

**U.S. EPA Regions 1 & 2 Planning Team**  
**Planning Assessment for Response to Homeland Security Blister Agent Scenario**  
**Yale Bowl – New Haven, Connecticut**

Planning Objective: EPA Regions I and II have been paired to evaluate the potential resource level necessary in order to effectively respond to the DHS Scenario 5: Chemical Attack – Blister Agent. The scenario in its original form is included as “Attachment 1 – DHS Scenario 5 – Blister Agent (2004)”. In addition the scenario summary prepared by the EPA ad hoc group “*Getting to Five Incidents of National Significance*” is included as Attachment 2 of this document.

**1. Scenario Mission Statement and Planning Assumptions**

The Planning Team used the assumptions and scenario boundaries to identify the most probable EPA response mission during this blister agent incident. This was achieved by identifying potential receptors of the blister agent, and determining whether that receptor would have the capability and assets to conduct an assessment and, if necessary, decontamination. The Planning Team also developed further planning assumptions, beyond those provided, in order to establish boundaries and identified information gaps needed to initiate the response planning process. Alterations/Deviations from the scenario description in the “Working Draft: Getting to Five” document are outlined below.

- The Regional planning Team does not believe that intensive efforts for the characterization and decontamination of the stadium itself would be a priority in the early phases of the response, or potentially at all. A planning assumption is that the stadium and affected parking areas would be quarantined and secured (fenced), while other portions of the parking lot may serve as staging areas. The Planning Team envisions that the main focus of EPA’s mission and efforts would be on the affected environment immediately surrounding the stadium and the off-site contamination through vectors to homes, buildings, and transportation systems through which contaminants have been carried to and through.
- The Regional planning Team had difficulty in evaluating the scenario without placing it in an actual location, due to the wide spectrum of variables which would be associated with a fictitious “Anytown, USA” model. The most notable variable is the capabilities, capacity and role of the affected state government – which has a significant bearing on the mission of what would likely be tasked to EPA. For this reason, the Team had selected the scenario to occur in Connecticut, which is representative of the environmental and public health capabilities and strengths of the “typical” Northeastern state.
- For the reasons stated above, the Yale Bowl in New Haven, CT was selected, and the Planning Team used actual population and demographic data, and infrastructure to base the planning upon. To a lesser extent, the venue was changed from a football game to a rock concert in order to create an event which

would meet the 100,000 person exposure capacity – which doesn't otherwise exist in the Northeast.

The scenario is based on a Mustard-Lewisite agent (HL) which is dispersed upon a stadium holding 100,000 people. Planning assumptions include that 70% of the stadium population is impacted by mustard contact and 30% by vapor. It is further estimated that 60,000 people had left the stadium by the following modes of egress:

- 10,000 walking to students dorms, apartments and hotels
- 40,000 via personal vehicles
  - 20,000 local in the greater New Haven area
  - 20,000 outbound to locations generally within 200 miles
- 10,000 via public transit
  - 4,000 on buses
  - 4,000 on trains
  - 2,000 on taxi, shuttle and livery services

The Planning Team assumed that HL would totally degrade within 30 days in the outdoor environment and 90 days within indoor environments. The Planning Team believes these are very conservative degradation times, as HL degrades rapidly by hydrolysis upon exposure to water.

The Planning Team determined that the primary blister agent response mission would be the assessment and decontamination of pathways and receptors of those 60,000 transport vectors. The EPA mission would include the assessment and decontamination of many private residences, high value public areas, and some local infrastructure. It is also assumed that EPA would not have a primary operational function associated with the mass casualty response regarding the 40,000 victims which did not depart from the stadium.

Other planning assumptions include that project completion will be within in one year or less. The EPA Region I REOC is fully staffed to support the mission, while the Region 2 REOC is staffed only to the extent to supports its own personnel deployed in Region 1. Both regions will be able to maintain day-to-day emergency response capability. A planning assumption is that rotations would be for 3 weeks and that OSCs (in both Regions) who are "off rotation" will cover emergency response duty, critical activity at removal sites, and other day-to-day ER program activity.

