Personal Protective Equipment (PPE), or turn out gear, is considered adequate protection from both Alpha & Beta nuclear radiological hazards.

Gamma rays can easily penetrate and pass through the human body, being absorbed by tissues as it passes through the body. Without proper shielding (lead or several feet of concrete), Gamma rays pose a serious health hazard due to the effects of the radiation to internal organs and radiation sickness.

<b>Exposure Pathway</b>	<b>Exposure Source</b>
External exposure	Ionizing radiation from WMD detonation Exposure to detonation plume Exposure to plume fallout Surface contamination & activated by products Personal contamination to skin, hair, clothing, etc.
Internal exposure penetration / contamination	Inhalation of plume Inhalation or ingestion of personal contamination Inhalation of air suspended contamination Absorption of contamination through skin Ingestion of contaminated food

Table B.6
-----------

12 November 2004

**Radiation Sickness**

<b>Mild</b>	<b>Moderate</b>	<b>Severe</b>
Nausea, fatigue, headache, no appetite. Usually within a few hours after exposure	Nausea, no appetite, reddening of skin, fatigue, depression, weakness. Usually within 2-3 hours of exposure, symptoms may improve and then return, possible delays in healing of wounds	Nausea, fatigue, no appetite, depression, weakness, recurrence of symptoms. 1 – 2 weeks; fever, diarrhea, ulceration of mouth & gums, bleeding, hair loss, vascular collapse hypotension, death

Table B.7

# Appendix C

## Decontamination Methods and Background

### I. Decontamination Basics

Within a mass decontamination process, there are distinct scenarios that could come into play:

1. Initial Emergency Decon at the site – *Crowd Decontamination*.
2. A more formalized Decon process at the site – *Multi Corridor Decontamination*.
3. Decontamination at the regional hospitals/ Health Care Facilities – *Can be a combination of both crowd and corridor decontamination*.

#### *Dry vs. Wet Decontamination*

The simple act of disrobement with a good washing of the hands and face can resolve a majority of the concern as it relates to ambulatory persons with no symptoms. This process vs. a gross wet decontamination should not be discounted as a viable option given “agent” specificity and dealing with large numbers of the “worried well”.

Unless science dictates otherwise, a 2 to 4 stage process of repeated wash/rinse is the preferred process for wet decontamination of persons under this plan.

Defining the levels of decontamination that would be needed should take into account:

1. The physical state of the contaminant. Solids & liquids require a more aggressive decontamination approach. Gases or vapors will usually have a minimal residual contaminant effect.
2. Is the agent water soluble? If the agent is water soluble, then simple flushing or wash/rinse is very effective. If the material is non-water soluble, or not as easily removed by water, then some form of emulsification is required.
3. Vapor Pressure. If the vapor pressure is high enough and quickly evaporates then its persistency is minimal vs. a lower vapor density of an agent which can remain as a contaminant for days.

#### **Scene/Event Site Decontamination**

Decontamination at, or near the initial incident site, is the preferred method of operation; **the quicker the decontamination process starts, the better**. This would not preclude establishing decontamination stations set up around the community given the contaminant and dispersal method of such contaminants. On site initial decontamination of large crowds is easiest established by Fire Department first responders.

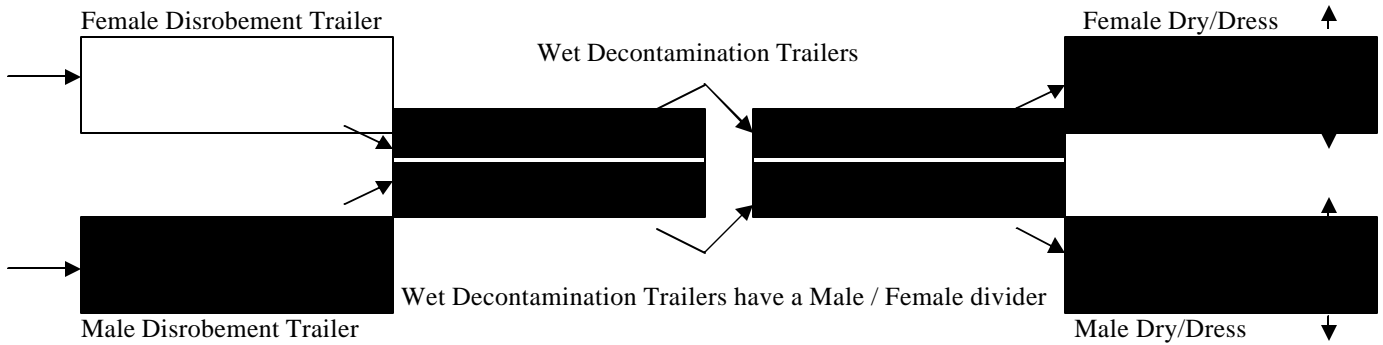
1. Establish decontamination zones uphill and upwind from event site
2. Deployment of multiple hand lines or staging of apparatus curbside to curbside, with nozzles attached directly to outlets to form side to side showers.
3. In lieu of using decontamination trailers, position ladder or truck to form top down shower.
4. Establish containment area for waste water. (resource dependent)

12 November 2004

The first stage would be a generalized hosing/wetting of a corralled crowd as they pass through in a line toward either the second stage or a multi corridor process, e.g. decontamination trailer, or makeshift fire department corridor. Disrobement is vitally important to the overall success of the operation when dealing with persons who have been contaminated with a persistent liquid. However complete disrobement may not be essential. Weather conditions and modesty concerns are secondary when the need to decontaminate persons exists but decontamination should not be delayed if individuals refuse to disrobe. Outer clothing layers obviously carry the most contaminate especially if the contaminate is a dry substance or gas.

Rapid deployment of the standardized multi-corridor decontamination trailers is instrumental to obtaining goals of decontamination under somewhat of a controlled environment for weather & modesty concerns. The decontamination trailers will supply a definitive decontamination process for females, males, and the non-ambulatory individuals simultaneously. The trailers can be established at or near the incident site, or at strategically located decontamination stations in a community or region.

*Possible Decontamination Trailer configuration for above scenario.*



*With the Male/Female divider in place one trailer can be used in each case for disrobement & dressing. Additionally MASS Transit Buses, or tents can be employed for personal disrobement, and dressing areas. Buses can be configured perpendicular to decontamination trailers, and tents can be set up at entry and exit ways.*

Figure C.1

## Appendix C

### II. Decontamination Trailer and Tent Operation

#### Trailer Towing Preparation:

1. Retract antenna tower, secure trolley lock pin and hold down cable.
2. Remove antenna and store in front compartment.
3. Assure all doors are secure
4. Fold & secure all stairs.
5. Secure stair grab rails.
6. Stabilizing jacks should be retracted, and secured.
7. Disconnect shore power cable.

#### Trailer Towing:

1. Tow vehicle must have 3" pintle hook with 15,000 lb rating.
2. Tow vehicle should have electric break controller.
3. Tow vehicle must have bargeman type 7-way trailer lighting & brake control connection.
4. Connect safety chains, and emergency runaway brake cable to tow vehicle.
5. Lower trailer onto pintle hook and fully retract trailer tongue jack; 1 1/8" wrench in on-board tool box to adjust pintle eye plate if necessary.
6. Towing speed should not exceed 55-60 miles per hours.

#### Trailer Emergency Lighting

1. Run generator (see Generator Operations) while trailer is in tow. Activate emergency lighting via master control panel.
2. Generator will maintain trailer batteries during transit.

#### Trailer Leveling for Operation

1. Locate the trailer on as level ground as possible, leveling left to right, using the front tongue jack for front to back leveling.
2. DO NOT USE THE 4 CORNER STABILIZERS / JACKS FOR LEVELING. These stabilizers are used to minimize rocking motion in the trailer during operations.
3. Deploy the corner stabilizers until contact is made with the ground and then snug each down.

#### Trailer Rear and Side Stair Set-up

1. Remove safety locking pins from side grab rails, swing out 90°, reinsert locking pin.
2. Remove side stair safety locking arms; slide out side stairs until slide stops, fold down bottom step, fold up top step; pull top extension step out dropping into step channel, slide stairs to adjust.
3. Remove rear stair safety locking pins; fold down stairs.



### **Trailer Generator Operations**

1. Manual power transfer switch panel located on front of trailer should be in the OFF (center) position.
2. Inside trailer - Master Control Panel – depress and hold generator preheat switch for 30 seconds (down position), release switch. (switch is a combined preheat and generator start toggle)
3. Press generator start switch upward until generator starts and runs smoothly, release toggle switch.
4. To engage power to trailer move power transfer switch to GENERATOR (down) position.
5. Lights may now be activated via the Master Control Panel inside the trailer.
6. If generator does not start check Main controller on front of generator (should be in up position). Check the breakers on Main controller on front of the generator (up position). Check 100a main fuse on controller box.
7. Red covered 120v receptacle marked “Battery Charger” provides power for charging when plugged into a 120v power source. This also powers radio equipment w/o the generator or shore power.

### **Water Supply to Trailer:**

1. Close all drains and shower control valves before connecting water supply.
2. Verify the two main boiler feed valves are in the OPEN position (located near floor in front of each boiler; labeled Water Heater Isolation valve).
3. Connect water supply to 1 ½” National Standard Thread (NST) inlet on right front corner – 100 pounds per square inch (psi).
4. A minimum of 20 Gallons per Minute (GPM) at 80-120 psi is needed for optimal shower performance. A 1 ½” to garden hose adapter is available.
5. OPEN main 1 ½” water supply valve slowly to fill plumbing.
6. When piping and boiler are filled, bleed air from lines by opening each interior corridor shower control valve until a steady flow of water is observed. If anti-freeze is present in system, flush for 2 minutes from each discharge point prior to decon operations.
7. If operating from a hydrant, flush hydrant before connecting to trailer’s water inlet valve.
8. If flow appears low, check water inlet strainer for debris, strainer is located in boiler compartment area.

### **Trailer Boiler Operation:**

1. OPEN the two interior corridor fresh water shower valves to establish flow.
2. Never attempt to run boilers without water supply in place and flowing.
3. Turn power switches located on front of the boilers to the ON position; each will start and cycles through a self-test. When complete boiler should fire and start to heat water; flow water for at least 2 minutes to permit temperature to stabilize to 87°. The reading appears on the boiler control box display
4. Do not attempt to re-adjust boiler temperatures.
5. Boilers will cycle as required by temperature.
6. Boilers should operate in well ventilated location.

