



State and Local Approaches Mass Casualty Decontamination: Massachusetts' Rapid Response System

The Commonwealth of Massachusetts is enhancing its Hazardous Materials (HazMat) Response Teams with local fire department decontamination capabilities, fire district decontamination companies, and hospital decontamination companies to provide the entire State (rural and urban areas) with access to fully equipped HazMat teams and mass decontamination capabilities. In the event of a chemical, biological, or radiological attack, a phased response system will be activated to provide for the decontamination of large numbers of people in a manner that maintains control of the incident, reduces harm to exposed persons, and prevents the spread of the agent by contaminated persons. This Rapid Response System (RRS) relies on the immediate initiation of decontamination by local first responders, who are supported by a phased decontamination response that provides the local jurisdiction with the ability to access, decontaminate, and treat exposed persons, including those who cannot extricate themselves or be safely extricated. The RRS also provides for a decontamination capability at hospital facilities that may receive patients from the local emergency medical service or by self-transportation.

The concept introduced by Massachusetts is one approach that is being implemented at the State and local levels to prepare emergency responders to safely and effectively respond to weapons of mass destruction (WMD) terrorism incidents. As the Office for State and Local Domestic Preparedness Support (OSLDPS) learns of new or innovative approaches, it will publish a *State and Local Approaches* bulletin to share that information with other jurisdictions that might be looking for solutions to similar problems. OSLDPS has not evaluated these approaches, and the sharing of the information should not be interpreted as an endorsement. Those interested in the specific details of this approach should contact the project director identified at the end of the bulletin.

Hazardous Materials Response Teams

Six regional teams currently provide the entire State with access to fully equipped hazardous materials teams that can

assist a local jurisdiction in responding to a WMD terrorism incident. The teams, established by the Massachusetts Department of Fire Services, Hazardous Materials Response Division, are available within one hour to all communities, not just the major urban areas.

Each HazMat team consists of 40 to 70 firefighter/HazMat technicians and support personnel drawn from participating local fire departments. Each district has one or two Operational Response Units and one Technical Operations Module. An Operational Response Unit is a HazMat equipment vehicle that carries all personal protective equipment and control equipment which allows the teams to enter an "immediately dangerous to life and health" environment and/or less severe environment. These units also carry the mass casualty decontamination system. This system consists of a set of tents, decontamination pools, heaters, lights, water manifolds, hoses and wands, and a locally developed rail system that allows for the free movement of stretcher-borne casualties. The system can be readily configured to decontaminate ambulatory patients, non-ambulatory patients, and emergency response personnel simultaneously.

The Technical Operations Modules are science and control units for each HazMat team and contain the chemical detection monitors and communications equipment for the teams. Technical Operations Modules carry the following detection and monitoring equipment (*the listing of specific equipment is not inclusive and does not imply an OSLDPS endorsement of this equipment*):

- # Chemical Detector System Kits
- # Bellows Pumps
- # Programmable Chemical Agent Detectors (CADs)
- # 4-Gas Meters
- # Digital Scaler/ Ratemeters
- # Gamma Scintillators
- # Alpha, Beta, Gamma Detectors
- # Dosimeters
- # Surface Acoustic Wave (SAW) mini-CADs
- # M256A1 Detector Kits
- # Field Analysis Kits

Some Districts also have:

- # Multigas Meters
- # Organic Vapor Analyzers

(Note: The Division is also equipped with one portable Gas Chromatograph/Mass Spectrometer)

Fire District Decontamination Companies

The Department of Fire Services has proposed the establishment of “decon companies” within fire departments in each of the 15 fire districts in the State that are equipped to conduct mass decontamination of victims of a chemical or biological weapons attack. These units would significantly enhance a local jurisdiction’s ability to decontaminate and treat victims of such an attack by:

- # Decreasing the time to decontaminate self-extricated victims
- # Reducing HazMat personnel’s involvement in decon
- # Focusing HazMat resources on victims remaining in the contaminated area
- # Focusing HazMat resources on mitigation to reduce the risk of additional people being contaminated
- # Reducing the risk of secondary contamination from people leaving the scene

Each decon company would be provided with equipment that is stored on trailers and maintained in a ready state by the local department. Each participating fire department would also enter into an agreement with the State to maintain the equipment, make it immediately available upon request, and to have its personnel trained in decon procedures. The Department of Fire Services estimates that, including the trailers and the equipment specified below, each decon company will cost approximately \$20,000.

<u>Item</u>	<u>Cost</u>
3 - 1/2" x 4' x 8' plywood	\$ 75
2 - 3/4"x 4' x 8' plywood	80
4 - 2" x 4" x 8' pine	16
1 - 40' x 6-’ tarp	100
2 - 50' x e” garden hose	70
6 - 3/4” full port ball valves	57
20 - 3/4”-1" male couplings	40
20 - 3/4”-1" female couplings	30
6 - 3/4” x 2" nipples	2
6 - 3/4” x 3/4” x 3/4” reducing riser tee	5
26 - 1/2" - 1 1/4" stainless steel clamps	13
8 - 3/4” hose caps	8
6 - 3/4” x 3/4” x 1/2" male hose	14
6 - Water wand	60
6 - 5 gal pails	30
6 - 20" brushes	30
1 - 20' x 100' roll plastic 6 mil	37

1 - 1 1/2” x 6 outlet manifold 455

<u>Item</u>	<u>Cost</u>
2 - 15' x 10' tents	\$ 1,100
2 - Heavy duty carry bags w/ 2 handles	110
4 - 15' walls	460
2 - 10' walls w/ center zipper	180
2 - 10' walls w/o center zipper	160
1 - 10' rain gutter	60
8 - 20lb. sand bags w/ quick release pins	336
8 - 14" heavy duty metal stakes w/ quick release pins	216
4 - Tent lights	1,000
8 - Cases XXL Level-C suits w/ booties and hood	1,120
Subtotal	\$ 5,865

Recommended Optional Equipment:

1 - Tent heater	\$ 1,000
1 - Hot water heater	8,500
Subtotal	\$ 9,500

Total \$15,343

Hospital Decontamination Companies

While some hospitals in the State have developed a decontamination capability for single patients, few, if any, have the ability to decontaminate multiple patients arriving at the same time. In order to provide the capacity to decontaminate victims at the hospitals without further taxing hospital personnel engaged in treating the victims, the Department of Fire Services has proposed the establishment of additional fire department decon companies. The decon companies would be based in communities with hospital emergency departments and would respond directly to a predetermined hospital during a terrorism incident.

Implementation of this component of the RRS will require joint planning between the fire departments and hospitals to determine where the decon area would be located, if power and water are available at the site or if they must be supplied by the decon unit, and procedures to ensure that all contaminated patients are directed to the decon area prior to entering the hospital.

For More Information

For more information about the Massachusetts RRS, contact David Ladd, Director, Hazardous Materials Response Division, Massachusetts Department of Fire Services, at (978) 567-3117 or by e-mail at david.ladd@state.ma.us.

For additional information on OSLDPS *State and Local Approaches* bulletins, contact Gabrielle Meszaros-Parada

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