The Unified Command will establish decontamination and assessment priorities (i.e. critical infrastructure, mass transit, and transit links.) Some entities have their own capabilities for decontamination. EPA & contractor PPE assets are very limited for Level A, although most of the work will be done in Level C. All entry teams need personnel decontamination support which has been built into the staffing estimates.

Incident objectives are contained in the attached ICS-202s prepared for the initial and peak response phases.

### Applicability of EPA's Crisis Communications Plan

The Planning Team assumed that the President of the United States issued a federal disaster declaration and the event was considered a Nationally Significant Event or DHS-led event. This assumption would trigger implementation of EPA's "*National Approach to Response - Crisis Communications Plan (the Crisis Plan)*" In accordance with the Crisis Plan, EPA's "Leadership Cadre" would convene as soon as possible after the attack, and for the purposes of this planning exercise, would be in place within the Initial phase of the Response (day 3 through day 10) with significantly more Public Information resources required during the Peak Response period (day 11 through day 180).

EPA's Crisis Plans calls for at least four (4) trained Public Information Officers (PIOs) to serve as part of the "leadership cadre," including the Associate Administrator of the Office of Public Affairs (AA of OPA), the Assistant Associate Administrator AAA of OPA, the regional Public Affairs Director (PAD), and the PIO at the Incident Command.

### Public Information Needs and Requirements

There will be vast public information needs immediately after the attack, and during EPA's Initial and Peak Response efforts. The requirements to increase staffing of Public Information Officers and Community Involvement personnel will increase rapidly during the Initial Phase of the Response, and will remain high over the course of the Peak Response. It is anticipated that these needs will be driven by several factors: 1) EPA's planned response roles that anticipate deployment of large numbers of operational resources to assess homes around the Stadium and in New Haven's surrounding areas; 2) anticipation of EPA's lead clean-up, decontamination, and analytical responsibilities over the course of the Initial and Peak Responses; and 3) the need for community outreach to coordinate and support Branch Operations and laboratory analyses anticipated throughout the response.

The enormous community outreach and public information needs are supported by several reports and planning assumptions that have been developed as a result of this exercise. For example, it is estimated that demand for remediation will approach or exceed 2,500 total samples per day during peak operations (air, wipes, soil, water, and decontamination fluids); and that given the estimated lab sample capacity it could take over two years to churn through the sample backlog generated by the attack. Notwithstanding the fact the many of these samples will not come from EPA laboratories and that the HQ's EOC's Environmental Unit will manage the analytical data, it is anticipated that there will be a tremendous public information role to manage expectations regarding the timing of results. A frightened public which is awaiting individual assessment and analytic results taken from their homes or from medical tests will necessitate an effective and efficient public outreach campaign. This will be especially important in light of known laboratory capacity issues that predict long backlogs for sample results.

## 2. **Discussion of the Initial Response Phase**

The “Initial Response” phase is generally the period between 3-10 days after the blister agent attack. EPA Regions 1 and 2 (the Planning Team) developed the incident objectives (ICS 202) and staffing requirements based on the highest level of activity during the initial response phase of the scenario. Involvement during the “Initial Response” phase is primarily EPA OSCs, Special Teams and contract support. EPA Regions 1 and 2 activate their respective Response Support Corps (RSC) during the “Initial Response” phase; but the RSC contribution to the response does not truly begin until the end of the “Initial Response” phase.

With the assumption of federal disaster declaration, the Planning Team has accounted for staffing estimates to satisfy the Federal Emergency Management Agency (FEMA) organizational resource needs of the National Response Framework (NRF). EPA has a primary support mission through Emergency Support Function #10, but would also support ESF#3 (Public Works and Infrastructure), ESF #14 (Long Term Recovery) and ESF #15 (Public Information). The initial response focuses on 1) treatment of casualties by the local emergency response agencies, 2) evidence collection by the FBI and local law enforcement and 3) efforts to determine the extent of contamination. EPA’s primary role during the “Initial Phase” is to support the first two functions and take the lead on the third function.

Response Objectives during the initial phase are identified in Figure 1.

### **EPA Operational Mission**

During the “Initial Phase”, the EPA Operations Section organizes into two main branches: 1) the Assessment Branch and 2) the Removal / Emergency Response Branch.