**Trailer Soap Solution Eductor Pump Operation:**

1. OPEN the two interior corridor valves marked "Solution" to start flow of water to the eductor pump and shower control valves; eductor range is 1/2 % to 3%.
2. Place eductor pickup tube hose in 5 gallon pail of mild PH balanced soap solution (PH should match ocular PH of 7.2). For most operations a 3% soap solution will yield more effective decontamination.
3. Ready to commence Decontamination Operations.

**Trailer Waste Water Containment / Discharge Pump**

1. Trailer has a 200 gallon Gray water containment tank & discharge pump; gray water drains from trailer into tank during operations.
2. Attach 1 1/2" hose to 1 1/2" pump discharge outlet on right rear of trailer; discharge pump switch shall be in the AUTO position during operations and in the OFF position when not in use, (discharge pump may have to be primed using primer valve).
3. Hose can be run 100-150' to larger Gray water containment vessel, commercial pump truck, or sanitary sewer. DO NOT DELAY Decontamination of persons to assure waste water containment, (when sufficient resources are present this should be addressed).
4. Upon termination of decon operations, empty gray water tank and OPEN low point tank drain & discharge pump primer drain. During cold weather be sure to drain all water from system.

**Trailer Awning and Side Curtain Setup**

1. Remove awning pull down tool from generator compartment and release canopy lock (right end of awning drum).
2. Release lever lock on the awning legs (midpoint) and loosen thumbnut on back side of legs.
3. Lift awning legs straight up to remove legs from hanger bracket at top (3"-4").
4. With bottom feet of awning legs connected to trailer mounts, pull awning completely out using nylon strap in the middle of awning. Center groove of awning drum should end up facing the ground. Slip nylon awning strap out of groove and store.
5. With the awning legs still connected to trailer, slide the support arms to the end of slide track; arms will lock into end of brackets, tighten thumbnut on side of support arms.
6. Slide beaded edge of side curtain into groove of awning drum, color coded patches should face outside of the curtain area with patches on the top.
7. Remove awning legs from their mounts and place under awning drum, raise legs and lock into 4<sup>th</sup> hole from the top.
8. Match front & rear curtains to color coded markings of the side curtain. Front and rear curtains go over awning support arms. Connect top curtains Velcro connection to the Velcro connection on top of the awning first. Connect side Velcro connection of the end curtains to the side Velcro connections (awning support legs should be on the inside of the curtain).
9. Connect curtain holder straps from the end of the curtains to the strap loops attached to the side of the trailer body.

**Trailer Cold Weather Operations & Winterizing:**

1. OPEN all drain, supply & control valves to allow air to enter the system and gravity drain. Also, lift the lever on both boiler Pressure Relief Valves to allow air to enter system.
2. Open the four 3-way valves on the front of each boiler half way. This allows water to drain in both directions.
3. Manually run the gray water discharge pump until all water is removed from the holding tank. Open the low point drain valve on the bottom of the tank and low point discharge pump drain.
4. Once all visible water has drained, connect airline blow down adapter to the 1 ½" inlet connection, close intake valve and attach airline to air supply. Open air supply and supply no more than 100 psi into the inlet.
5. Close all drain distribution and control valves. Now open the 1 ½" water inlet valve and fill with air. Starting in the boiler compartment re-open each valve, one at a time, allowing air to evacuate all remaining water.
6. Repeat procedure for each valve location until all water is drained.
7. Remove eductor pickup tube hose from bottom of pump to allow drainage. Loosen the ribbon-coupling ring on the body of the eductor pump and remove the lower portion of the body draining all trapped water.
8. Carefully reassemble the two halves making sure the piston is carefully inserted into each half of the pump, verifying the O-ring is seated.
9. Connect trailer maintenance shore power to maintain battery conditioning.
10. **Special Note:** Antifreeze systems shall be activated to reduce freezing in pipes during cold weather following system instructions.

**Decon Trailer ICALL/ITAC Operations:**

1. Secure antenna (stored in front compartment) to tower.
2. Remove trolley lock pin and hold down cable; slide tower towards front of trailer until pivot point is reached, lift tower to vertical position, secure tower to front of trailer with tower brackets.
3. Attach both antenna cables to connections in antenna junction box located on front of trailer.
4. Attach 12v winch power cable from front of trailer to winch; attach winch controller to winch raise tower.
5. Install grounding rod as needed.
6. Turn on radios & repeater. Antenna cable must be connected before radios are activated.
7. UNDER NO CONDITIONS SHALL THE ON BOARD RADIOS BE USED WITHOUT THE ANTENNA MOUNTED ON THE MAST IN THE VERTICAL POSITION AND BOTH CONNECTIONS ATTACHED IN THE COAX BOX.
8. Follow Department of Public Safety (DPS) procedures for activating ICALL/ITAC system.
9. Upon termination of operations and retraction of tower RELEASE tower safety lock by pulling on rope and holding down until tower is retracted.
10. Position tower back onto top of trailer, securing with trolley lock pin and hold cable, remove and store antenna.

**Trailer Special Information:**

1. 50 gallon diesel fuel supply tank will permit 8 – 12 hours of continuous operations of generator and boilers, (4.2 gal/hr).
2. Shower discharge – 28 gallons per minute.
3. Gray water tank capacity – 200 gallons.
4. On board radio / repeater system with 35' antenna tower: ICALL -866.0125, ITAC1-866.5125, ITAC2- 867.0125, ITAC3-867.5125, ITAC4-868.0125; PL 156.7 Direct frequencies are simplex as above.
5. 34 fixed repeater sites in CT, 2 channels at each site; all 5 channels are optional at each site. All repeaters controlled by DPS HQ Message Center 1-800-842-0200.
6. On board tool box with wrenches, and winch power/controller cables.

**Tent Preparation and Set-up:**

1. The site for set-up should be on as level ground as possible and without obstructions. The tent can be attached directly to the back of the trailer or used as a free standing tent.
2. Lay the tent on the ground with the side frames facing up (hoses are attached to the side frames). The side frames are then pulled out to one side to form a triangle. The blue side walls are then stretched from the side wall frames to create a rectangle (Figure C.II.1).
3. Grab the tent where the two side frames meet the bottom frame. Fold one bottom frame over the tent as if opening the page of a book (Figure C.II.2). The tent will look like an “A” frame when this step is complete. One of the white sides with the doors should be visible and be diagonal to the ground (Figure C.II.3).
4. On each end of the “A” frame (blue sides) locate the pull strap (Figure C.II.4) pull the straps away from each other until the side wall frames pop outward (Figure C.II.5). Neither person should release their pull strap until both sides are out. CAUTION: the side walls spring out with some force. The tent can now be placed in position. Remember that if the tent is to be attached to the trailer, then one of the door (white) sides must face the trailer.
5. On each side of the tent with doors there are two poles on the inside that are attached with Velcro straps to the base rail (Figure C.II.6). Release the Velcro straps and remove the poles. Place poles between the base rail and the top rail. The poles have a color code on the top which matches up with a color code near the hole on the top rail (Figure C.II.7). The poles should go into the base rail holes without crossing.
6. At this point, square up the tent.
7. If the trailer is to be connected to the tent, then it should now be zipped to the step enclosure.
8. On each of the blue side walls are two supply hoses hooked to the shower assembly. The hoses should be run down the inside of the tent and then under the side wall (Figure C.II.8). The hoses should be secured to the side of the tent with the black strap that is already attached to the tent side wall. There is a 90 degree elbow on each the hose which directs the hose under the tent wall. The hoses have a color coded band at the outside connection, red for solution and blue for fresh water. Supply hoses can be connected to the outside discharges on the trailer and then to the tent hoses.

12 November 2004

9. The containment pool should be set up inside the tent. The Styrofoam squares go on the outside of the pool. There are straps attached to the floor of the pool which should be facing up. The sump pump should be set up in lowest of the pool corners. The connections for the pump (hose and electrical) run out under one of the blue side walls.
10. Grab each end of the main partition (white) wall at the top (Figure C.II.9). There are two sub partitions on each side of the main partition. The main partition has clips on both the top and bottom. The sub partitions only have a clip on the top. The main partition also has a clip on the top at the center point.
11. Clip the top and bottom of the main partition to the loops inside of the tent (Figure C.II.10) on sides with the doors. The bottom rail of the tent may have to be lifted to locate the bottom loop. Someone may have to push on the bottom rail from the outside in order to make the connection. A loop that hangs down from center of the tent is used to clip the center of the main partition (Figure C.II.11). One or two of the grates may have to be used to stand on in order to reach the loops. Two sub partitions are now clipped to loops on the blue side walls. The tent should now be divided into two lanes with three areas each (disrobe, decon/shower, dress).
12. There are three grates for each of the two lanes. There is a carrying strap on each set of grates which should be removed and set aside. The grates when assembled will be held together with straps. Each of the center grates has a buckle in each corner (Figure C.II.12). The end grates have straps on two corners and a buckle on the opposite end (Figure C.II.13). Connect the straps from the end grates to the buckles on the center grate to connect the three grates together. There should be two straps per lane on the pool floor. These straps are connected to the end buckles. The grates should now provide a walkway for the persons being decontaminated to walk on and keep them out of the water in the pool.
13. There is a flap running along the bottom of each blue wall. This flap should be pulled to the outside of the tent.
14. Each side wall has a round opening with a sleeve (Figure C.II.14). The sleeve can be pulled out and attached around a heater hose if needed.
15. There are tie down straps on each outside corner that can be used to tie down the tent. Either stakes or weights may be used to tie the tent down.

#### **Tent-Trailer Interface:**

1. Once the tent is assembled position the tent with the zippered side toward the rear of the trailer.
2. Assemble the boot frames and insert them in to the notched channels around both of the rear entry doors of the trailer.
3. Attach the boot over each of the boot frames and attach them to the trailer with the straps on the boot and the loops on the notched channels.
4. Attach the boots to the tent by utilizing the zippers on the boot and the tent.
5. To use the tent as a clothing removal station, water supply to the tent will not be necessary.
6. To use the tent for decontamination, water supply will be necessary. The tent has shower nozzles on both sides of the tent to create two lines.
7. Place the discharge pump in a remote corner of the tent and run the discharge hose to the designated gray water collection location.
8. Attach water lines to the rear discharges of the trailer, located at the rear corners of the trailer. There is a water and soap solution valve on each side.
9. Attach the water lines into the provided electric cycling valve, one for each side.

12 November 2004

10. Place the black foot switch of each valve into the tent at the shower location.
11. Advise the person to be decontaminated to step on the foot switch to activate water flow. The valve will cycle 20 seconds for water, 20 seconds for soap solution and a 20 second rinse. The foot switch must stay activated for the cycle to complete.

12 November 2004

**Appendix C. II.**  
**Decontamination Tent Illustrations**  
*Photographs removed for e-mail version*

12 November 2004

*Photographs removed for e-mail version*



12 November 2004

*Photographs removed for e-mail version*

# Appendix C

## III. Rapid Access Mass Decontamination

### *RECOMMENDED PROCEDURES USING FIRE FIGHTING RESOURCES*

#### 1. OBJECTIVES

The following program was developed to enable local fire departments to gain control of mass casualty contamination incidents by initiating immediate definitive measures. Upon completion of this program, fire departments will be able to reduce or prevent the effects of chemical agents to victims of chemical incidents by rapid gross decontamination. By properly applying these procedures, fire departments will be able to prevent, or drastically reduce the chance of possible, cross contamination of emergency personnel.

#### 2. BENCHMARKS

Prior to, or concurrent with, the establishment of Rapid Mass Decontamination measures, **actions not specifically covered in this program need to be carried out.** Such measures should be conducted based upon established local procedures and or accepted practices. These actions should include the following:

- Determine if the event is a chemical incident – That a relatively high suspicion exists that a chemical agent or product has been released in such a manner as to contaminate persons.
- Establish control zones – Standard hazardous materials control zones; hot, warm and cold must be established and entry denied to unprotected personnel.
- Initiate appropriate responses (State HazMat - Police - EMS - etc.) – resources, commensurate with incident requirements should be summoned based upon local procedures
- Establish potential number persons contaminated – attempt to ascertain the maximum number of persons requiring decontamination and follow-up medical attention to the degree that it will affect needed resources.

#### 3. INDICATIONS FOR USE

The Rapid Mass Decontamination system is intended for specific circumstances involving large numbers of contaminated persons. As a general guideline, the following conditions are considered as appropriate for the Rapid Mass Decontamination procedures:

1. 8 - 10 persons - or more who are ambulatory and self extricated
2. Suspected contamination
3. Exceeds existing local decontamination resources

It is important to point out, however, that in the absence of any other decontamination capability; **rapid mass decontamination systems can be employed for as few as one person.**

#### 4. CONSIDERATIONS

As the determination to employ Rapid Mass Decontamination is made, the following consideration of **on going needs** should be incorporated:

- Adequate personnel – Consider the need for relief upon use of air in Self Contained Breathing Apparatus (SCBA)
- Adequate air supply - Consider the need to re-supply SCBA air tanks
- Adequate water supply- Estimated water flow for this operation is 700 – 1000 GPM. This is per mass Decon set-up.
- Terrain – Rapid Mass Decon needs to be in the warm zone of the incident. Hence it is necessary to consider its location relative to the hot zone to prevent the encroachment of contamination into the Decon area. Generally, the following rule should be applied:
  - Wind Direction – Up wind, the wind blows from decon toward the hot zone
  - Uphill – This is a consideration for both the placement of the decon as it relates to the hot zone and as it relates to the placement of post decon collection points and treatment areas
  - Runoff – The EPA has stated that, in accordance with the limits of liability in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the run-off is not a primary concern. However, run-off is again a consideration in the placement of post decon collection and treatment areas
  - Heat & shelter for victims – almost regardless of the time of year, decontaminated victims will need to be sheltered and heated after decon. Consideration of this will reduce the severity of illness or injury from cold and maintain control over the incident.

While substantial numbers of persons can be passed through the system quickly, the rate at which those persons arrive at the Rapid Mass Decontamination location may require an extended operation. Also, as part of a larger operation, attention must be paid to the effect upon other aspects of the operation, such as medical care, staging and incident facilities by the decontamination location and run-off.

## 5. LEGAL ISSUES OF FORCING DECON

- ? Based upon related issues such as medical care and evacuation, it is believed that emergency personnel cannot force a victim to undergo decon procedures.
- ? The legal authority to require decon is unclear at best.
  - o Handling persons refusing decon:
    - a. If a potentially contaminated victim refuses decon, assess the risk posed to others by cross contamination.
    - b. Record the names and addresses, if possible of anyone refusing decon. This tracking information may be needed later if the severity of contamination is found to be severe or to warn and protect responders if they later need medical assistance.

## 6. CONTAMINATION VS. EXPOSURE

There is a significant difference between contamination and exposure. Consider this analogy:

### **From contamination:**

- ? Product is transferred to, or deposited on, person(s) and/or clothing,
- ? Dose and effect increase as long as contaminant remains,
- ? Cross contamination may be possible, and
- ? Off-gassing may occur.

### **With exposure only:**

- ? No product is transferred
- ? Dose is discontinued after exposure ends, but effects may continue
- ? No cross contamination/off-gassing hazard exists except with biologics

## 7. DECONTAMINATION NEEDS

The rapid mass decontamination system is **best suited** for incidents involving many victims. It should be considered for use and incorporated into local procedures for large scale chemical exposure from:

- ? Industrial or transportation accident involving chemicals.
- ? Terrorist/Criminal Acts of intentional release of chemical or biological agents.

## 8. RAPID ACCESS MASS DECONTAMINATION FEATURES

While **technical decontamination** can be accomplished by many local fire departments and is considered as a **hazardous materials first responder operational level skill**, most departments lack the specialized equipment to manage technical decontamination for many persons. The features and advantages of the Rapid Mass Decon method are listed below:

- Can be accomplished by any fire department without special equipment. Functions by low pressure (30 - 50 PSI) deluge nozzle.
- Clothing is not necessarily removed.
- Run-off water is a minimal concern.

The combination of simplicity, lack of specialized equipment and training needed, and speed of delivery make this method a truly **viable “first response”** action to mass casualty contamination incidents

## 9. DECISION / ACTION SEQUENCE

### **RAPID ACCESS MASS DECON - 2 ENGINE – RESPONSE ACTION SEQUENCE**

*NOTE:* Full-sheet diagrams of Rapid Mass DECON Apparatus Set-Up, Figures C-2 through C-6, are included at end of this Appendix.

The following procedures detail the activation of the Rapid Mass Decon system assuming a first response of two (2) engine companies. While this response is minimal, Rapid Mass Decon can be applied **to nearly any combination of this response**. It is also possible to utilize deck guns and additional hand lines to achieve the desired water flow and pattern.

**More important than the precise combination of responding apparatus, the steps taken to initiate the system will assure that the objectives of control and decontamination are achieved.** The following steps and Decision/Action flow chart will best lead to a coordinated and controlled response to mass casualty contamination incidents.

- Identify Need
- Communicate Intent
- Advise victims and responders of your intent to establish decontamination at the site
- Establish a Plan
- Identify locations to assemble victims prior to decon and the locations for decon
- Communicate Plan
- Define and identify hot/warm/cool zones and the decon process. Inform victims and emergency personnel
- Assemble Victims
- Contain and control victims to prevent dispersion or re-entry
- Set-up Decontamination
- Initiate Decontamination

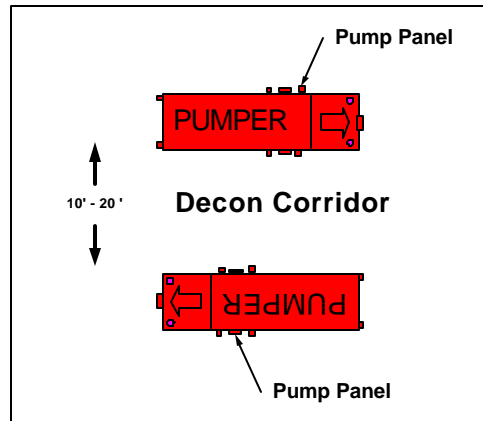


Figure C.III.1

### RAPID MASS DECON - 2 ENGINES & 1 LADDER SET-UP POSITION APPARATUS

Using the response of two engines and one ladder, the apparatus should be positioned to establish the decontamination corridor and provide the least possible exposure of fire fighters to victims.

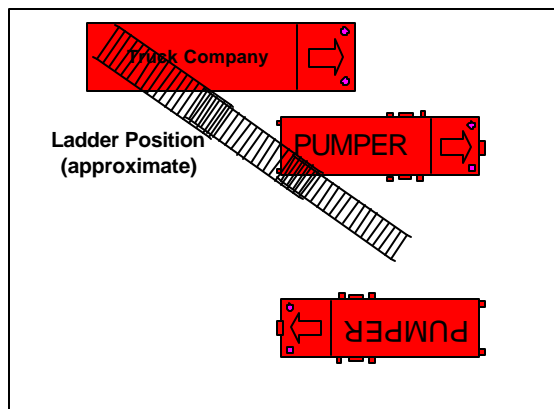


Figure C.III.2

- ? *Position apparatus to create a corridor, operator panels to the outside. - Engine companies should be positioned facing in opposite directions, 20' to 30' apart to create a corridor between them with the pump operator panel to the outside of the corridor.*
- ? *Limit exposure of personnel and equipment - The ladder company should be positioned, if possible on the exit side of the corridor or, if space allows on the outside of one of the engine companies.*

12 November 2004

- ? All personnel operating within or forward of corridor must be in Full Firefighter Protective Equipment (FFPE). - Pump operators, fire fighters on hand lines and those serving as entry or exit guides should be in full fire fighter protective ensemble including SCBA.

### CREATE THE WASH PATTERN

? Affix nozzles to discharge and/or use deck gun. - Use 2 1/2" fog nozzle attached directly to the side mounted discharge on each engine. If preferable, a deck gun may be used, but may require greater distance between the engines to achieve proper coverage.

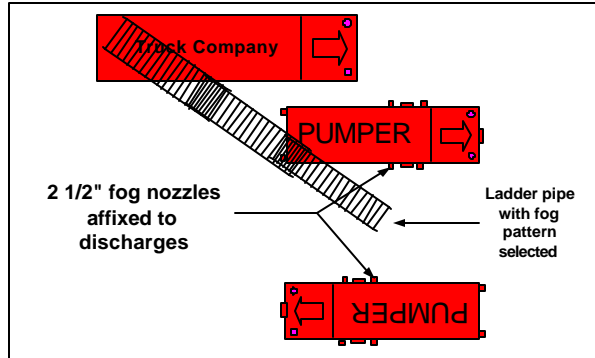


Figure C.III.3

? Use wide fog patterns that intersect between apparatus. - The pattern should cover as much of the decon corridor as possible. Be certain, however that the patterns of both fixed nozzles will overlap in the middle of the corridor.