The primary objective of the Assessment Branch is to define the exclusion area and conduct air monitoring at the incident. This branch is comprised of two exterior and two interior sampling teams. Each team is comprised of ten personnel to conduct the sampling and decontamination operations of the sampling team. The Assessment Branch is responsible for sampling and air monitoring as directed by the EPA Incident Management Team (IMT).

The primary goal of the Removal / Emergency Response Branch is to decontaminate high value assets and resources as determined by the Unified Command (UC). The Removal / Emergency Response Branch will decontaminate the First Response vehicles and equipment and the critical public transportation assets contaminated during the initial response and population egress from the stadium. Additional decontamination teams will be set up to support the First Response and public transportation decontamination teams and / or decontaminate any other high value assets as designated by the UC.

Figure 1 – Response Objectives During Initial Phase:

<b>INCIDENT OBJECTIVES</b>	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
	DHS SCENARIO 5: BLISTER AGENT CHEMICAL ATTACK	1/31/2008	1200
4. OPERATIONAL PERIOD (DATE/TIME) Initial Period (0 -10 Days)			
5. GENERAL CONTROL OBJECTIVES FOR THE INCIDENT (INCLUDE ALTERNATIVES)			
<ol style="list-style-type: none"> <li>1. Safety of incident personnel.</li> <li>2. Execute FEMA Mission Assignment #xxxxxxx.</li> <li>3. Determine HL depositional footprint.</li> <li>4. Determine extent of HL exclusion zone.</li> <li>5. Decontaminate incident response personnel and provide decontamination advice as requested.</li> <li>6. Assess possible vectors of contamination migration.</li> <li>7. Liaise with Public Health agencies to determine human health impacts.</li> <li>8. Establish communications and outreach management plan.</li> <li>9. Establish automated data management plan.</li> <li>10. Emergency decontamination of high value assets as directed.</li> <li>11. Provide law enforcement support; decontamination, sampling; etc.</li> <li>12. Assist local officials with infrastructure impact assessments.</li> <li>13. Provide consultation to local officials regarding evacuation and shelter-in-place advice.</li> <li>14. Assess status of locally assigned EPA personnel and facilities.</li> <li>15. Assess impact to EPA regulated sites within the footprint area (RCRA, NPDES, NPL, Removal, Water Supplies and Waste Water Treatment facilities).</li> <li>16. Establish a command post(s) and staging area(s).</li> <li>17. Provide logistical support to incident personnel.</li> </ol>			
RICT/REOC Objectives <ol style="list-style-type: none"> <li>1. Staff REOC to support the incident</li> <li>2. Liaise with HQ/Other regions to provide staffing, equipment, logistical and technical support.</li> <li>3. Liaise with State Governor offices</li> <li>4. Liaise with regional Federal agencies not participating in the Incident Command</li> </ol>			
6. WEATHER FORECAST FOR OPERATIONAL PERIOD 80 Degrees F, Clear, Westerly Winds at 5-10 mph			
7. GENERAL SAFETY MESSAGE HSO will provide,			
8. ATTACHMENTS (✓ IF ATTACHED)			
<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input type="checkbox"/> ORGANIZATION LIST (ICS 203)</div> <div style="width: 33%;"><input type="checkbox"/> MEDICAL PLAN (ICS 206)</div> <div style="width: 33%;"><input type="checkbox"/> _____</div> <div style="width: 33%;"><input type="checkbox"/> ASSIGNMENT LIST (ICS 204)</div> <div style="width: 33%;"><input type="checkbox"/> INCIDENT MAP</div> <div style="width: 33%;"><input type="checkbox"/> _____</div> <div style="width: 33%;"><input type="checkbox"/> COMMUNICATIONS PLAN (ICS 205)</div> <div style="width: 33%;"><input type="checkbox"/> TRAFFIC PLAN</div> <div style="width: 33%;"><input type="checkbox"/> _____</div> </div>			
9. PREPARED BY (PLANNING SECTION CHIEF)		10. APPROVED BY (INCIDENT COMMANDER)	

During the “Initial Phase” of the response, EPA staffs the Incident Command and Planning Sections with only Key Leadership Positions (KLPs) and limited support personnel and contract support. This is the build-up phase of the project and EPA is directing most of the available resources towards the Operations Section and their respective Branches. There is only one shift for all positions during this part of the response. The Planning Team determined that second shifts do not begin until after day 10.