? Position ladder pipe, with fog nozzle, to over-spray the corridor. - Position the ladder pipe over the center of the corridor and adjust the pattern so as to cover as much of the corridor as possible. Remember, pump pressure will be below 50 psi, so normal patterns will be reduced.

### ESTABLISH THE DECON PATH

? Use a section of hose to create an "S" pattern in the corridor. - A single section of 2 1/2" hose should be laid out as a path for victims to follow. This path should make a full and wide "S" shape.

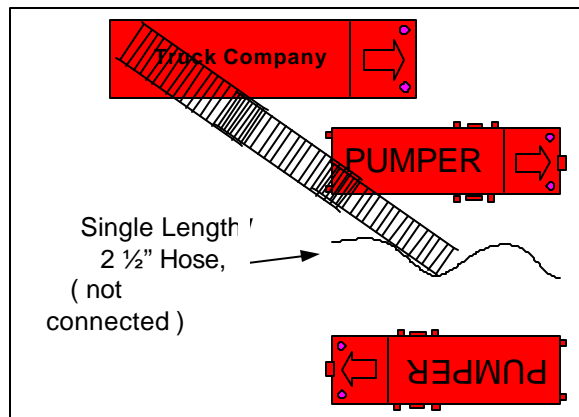


Figure C.III.4

? Pattern should cause victims to have maximum 360° exposure to water spray.

- The 360° coverage is necessary to achieve the best possible decontamination.

*This will also slow the passage of victims to insure that they are in the pattern long enough to be decontaminated.*

## POSITION PERSONNEL

*? Position a hand-line, with fog nozzle, at each end of the corridor diagonally across from each other. - The hand lines fill gaps in the pattern and can also be used to concentrate a wash on persons that are not following the hose line.*

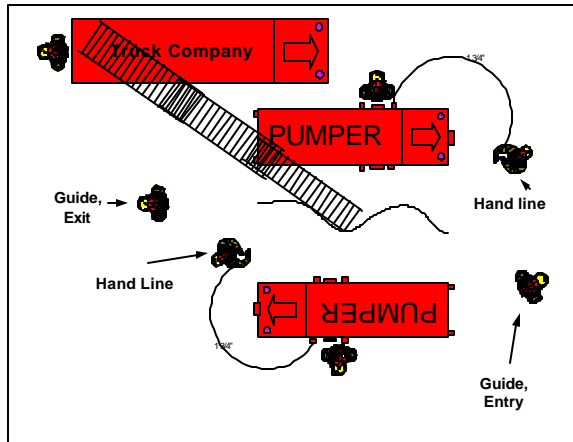


Figure C.III.5

*? Position a “guide” at each end of the corridor to direct victims in and out of decon – A guide should be placed at the entrance to direct victims into decon. This direction will be achieved largely using hand signals, as the guide will be in FFPE with SCBA. A second guide must be placed at the exit to direct victims to triage or holding areas.*

## 10. RAPID MASS DECON PROCEDURES

**Once all lines and appliances have been charged, observe and adjust pattern and flow to insure full coverage of the corridor. Hand-lines can be moved or added to cover any “holes” in the pattern and eventually replaced with monitors as needed. Direct “victims” into the corridor and instruct them to follow the hose to the other end. Hand-lines can also be used to decontaminate non-ambulatory victims.**

**Decontamination for Chemical Agents can be further facilitated by the application of Positive Pressure ventilation (PPV) Fans blowing air across ambulatory persons waiting for water based decontamination. This does not apply to Biological, or Radiological contamination.**

## 11. GUIDE & TRIAGE

Maintain control of victims exiting the corridor and direct them to triage. Establish a triage point and segregate exposed, versus contaminated, versus effected for further treatment and decontamination as needed. If and when possible, control run-off to prevent possible environmental consequences and secondary contamination. (See Appendix E Rapid Triage for Exposed Patients)



## 12. RELIEF PROCEDURES

As previously stated, though the Rapid Mass Decon system will allow for a rapid processing of victims, it cannot be concluded that all victims will arrive there simultaneously. This may require a prolonged operation of the decon corridor. Provisions must be made to relieve personnel “on air” with sufficient relief personnel for them to undergo decontamination, retreat to the cold zone and doff their SCBA.

? Monitor on air time – Personnel should be relieved with at least five (5) minutes of air remaining.

? Provide adequate personnel for relief – Have sufficient personnel ready and in FFPE and SCBA to replace personnel on the line before they are due to rotate out.

? Assign personnel to positions – Relief personnel should know where they are going in the decon corridor before entering.

? Deploy relief personnel – Relief personnel should be directed, where possible, to access their assigned positions by walking around the outside of the corridor.

? Relieve personnel – A “hand-off” should take place between personnel on the line and relief personnel to insure continuity.

? Decon relieved personnel – Relieved personnel should fall into line and pass through the Rapid Mass Decon line. Because they have not entered the hot zone, and have not had direct contact with victims, there should be no contamination. This step of decon serves only as an absolute precaution.

? Relieved personnel to rehab as indicated – Personnel who have been relieved and have undergone decontamination should be rehabbed, have their air bottle replaced and stand-by to relieve their relief unless other duties are assigned. Their FFPE can continue to be worn.

### 13. GOOD SAMARITAN PROVISIONS

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section § 107 (d) Rendering Care and Advice, address this issue. Section 107 (d) (1), often known as the “good Samaritan” provision, states: “No person shall be liable under this sub-chapter for costs or damages as a result of actions taken, or omitted, in the course of rendering care, assistance, or advice in accordance with the National Contingency Plan (NCP) or at the discretion of an on-scene coordinator appointed under such plan, with respect to an incident creating a danger to public health or welfare or the environment as a result of any releases of a hazardous substance or threat thereof.” This provision does not preclude liability for costs or damages as a result of negligence. Releases of chemical and/or biological warfare agents due to a terrorist incident are considered hazardous materials incidents and therefore CERCLA § 107 (d) (1) could apply, to the extent that there is a release or threatened release of a hazardous substance.

In addition, CERCLA § 107 (d) (2) provides that state and local governments are not liable under CERCLA “as a result of actions taken in response to an emergency created by the release, or threatened release, of a hazardous substance generated by, or from, a facility owned by another person.” Section § 107 (d) (2) would insulate state and local governments from potential CERCLA liability arising from first responder actions. **However, the provision does not apply to costs or damages caused by “gross negligence or intentional misconduct by the state or local government.”**

During a hazardous materials incident (including a chemical/biological agent terrorist event), first responders should undertake any necessary emergency actions to save lives and protect the public and themselves. **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 a storm-sewer during a response action as an alternative to costly and problematic disposal, or in order to avoid extra-effort.

### 14. SUMMARY

While concern of mass casualty decontamination has moved to the forefront out of concern for weapons of mass destruction, the principals and procedures developed serve to increase our capacity for other emergencies. This system similarly increases our capacity. But should be utilized appropriately and viewed as a continuum of a larger response system. Remember the design, intent and limitations of this system as listed below:

- ? Designed for emergency decon of large numbers of victims.
- ? Is not a substitute for HazMat team response.
- ? Establish and maintain control of victims and responders.

Additionally, fire resource configurations for Rapid Mass Decontamination can take other forms and configurations than those illustrated above. The same concepts can be employed with single apparatus companies using multiple hand lines, or monitors.

# Appendix C

## IV. Decontamination Personal Protective Equipment & Training Considerations

### Emergency Scene – First Responders

Operating at any Chemical, Biological, and Radiation release event requires the use of appropriate PPE when operating within a Hot, or Exclusionary Zone. Decontamination procedures for traditional HAZMAT operations take place in the warm zone. Emergency Mass Decontamination takes place at a different level and must be established quickly. As with any operation, the first step in personnel protection is to establish decontamination operations upwind and uphill from the incident itself.

Level of Protection	Training
<p><b>Minimum PPE Levels</b></p> <p>No direct contact with agent            Chemical known and low risk contaminant            No contact with persons being decontaminated</p> <p>Persons being decontaminated are ambulatory and can understand self decontamination instructions.</p> <p><b>PPE Level:</b> D Structural turn out gear  <b>Respiratory Protection:</b> SCBA / Air Purifying Respirator</p>	<p>First Responders Operations Level</p>
<p><b>Intermediate Protection</b></p> <p>Some contact or exposure to contaminated individuals is anticipated – persons ambulatory but may need assistance</p> <p>Chemical is known AND is a low risk contaminant</p> <p><b>PPE Level:</b> D or C agent dependent  <b>Respiratory Protection:</b> SCBA / Air Purifying Respirator</p>	<p>First Responders Operations Level</p>
<p><b>Advanced Protection</b></p> <p>Actual contact or exposure is expected            Unknown agent, AND/OR high risk contaminant            Non-ambulatory persons needing decontamination</p> <p><b>PPE Level:</b> Level B Chemical protection  <b>Respiratory Protection:</b> SCBA, or Supplied Air</p>	<p>First Responder Operational Level – Minimum Recommended EPA HAZ MAT Technician Level or higher</p>

Table C.1

## Appendix C

### V. Directions to Individuals for Decontamination / Scene of Event

**You have been or possibly been exposed to a hazardous substance. In order for us to help you as well as your own health and safety and the safety of others please follow our direction. You must be thoroughly cleaned before you can be treated. Please follow the directions by the entry and exit guides as you enter the wash areas cleaned.**

1. Follow the hose line on the ground
2. When you first enter the wash area remove your outer garments (weather, agent, & modesty dependent.)
3. If you have been contaminated with a liquid remove all garments
4. Place the garments in the plastic bag
5. As you pass through the wash area gently rub any exposed areas of your body with your hands

**\*Note: Fire Departments should consider having this placard translated into languages common to the area.**

### “Trash Bag Decon Kit”

#### **CONTENTS:**

- Armband for patient (pre-numbered) – tape to the outside of the bags or near the inside top.
  - Zip-lock bag (gallon sized, pre-numbered) for valuables (i.e. watch, keys, jewelry, wallet) - Have the patient keep glasses on, may need to keep hearing aid in also.
  - Large zip-lock bag (at least 24” X 24”, pre-numbered) for clothing
  - Another zip-lock bag (24” X 30”, pre-numbered) to place all these items in – This will be used to double-bag the clothes and valuables.
  - Black lawn type trash bag (at least 59 gallon, larger better, 2.0 mil thickness) – Cut a hole in the top, big enough for a head and arm holes in the side. – This will be used for patients to use as a covering if no other shelter is available. They can disrobe under the bag and rinse under it.
- Each kit should be pre-numbered with the same number, for tracking purposes.
- Optional: Can include a tyvek type covering to change into, or a patient gown.