Additionally, during the Initial Response phase, EPA would be performing assessments of impacts to drinking water and wastewater infrastructure in order to determine and public health consequences. This activity may also extend into the early portion of the peak response phase, but is not expected to endure very deep, if at all, into the sustained peak operational mission.

The organization structure for the Operations Section is shown in Figure 2 - ICS 207: Operations Section During Initial Phase. The complete ICS-207 for the full incident command structure and Regional EOC is included as Attachment 3 to this report.

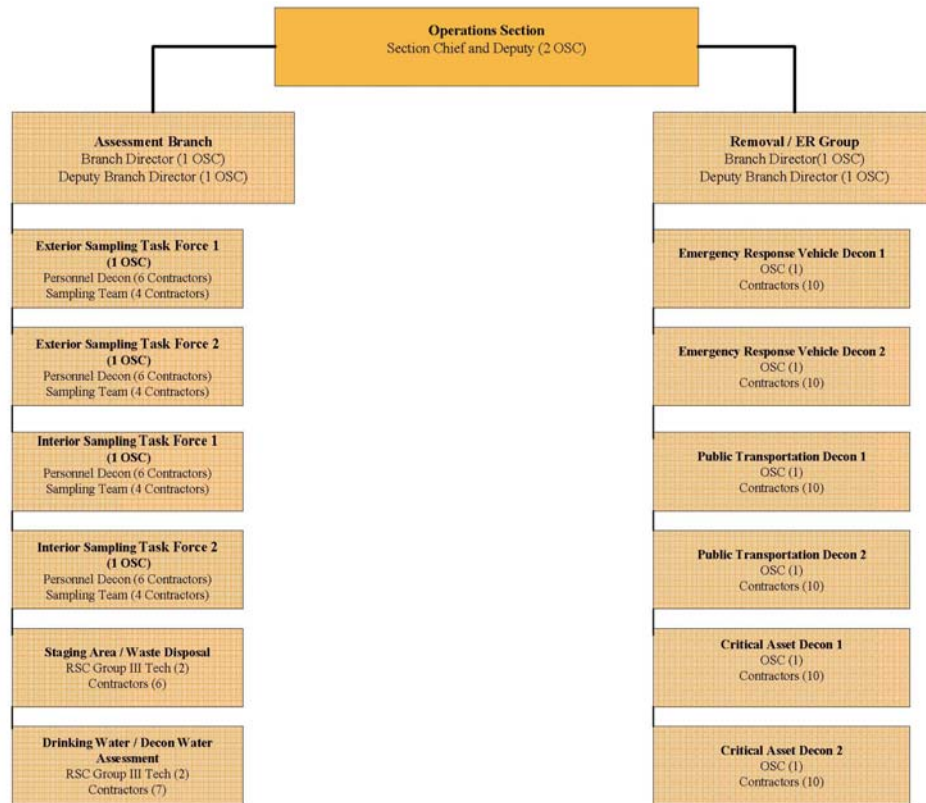
### Crisis Communication

Public Information needs at the Incident Command during the Initial Phase will also be very high and will increase daily. During this phase, the EPA Operations Section plans to organize into **two main branches: 1) the Assessment Branch**, which aims to define the “hot zone” and exclusion area and will also conduct air monitoring; and 2) **the Removal / Emergency Response Branch**, which will work to decontaminate high value assets and resources such as First Response vehicles, critical public transportation assets and population egress from the stadium.

These activities will necessitate significant public outreach. First, defining the “hot zone” or exclusion area will likely require residential and commercial evacuation zones. Providing frequent and accurate updates to the public about how long the evacuation may go on will need to be coordinated closely through local authorities and communicated to the public. In this situation, EPA’s air monitoring and assessment work will likely be critical in making these decisions and a determination of when it is safe to return to the exclusion areas will likely be coordinated at the highest levels of the government (since law enforcement would also be involved in these determinations).