## Appendix C

### VI. Special Decontamination Considerations

#### **Non-Ambulatory Personnel**

Some personnel exposed or potentially exposed to a contaminant may not be able to move through a decontamination line without assistance due to injury, pre-event physical challenges or other considerations. Hand-lines adjacent to a decontamination corridor established by positioning fire apparatus can accommodate non-ambulatory personnel. The decontamination trailers have hand-line stations on the outside rear corners. Portable decontamination showers at the hospitals have a center line with hand-lines to handle non-ambulatory people.

#### **Cold Weather Decontamination**

The mean temperature most likely to be tolerated for standard outdoor decontamination processes is approximately 65° F. At temperatures below this persons may be reluctant to follow the standard process.

If the outdoor temperature is between 35° F to 65° F, moving persons directly to a warmer environment ASAP after outdoor decontamination is more critical. These areas can be Decontamination Trailers, strategically deployed heated tents, office buildings, hospitals, shelters, etc.

If the temperature is below 35°F, then attempts should be made at indoor decontamination, with either Decontamination Trailers, indoor shower facilities, car washes, swimming pools. *An Olympic sized pool can decontaminate approximately 800,000 persons contaminated with VX gas before the pool will show any effects of the contaminant. Due to the other associated risks this option requires very close supervision.*

#### **PPV Fans**

For gaseous substances with vapor pressures such as Anhydrous Ammonia and Chlorine, persons can be thoroughly decontaminated using Positive Pressure Ventilation Fans set up approximately 10 - 15 feet away from the individuals being decontaminated.

#### **Automatic Sprinkler Systems**

Actuating one or more sprinkler heads can be employed to decontaminate persons moving into a building, or out of a contaminated building. However, wetting a person in Cold Weather Decontamination should be done incrementally vs. having the person immediately drenched. Special attention needs to be paid to cardiac patients and the elderly if there is absolutely no alternative to outdoor wet decontamination.

If no indoor facilities can be quickly accessed the following Dry Decontamination procedures can be employed.

1. Remove outer clothing and blot with paper towels
2. Persons can assist each other
3. Transport to warm area for wet decontamination

### **Soap**

Baby shampoo is the most effective soap agent for decontamination purposes at this time. Mixing of approximately 8 ounces of baby shampoo in a standard 2.5 gallon home & garden sprayer should yield an effective soaping agent.

### **Sea / Salt Water**

The National Institute of Standards & Technology reports that due to its pH level sea water has been proven to be a more effective wetting / decontamination agent than “normal” water.

### **Waste Water Runoff / Disposal**

Decontamination should not be delayed while setting up appropriate procedures for waste water containment, the saving of lives is primary. Once the requisite resources are available the following Department of Environmental Protection policy should be followed:

In the event of an emergency response to a possible anthrax or other biological agent contamination incident, emergency personnel often utilize water and disinfection agents to wash down protective equipment including but not limited to containment suits. For the purpose of protecting waters of the state from pollution, the following procedures should be followed at each site where such activities occur. These procedures apply only to instances of cleanup activities where it has been verified through appropriate testing that no anthrax or other biological agent is present. Where testing confirms that anthrax is present, wash waters must be transported by licensed waste hauler.

Due to the toxic nature of chlorine and other disinfecting agents which may be used, and the need to minimize the release of any potential pathogens, every possible precaution must be taken to effectively contain all wash waters generated from these procedures in order to prevent any releases to surface waters or groundwater used for drinking.

Procedures for Disposal of Cleanup Wash waters verified not to be contaminated with biological agents:

#### **Minimize Use:**

Use only those quantities of bleach and water that are needed for full cleanup.

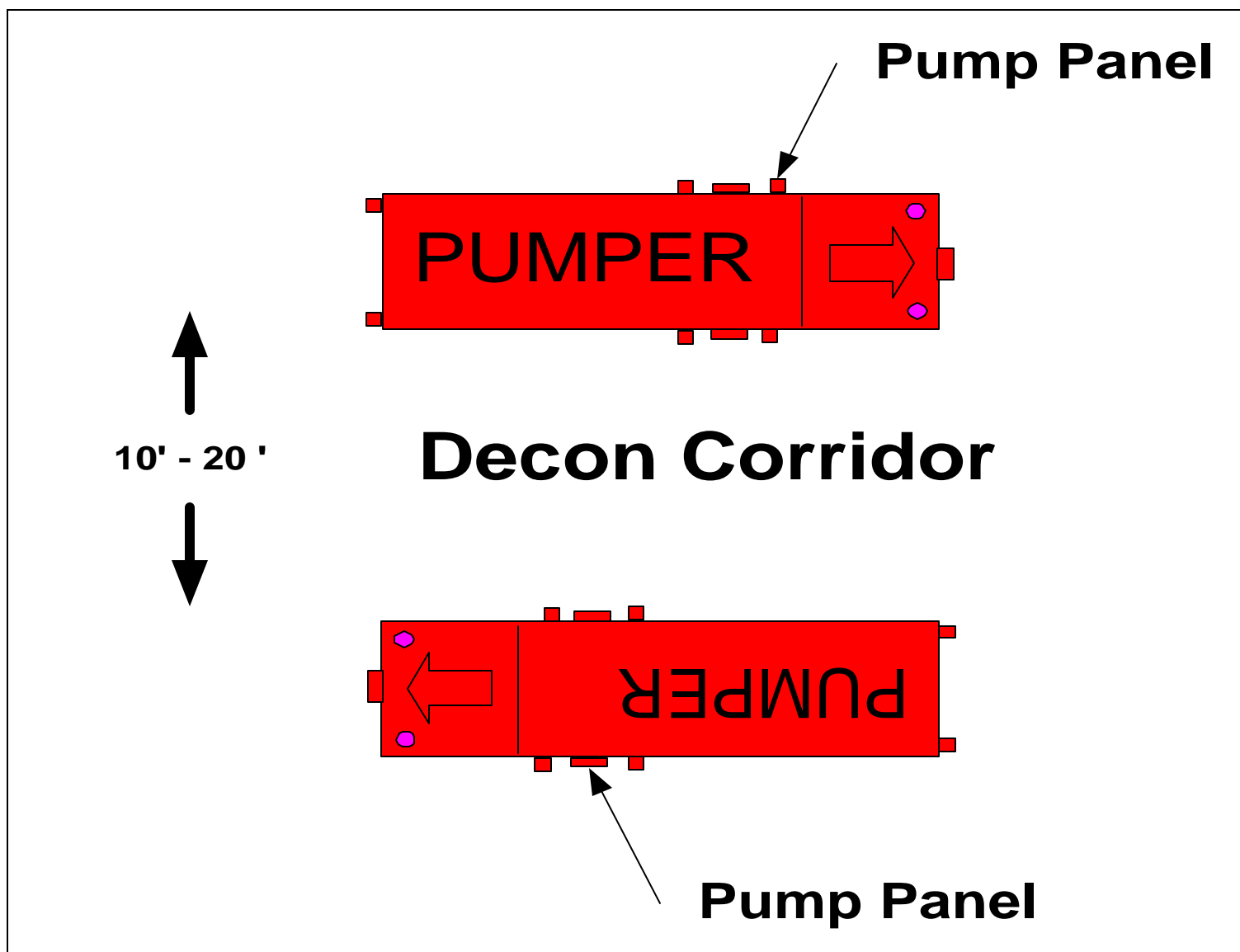
#### **Containment:**

During decontamination activities, contain all wash water within a watertight container away from any storm drain, catch basin, stream, swale or other direct access to surface water.

#### **Disposal:**

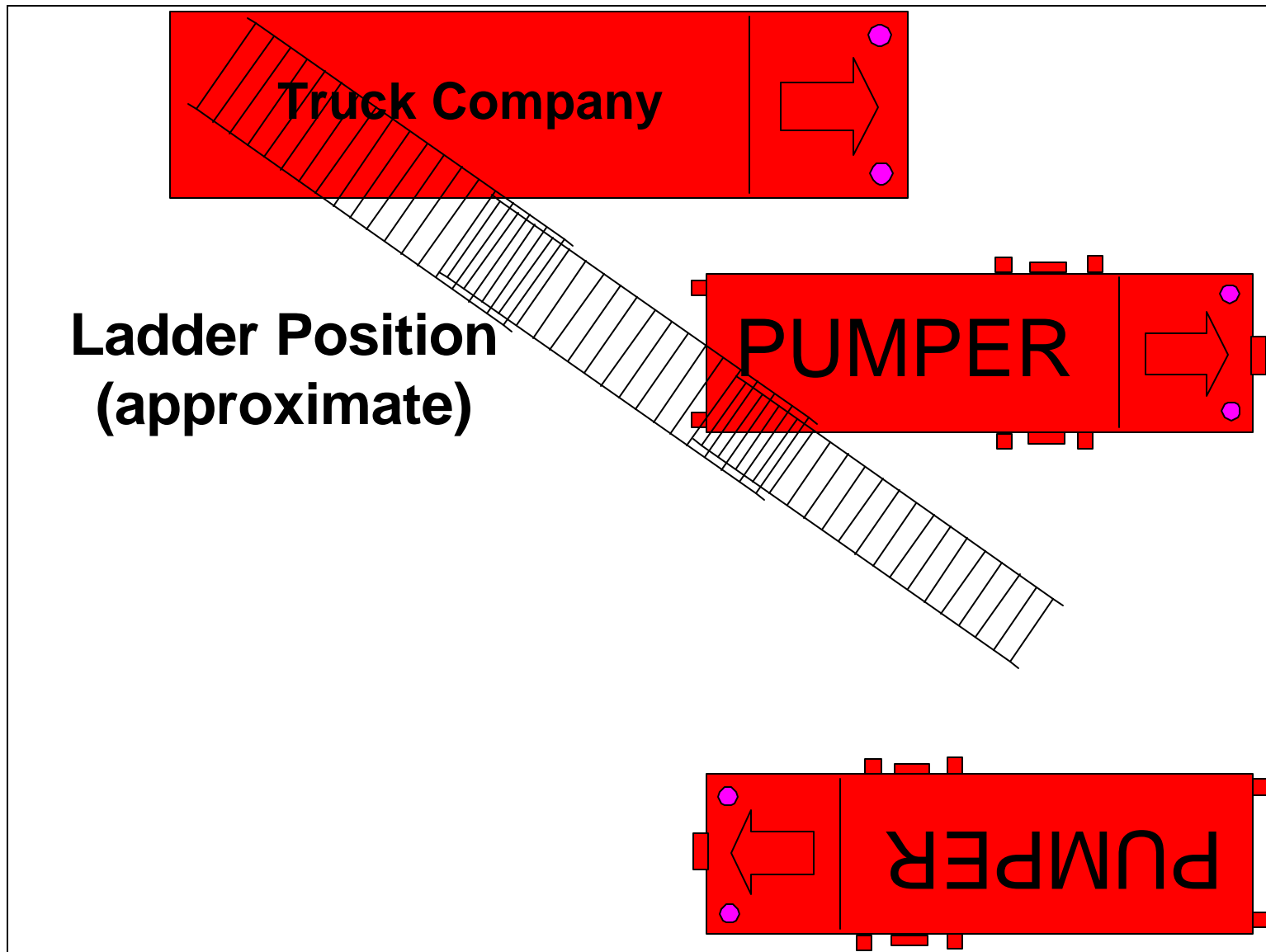
Carefully dispose of the wastewater only to a municipal sanitary sewer or via a waste hauler licensed to transport the waste. (A list of certified haulers can be obtained from the Department of Environmental Protection, Waste Management Bureau, Engineering and Enforcement Division at (860) 424-3023.)

## Rapid Mass DECONTAMINATION PLACARDS



**2 Engine Apparatus Set-up:** Position 2 Engines approximately 10 to 20 feet apart, facing opposite directions, with pump operator panels to the outside of the corridor.

## Rapid Mass DECONTAMINATION PLACARDS

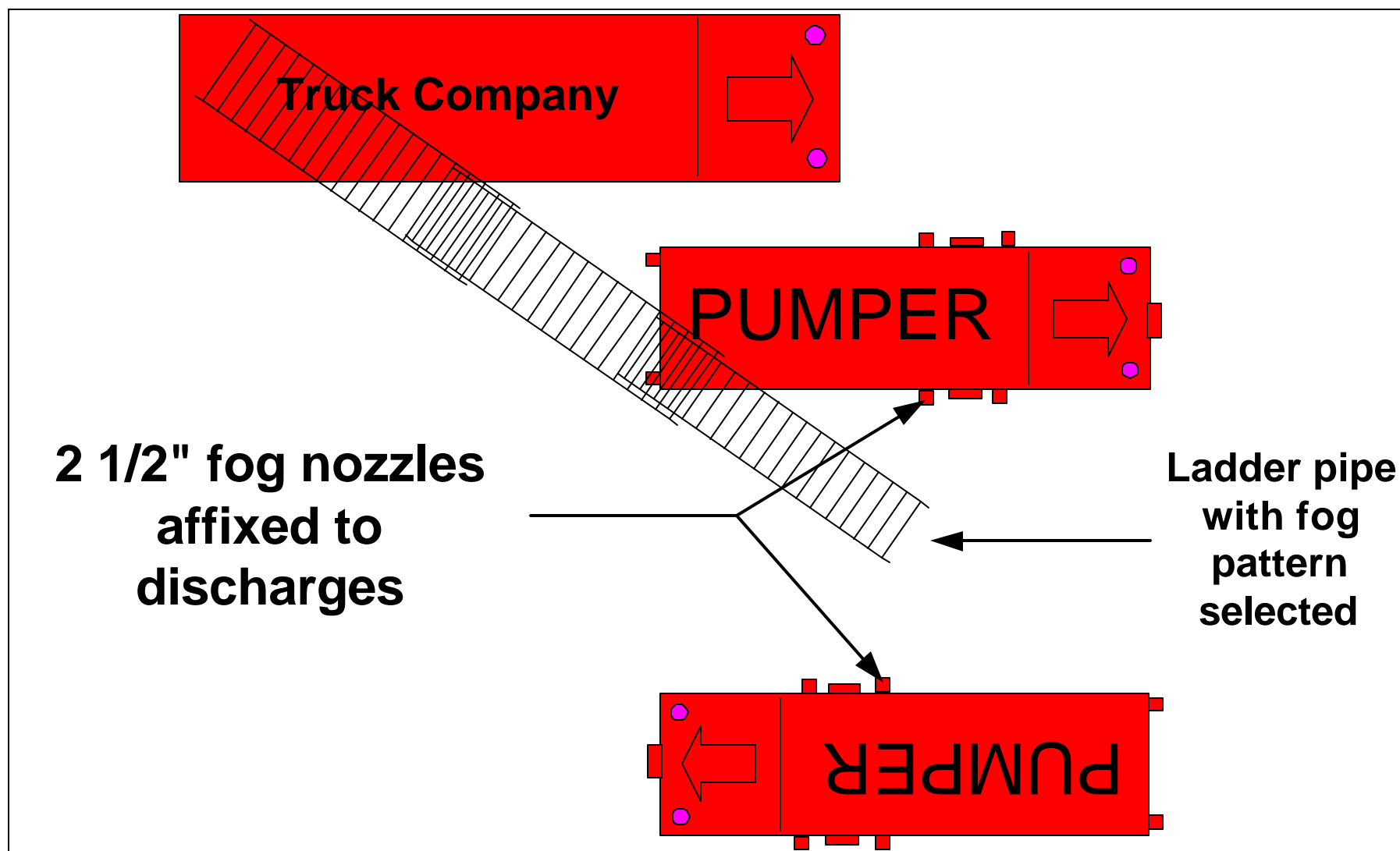


### **2 Engine & 1 Ladder Company Apparatus Set-Up:**

The Ladder Company should be positioned, if possible, on the EXIT side of the corridor.



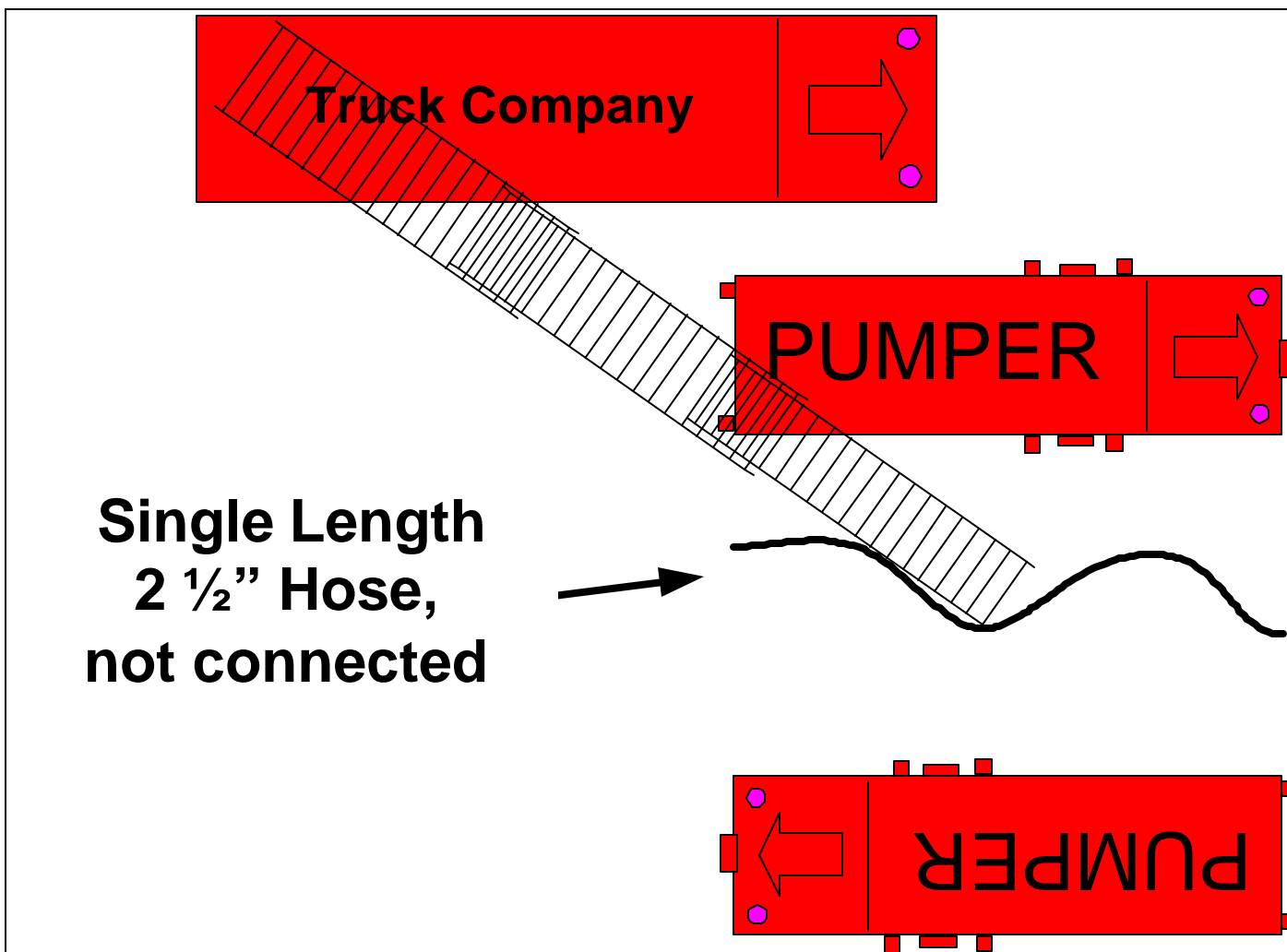
## Rapid Mass DECONTAMINATION PLACARDS



### **2 Engine & 1 Ladder Company Apparatus Set-Up:**

Position the ladder pipe, with fog nozzle, over the center of the corridor and adjust the pattern so as to cover as much of the corridor as possible.