It will be necessary to closely coordinate information regarding air monitoring results with state public health authorities to provide information about any health implications related to air results. Additionally, media and other authorities will look to EPA to provide decontamination instructions for clothing and other materials that may have been exposed during the incident.

Figure 2 - ICS 207: Operations Section During Initial Phase



### Regional and Headquarters EOCs

EPA Region 1 and 2 did not modify the Regional Operations and Headquarters Operations resources during the “Initial Response” phase. The Planning Team based this decision on the availability of personnel to staff these positions at the Regional and Headquarters offices and the types of personnel filling the slots. Personnel reporting to work at their home office location are filling these slots. The level of logistics support to sustain Regional and Headquarters Operations is much lower than supporting a full field Incident Management Team.

### **3. Discussion of the Peak Response Phase**

The “Peak Response” period is considered to occur within the period between 10 days and 6 months after the blister agent attack, most likely reached at around the 30 day period and being sustained for an undetermined period of time, not expected to exceed six months, which would be based on many considerations, include the effective pace of the operation, as well as likely external factors. The Planning Team developed the

incident objectives (ICS 202) and staffing requirements based on the highest level of activity during the “Peak Response” phase of the scenario. (See Figure 3: Response Objectives During Peak Phase) EPA fully mobilizes during the “Peak Response” phase of the incident and EPA OSCs, Response Support Corps (RSC), National Teams and contractor support fill critical positions at all levels. The Planning Team developed the Peak Resource Template assuming that all assets are available to support the response.

The Planning Team carefully assessed the OEM Blister Agent Scenario and established scenario boundaries and developed response related assumptions to assist in the planning process. The Planning Team also used technical information assembled during the TOPOFF3 exercise (Blister Agent attack in Connecticut) and consulted national experts from EPA’s ERT, NDT and NHSRC to define the Mustard-Lewisite (HL) mixture and determine likely action and cleanup levels. The most significant assumption that drives the resource requirements in this scenario is the need to assess the primarily residential structures and vehicles belonging to anybody exposed during the attack. This assumption is not consistent with the physical and chemical characteristics of HL, but EPA has an established history during significant events of always taking the course of action that is most protective of human health.

During the “Peak Response” period, the Planning Team accounted for the full operational mission which is believed to be expected of EPA. The Planning Team also considered which missions (and thus, positions) would need to be double-shifted. This does not imply 24 hour operations but rather one shift from 0600 – 1700 and another from 1200 – 2300 daily. The other critical resource-planning factor during the “Peak Response” period is the need for replacement teams. This affects only the government employee support and is required due to the long duration of the project.

### EPA Response Operations

The EPA and contractor personnel needs are very large, and driven by the scenario assumptions that in excess of 30,000 residences are impacted. EPA will be in the lead of addressing residential extent of contamination and residential clean up. There will be enormous pressure to address all residential contamination immediately and simultaneously. The degradation times chosen for the assumptions (30 days outdoors, 90 days indoors) and the need to have two shifts during peak operations significantly contribute to the large number of personnel needed for this plan.

The Planning Team modified the Operations Section to include five separate Branches. The five branches include:

- 1) Impact Area Branch: The mission of the Impact Area Branch is to conduct assessments, sampling and decontamination of all structures located in the Impact Area as defined during the “Initial Period” of the response. This may or may not include decontamination of the Yale Bowl itself. The Planning Team assumed that standard level of protection for all entries is Level C, with the exception of special cases that may require an upgraded level of protection. The Impact Area Branch is set up to be self-



Figure 3 – Response Objectives During Initial Phase:

<b>INCIDENT OBJECTIVES</b>	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED									
	DHS SCENARIO 5: BLISTER AGENT CHEMICAL ATTACK	1/31/2008	1200									
4. OPERATIONAL PERIOD (DATE/TIME) Peak Period (10 – 60 Days)												
5. GENERAL CONTROL OBJECTIVES FOR THE INCIDENT (INCLUDE ALTERNATIVES) <ol style="list-style-type: none"> <li>1. Safety of incident personnel.</li> <li>2. Execute FEMA Mission Assignment #xxxxxxx.</li> <li>3. Decontaminate incident response personnel and provide decontamination advice as requested.</li> <li>4. Coordinate with UC to establish &amp; execute decontamination priorities.</li> <li>5. Support development of a debris management plan.</li> <li>6. Dispose of contaminated debris.</li> <li>7. Assess possible vectors of contamination migration.</li> <li>8. Liaise with Public Health agencies to determine human health impacts.</li> <li>9. Execute and revise as needed communications and outreach management plan.</li> <li>10. Execute and revise as needed automated data management plan.</li> <li>11. Provide law enforcement support; decontamination, sampling.</li> <li>12. Assist local officials with infrastructure impact assessments.</li> <li>13. Provide consultation to local officials regarding evacuation and shelter-in-place advice.</li> <li>14. Assess impact to EPA regulated sites within the footprint area (RCRA, NPDES, NPL, Removal, Water Supplies and Waste Water Treatment facilities).</li> <li>15. Maintain incident facilities.</li> <li>16. Provide logistical support to incident personnel.</li> <li>17. Develop and execute a demobilization plan.</li> <li>18. Develop and execute an incident financial management plan.</li> </ol> RICT/REOC Objectives <ol style="list-style-type: none"> <li>1. Staff REOC to support the incident</li> <li>2. Liaise with HQ/Other regions to provide staffing, equipment, logistical and technical support.</li> <li>3. Liaise with State Governor offices</li> <li>4. Liaise with regional Federal agencies not participating in the Incident Command</li> </ol>												
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supportive and a personnel decontamination team supports every entry team. Within this branch are three Groups (assessment sampling, gross decon, and post decon confirmatory sampling), which are *each* comprised of ten 3-person teams, supported by two 6-person personnel decon teams, organized as two Task Forces. A Waste Disposal Group addressing management of decontamination water (sampling and potential treatment) and contaminated debris augments the Impact Area Branch. The Waste Disposal Group will coordinate with the IMT Environmental Unit to determine classification, treatment and disposal of contaminated materials.

2) New Haven Area Branch: The mission of the New Haven Area Branch is to conduct assessments, sampling and decontamination of all structures and vehicles belonging to potentially impacted persons residing within the New Haven area. The Planning Team divided the New Haven Area Branch into four geographical divisions (NE, NW, SE, and SW). Each Division contains five 3-person assessment teams (supported by a 6-person personnel decon team) and six 3-person decontamination teams (supported by two 6-person personnel decon teams). Like the Impact Area Branch, all teams are set up to be self-supportive. The Planning Team assigned a Waste Disposal Team to each New Haven Area Branch Division. The Waste Disposal Team will coordinate with the Waste Disposal Group of the Impact Area Branch and the IMT Environmental Unit to determine classification, treatment and disposal of contaminated materials. The New Haven Area Branch Director can shift resources within the New Haven Area Branch as needed.

3) Special Teams / Technical Branch: The mission of the Special Teams / Technical Branch is to provide analytical support to the EPA Incident Management Team. The TAGA vehicles provide air monitoring and sampling support. There are currently three TAGA vehicles, but only enough trained personnel to operate two at any given time. The NDT operates the Portable High-Throughput Integrated Laboratory Identification System (PHILIS), of which three units are stationed in Edison, NJ. The TAGA and PHILIS units are an operational function which works closely with the Environmental Unit in support of the overall operation. Although these units are still in a developmental stage, the Planning Team developed the “Peak Period” Resource Template with the assumption that EPA has staffed all three PHILIS mobile laboratories.

4) Removal / Emergency Response Branch: The mission of the Removal / Emergency Response Branch is to support the IMT with decontamination of high value assets, remove residential potentially contaminated material (curbside pick-up) and establish a dedicated reporting and response mechanism to address incident related emergencies. The Removal / Emergency Response Branch continues the mission of supporting the Incident Unified Command (UC) by dedicating assessment and decontamination assets to support First Responder vehicles and equipment and public transportations assets. This mission carries over from the “Initial Response” period and will likely no longer exist at some point during the “Peak Response” period. The Planning Team assumed that the IMT would coordinate and establish a Curbside-Pickup Program of residential contaminated materials (ex. clothing worn by concert attendees).