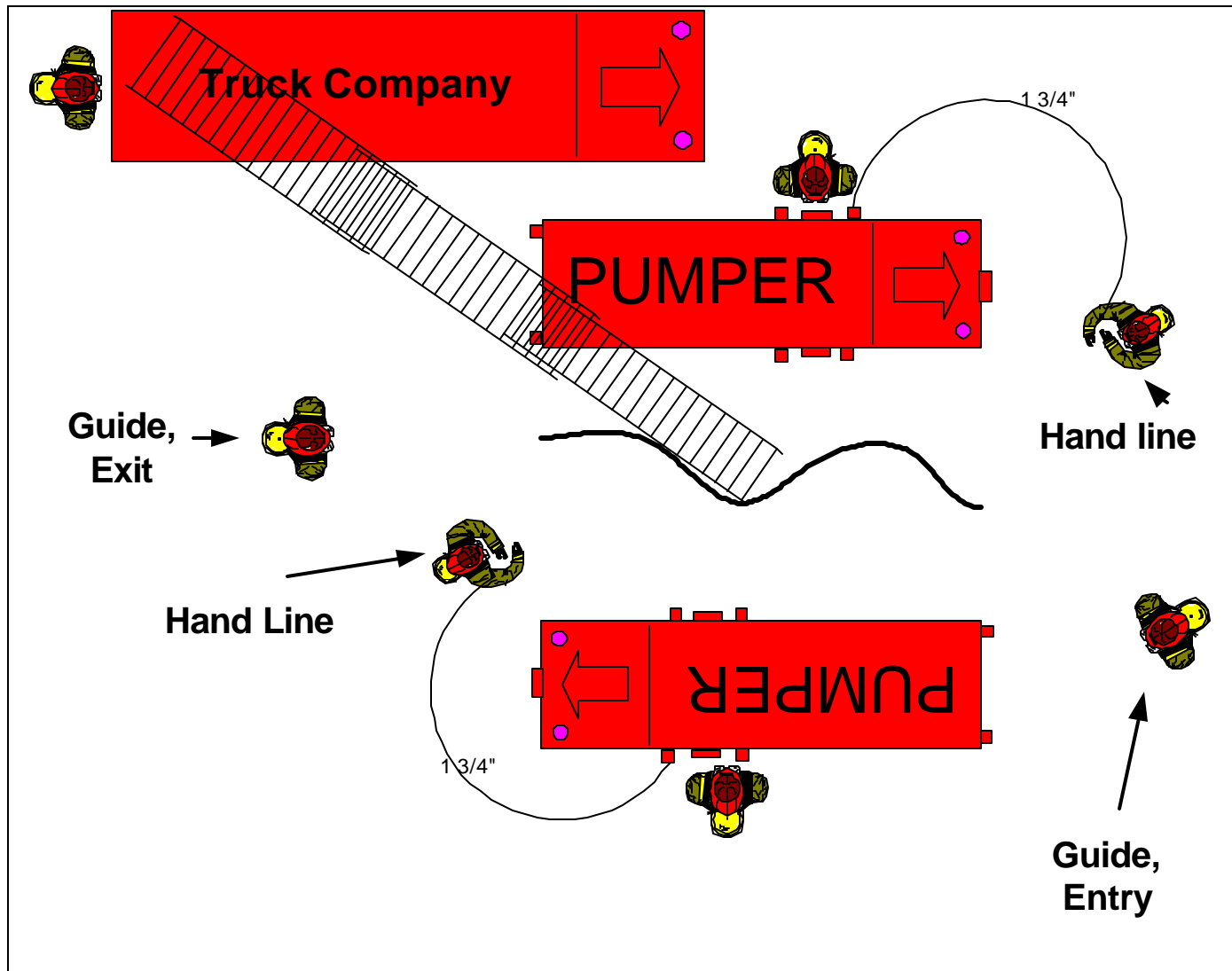
## Rapid Mass DECONTAMINATION PLACARDS



### **2 Engine & 1 Ladder Company Apparatus Set-Up:**

section of hose to create an "S" pattern in the corridor. Pattern should cause victims to have a num 360° exposure to water spray.

## Rapid Mass DECONTAMINATION PLACARDS



### 2 Engine & 1 Ladder Company Apparatus Set-Up:

Position a “guide” at each end of the corridor to direct victims in and out of decon.

Position a hand-line, with fog nozzle, at each end of the corridor to fill gaps in the pattern.

# Appendix D

## Hospital Based Decontamination Outline and Process

- I. Identification of Event
  - a. Recognition of Contaminated Patient
  - b. Identify Contaminated areas
  - c. Establish Control Zones
  
- II. Activation of Response Plan
  - a. Facility Notification
  - b. Job Assignments
  - c. External notifications/ Local Fire, Police and Health Departments
  
- III. Determine need for Decontamination
  - a. Who
  - b. Priority
  
- IV. Action Plan development
  - a. Within Facilities Capabilities?
  - b. Decon site
  - c. Flow
  - d. Procedure
  - e. Selection of PPE
  - f. Pre-entry monitoring of Decon Resource Team
  - g. Equipment set up
  - h. Safety considerations
  
- V. General Decontamination process
  - a. Patient remove valuables
  - b. Remove clothing
  - c. Rinse
    1. Start at head and move down
  - d. Soap wash
    1. Gentle washing
    2. Best to use sponges or soft brushes
    3. Start at head and move down, remember nooks and crannies
    4. Move to next step if possible (next kiddie pool)
    5. Wash bottom of foot, step into next area without putting foot in “dirty water”.  
Repeat with other foot.
  - e. Rinse
    1. Lots of water
    2. Start at head and move down
    3. Rinse bottom of foot, step into next area without putting foot in “dirty water”.  
Repeat with other foot.
  - f. Dry Clean Covering
  
- VI. Decontamination Re-evaluation
  - a. Need for further triage?

VII. Medical Triage

VIII. Termination Process

- a. Decon the Decon Resource Team
  1. Start with most potentially contaminated.
  2. Same decon process as patients, except doing with suit on.
- b. Post monitoring of Decon Resource Team
- c. Containment of PPE
- d. Containment of expendable equipment
- e. Containment of collected runoff
- f. Containment of durable equipment that will need decontaminated
- g. Maintain security on all items until properly disposed of.
- h. Debrief/evaluation of process
- i. Complete documentation

***Facility Pre-Incident Decontamination Baseline Ability Goals***

Prior to activation of the Connecticut Mass Decontamination Mobilization Plan, each municipality and Health Care Facility should have a plan and capability to decontaminate a smaller number of individuals. This number is defined as persons per hour and is based on a local hospital's total annual Emergency Department visits divided by one thousand.

*Example; Hospital A sees 15,000 patients a year in their Emergency Department; they should be able to decontaminate 15 persons per hour using what ever resources available while simultaneously activating the Mass Decontamination Plan **through the local first responders** (Fire/Police). However, upon the first indications that a potentially region wide event may be occurring an alert notification to other healthcare facilities via the CMED MEDNET system should be made.*

Upon notification, all region facilities shall stand up their appropriate plans for facility site control and decontamination. Contaminate affected facilities shall follow Regional protocols for hospital diversion as needed.

Hospital-based Mass Decontamination should take place as far away from its doors as logistically possible. In addition to the securing of the actual facility, as large an area as possible needs to be cordoned off. These cordoned off areas lend themselves to the establishment of a multi-corridor decontamination process, alternative treatment sites, and possible treat & release protocols being employed. This later process saves the hospitals for the acute admissions.

***Hospital Based Decontamination***

Statistics indicate 80% of persons arriving at a hospital after a large scale event do so via private vehicles. This translates to persons arriving at hospitals without having been decontaminated. Hospitals must be prepared to meet this need, in accordance with Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Environment of Care EC 1.4. Plans are required to be in place for hazard analysis, mitigation, community and hospital wide coordination, establishment of alternate care sites, and facility evacuations.

12 November 2004

The key element to protecting a hospital in this type of a situation is some form of a lock down, and denial of entry, or single access point. Upon first indication of contaminated persons entering the facility the following acronym applies: **A.C.I.D.**

A – Assess/Activate    Assess threat to facility / Activate Emergency Action Plan  
C – Call                    Call appropriate emergency number  
I - Isolate                Isolate persons / Redirect to decontamination / secure area  
D – Decontaminate    Decontaminate persons per facility Emergency Action Plan

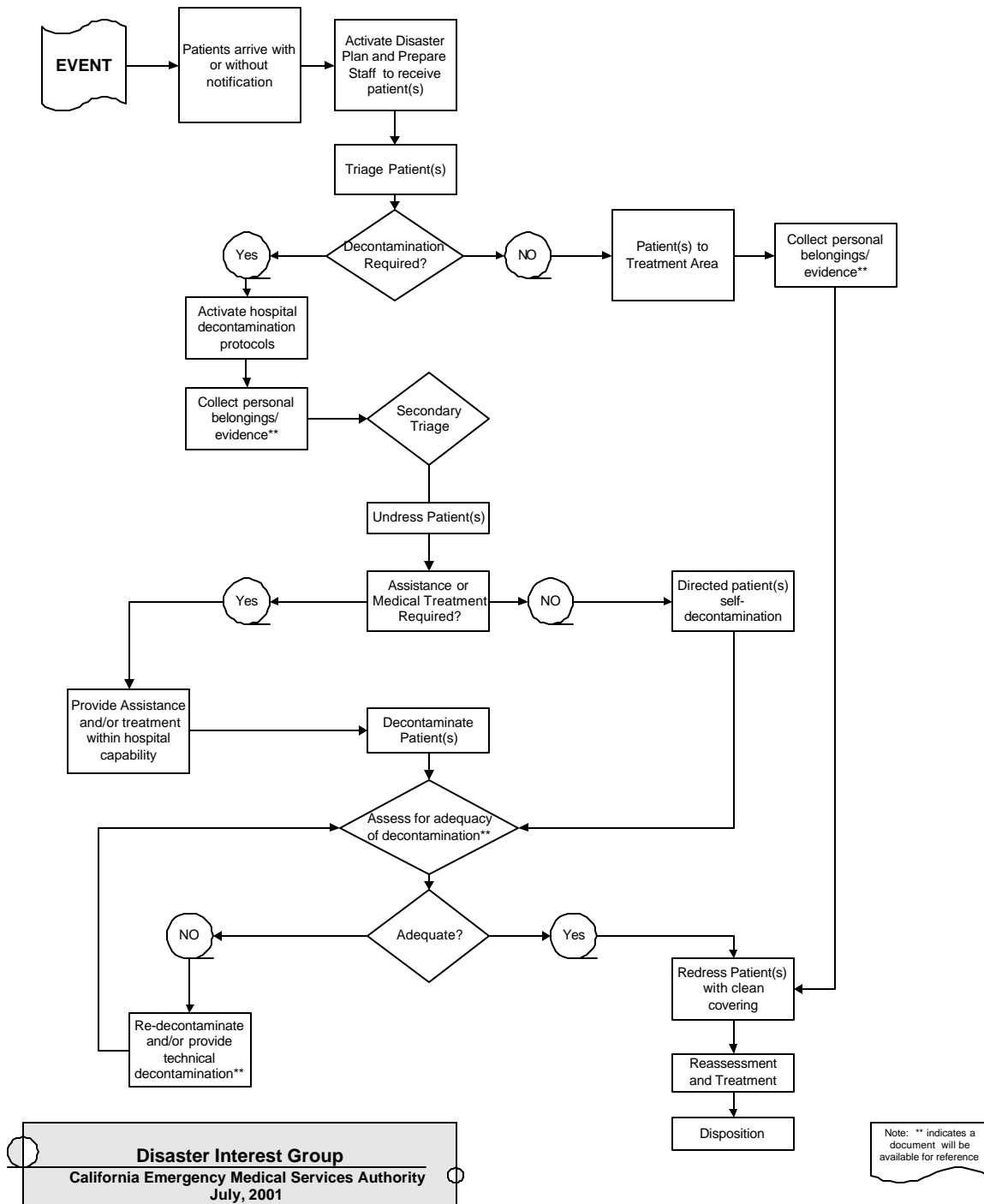
The Assessment process is a continuum advancing from initial assessment, through threat and product identification, resource needs and deployment, decontamination efficacy, patient triage and finally termination of decontamination efforts.