The Removal / Emergency Response Branch is home to the incident specific emergency “hotline” and response operation. The “hotline” service is a 24-hour operation supported by a day and night emergency response team. All waste disposal issues in the Removal / Emergency Response Branch will be coordinated through the Waste Disposal Group of the Impact Area Branch and the IMT Environmental Unit.

5) Off-Site Assessment Removal Branch: The mission of the Off-Site Assessment Removal Branch is to conduct assessments, sampling and decontamination of all structures and vehicles belonging to potentially impacted persons residing in the states surrounding the New Haven area. The Planning Team divided the Off-Site Assessment Removal Branch into three geographical divisions: 1) Connecticut / Rhode Island, 2) New York / New Jersey and 3) Massachusetts / Northern New England. Each geographical division is comprised of assessment and decontamination teams. Like the Impact Area Branch and the New Haven Area Branch, all teams are set up to be self-supportive. The Off-Site Assessment Removal Branch will need to establish liaison with their respective State Agencies and coordinate with State and local responders for support. There are four 4-person assessment teams (supported by four 6-person personnel decon teams) and six 3-person gross decon teams (supported by six 6-person personnel decon teams). The Planning Team assigned a Waste Disposal Team to each of the three geographical divisions. The Waste Disposal Team will coordinate with the IMT Environmental Unit and their respective State Agency to determine classification, treatment and disposal of contaminated materials. The Off-Site Assessment Removal Branch Director can shift resources between the geographical divisions as needed.

The organization structure for the Operations Section is shown in Figure 4 - ICS 207: Operations Section During Peak Phase. The complete ICS-207 for the full incident command structure and Regional EOC is included as Attachment 4 to this report.

## Operation Section Reconciliation

### **Operations Section Reorganization to fit Ad Hoc Workgroup Format Dated July 1, 2008**

EPA OEM tasked EPA Regions 1 and 2 to assess and develop a Response Plan to address a Blister Agent Attack at a 100,000 seat Stadium. Representatives from Regions 1 and 2 worked together to develop a detailed Response Plan to meet the OEM requirement.

EPA OEM reviewed the Response Plans for all five scenarios. The scenarios include the Blister Agent Scenario, Earthquake Scenario, Hurricane Scenario, Radiation Dispersion Device Scenario and Weapons Grade Anthrax Scenario. For the most part, the response organization is consistent throughout the five different scenarios. However, some deviation exists in the respective Operations Section of each scenario. For purposes of comparison, OEM developed an Operations Section Organization Structure that best fits

all five scenarios. The OEM Operations Section consists of Operations Section Chiefs, Assessment Branch, Removal / ER Branch, Infrastructure Support Branch and Waste Management Support Branch.

The Region 1 and 2 Blister Agent Response Plan Operations Section consists of five branches. These include Impact Area Assessment, New Haven, CT Area Assessment, Special Teams/Technical, Removal/ER Branch and Off-Site Assessment Branch. Region 1 and 2 has taken the following actions to reformat the Operations Section to meet the format provided by OEM through the Ad Hoc Workgroup.

The attached Resource Template provides the Region 1 and 2 Blister Agent Response Plan as modified to meet the Ad Hoc Workgroup format. Assessment Branch is shaded light turquoise, Removal / ER Branch is shaded tan, Infrastructure Support Branch is shaded light yellow and the Waste Management Support Branch is shaded lavender.