### ***Hospital Strike Forces***

Each facility shall develop an hospital decontamination “Strike Force” for decontamination purposes; comprised of a cross section of facility maintenance & safety personnel as well as medical staff with at least one individual available on site 24 hours a day. Upon activation the strike force would stand up the facilities decontamination equipment and begin the decontamination process if possible. For facilities with only one person available, that person would be the liaison with the first responders summoned to perform the actual decontamination.

12 November 2004

Patient Decontamination in the Hospital Setting  
Final Draft



Patient Triage Diagram D.1

**Appendix D****II. Personal Protective Equipment & Training Considerations Hospital Setting**

Level of Protection	Personal Protective Equipment	Training
<p><b>Minimum Protection</b></p> <p>These PPE considerations offer minimal protection acting mainly as a liquid/splash barrier for the following:</p> <p>No staff contact or exposure is anticipated</p> <p>Chemical is known and is low risk contaminant</p> <p>Used with exterior decontamination of ambulatory patients who can understand self decontamination instructions</p>	<p><b>PPE Level: D</b></p> <p>Splash protection:  Full face shield  Gloves  Water repelling gown  Rubber boots  Hood or hair cover</p> <p><b>Respiratory Protection:</b> Not needed  Or High Efficiency Particulate Air Filter (HEPA) mask</p>	<p><b>See Training Addendum</b></p>
<p><b>Intermediate Protection</b></p> <p>These PPE considerations can provide protection for hazardous materials for the following:</p> <p>Staff contact or exposure is anticipated, ambulatory patients who may require assistance</p> <p>Chemical is known AND is a low risk contaminant</p>	<p><b>PPE Level: C</b></p> <p>Splash protection  Full face shield  Chemical resistant suit with hood  Chemical resistant gloves  Chemical resistant boots</p> <p><b>Respiratory protection:</b> Air Purifying Respiratory</p>	<p><b>See Training Addendum</b></p>
<p><b>Preferred Protection</b></p> <p>These PPE considerations can provide hazardous materials protection for the following:</p> <p>Actual staff contact with patients or contaminant is anticipated. The agent is unknown AND/OR is a high risk contaminant</p>	<p><b>PPE Level: B</b></p> <p>Splash protection  Chemical resistant suit with hood  Chemical resistant boot &amp; gloves  Full face shielding</p> <p><b>Respiratory protection:</b>  Supplied Air / SCBA</p>	<p><b>See Training Addendum</b></p>

Table D.1



## Appendix D

### III. Directions for Decontamination / Hospital

PATIENT:

**You have been or possibly been exposed to a hazardous substance. For your own health and safety as well as others, you must be thoroughly cleaned before we can safely treat you. This is what you must do. Please read all the steps. Then proceed to follow them. We will be waiting for you at the end with towels to dry you off.**

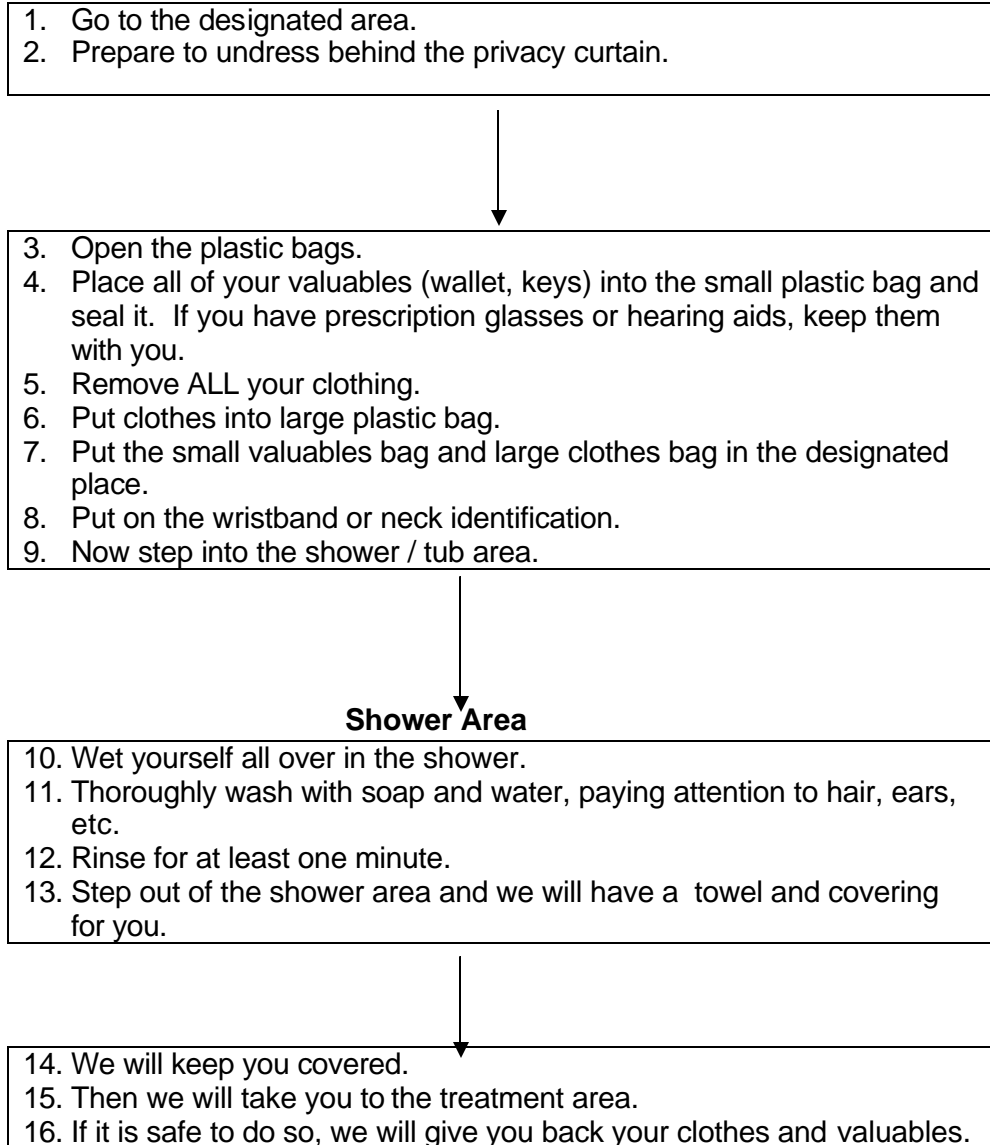


Diagram D.2

**\*Note: Hospitals should consider having this placard translated into languages common to the area.**

12 November 2004

## **“Trash Bag Decon Kit”**

### **CONTENTS:**

- Armband for patient (pre-numbered) – tape to the outside of the bags or near the inside top.
  - Zip-lock bag (gallon sized, pre-numbered) for valuables (i.e. watch, keys, jewelry, wallet) - Have the patient keep glasses on, may need to keep hearing aid in also.
  - Large zip-lock bag (at least 24” X 24”, pre-numbered) for clothing
  - Another zip-lock bag (24” X 30”, pre-numbered) to place all these items in – This will be used to double-bag the clothes and valuables.
  - Black lawn type trash bag (at least 59 gallon, larger is better, 2.0 mil thickness) – Cut a hole in the top, big enough for a head and arm holes in the side. – This will be used for patients to use as a covering if no other shelter is available. They can disrobe under the bag and rinse under it.
- 
- Each kit should be pre-numbered with the same number, for tracking purposes.
  - Optional: Can include a tyvek type covering to change into, or a patient gown.

12 November 2004

**Appendix E**

**Rapid Triage for Chemically Exposed Patients  
(No apparent Traumatic Injuries)**

<b>Agent Class</b>	<b>RED</b> Immediate	<b>YELLOW</b> Delayed	<b>GREEN</b> Minor	<b>BLACK</b> Deceased / Expectant
<b>Nerve Agent</b>	Seizure/LOC Altered Sensorium Respiratory Difficulties Bradycardia	Alert Increased secretions Vomiting Diarrhea	Asymptomatic	Pulseless Asystole Apnea
<b>Cellular Asphyxiant</b>	Altered Sensorium Hypotension Bradycardia Respiratory Distress	Alert Headache Tachycardia Strong Pulses No respiratory compromise	Asymptomatic	Apnea Asystole Pulseless
<b>Pulmonary Irritant</b>	Altered Sensorium Hypotension Respiratory Distress Stridor / Wheezing	Alert No respiratory compromise Irritation of Mucous Membranes	Asymptomatic	Apnea Asystole Pulseless
<b>Vesicant</b>	Altered Sensorium Hypotension Respiratory Distress Visual Deficits	Alert No Cardiac Symptoms No respiratory compromise < 5% Total Burn Surface Area (TBSA)	Asymptomatic	Apnea Asystole Pulseless > 50% TBSA

Table E.1