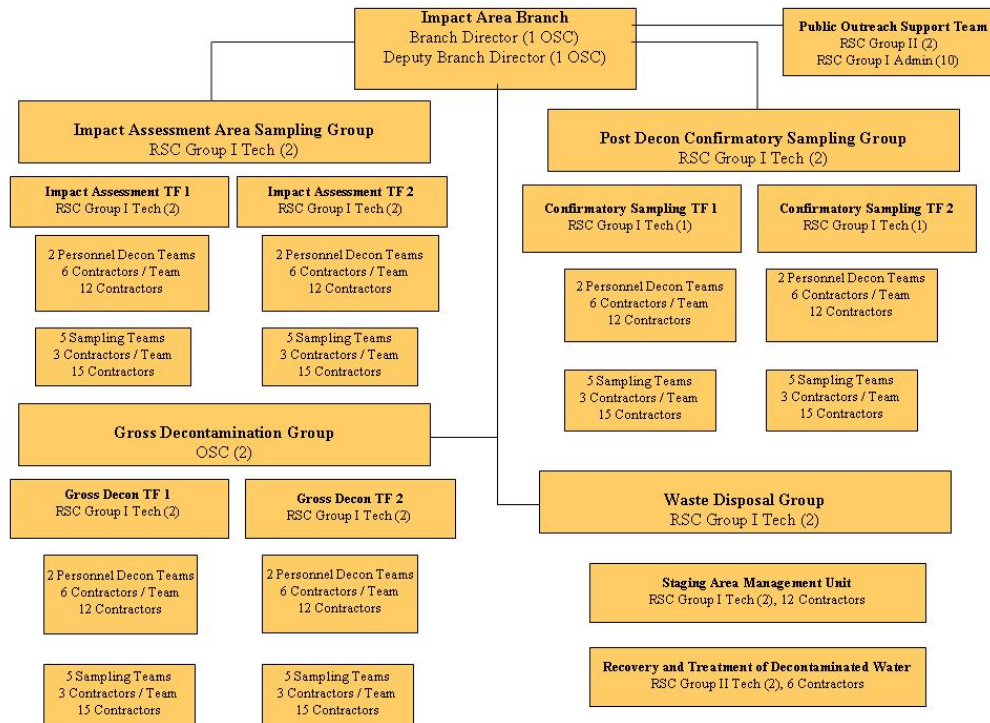
- 1) Impact Area Assessment Branch – The EPA Region 1 and 2 Team (Team) moved the Branch Director and Deputy, Impact Area Assessment Sampling Group and the Post Decon Confirmatory Sampling Group into the Assessment Branch. The Team moved the Gross Decontamination Group and all of the Public Support Team into the Removal / ER Branch. The Team moved the Waste Disposal Group into the Waste Management Support Branch.
- 2) New Haven, CT Area Branch – The Team moved the Branch Director and Deputy and the Gross Decontamination Task Force contained within each of the four New Haven Divisions into the Removal / ER Branch. The Team moved the Public Outreach Support Team and the Assessment / Post Decon Task Force contained within each of the four New Haven Divisions into the Removal / ER Branch. The Team moved the Waste Disposal Team contained within each of the four New Haven Divisions into the Removal / ER Branch.
- 3) Special Teams / Technical Branch - The Team moved the entire Special Teams / Technical Branch into the Assessment Branch.
- 4) Removal / Emergency Response Branch - The Team moved the Branch Director and Deputy, the Emergency Response Vehicle Decon Group and the Public Transportation Decon Group into the Infrastructure Support Team. The Team moved the Public Outreach Support Team and the Curbside Pickup of Contaminated Materials Group into the Waste Management Support Branch. The Team moved the Hotline Coordination and On-Call / Response Assessment Team into the Removal / ER Branch.
- 5) Off-Site Assessment Removal Branch – The Team moved Branch Director, Deputy, and the three respective Waste Disposal Teams contained within each of the Geographic Assessment and Decon Divisions into the Waste Management Support Branch. The Team moved the three respective Gross Decon Task Forces contained within the Geographic Assessment and Decon Divisions into the Removal / ER

Branch. The Team moved all remaining components of each of the Geographic Assessment and Decon Divisions into the Assessment Branch.

This reconciliation template has been prepared to aid the ad hoc group in comparing resource levels within the Operation Sections of all five Regional Response Plans. The original organization charts (ISC-207s) and resource templates were not changed to reflect this reconciliation.

Following page - Figure 4 - ICS 207: Operations Section During Peak Phase

## Regions 1 and 2 Blister Agent Response Plan – Peak Response Period – Operations Section



## Regions 1 and 2 Blister Agent Response Plan – Peak Response Period – Operations Section

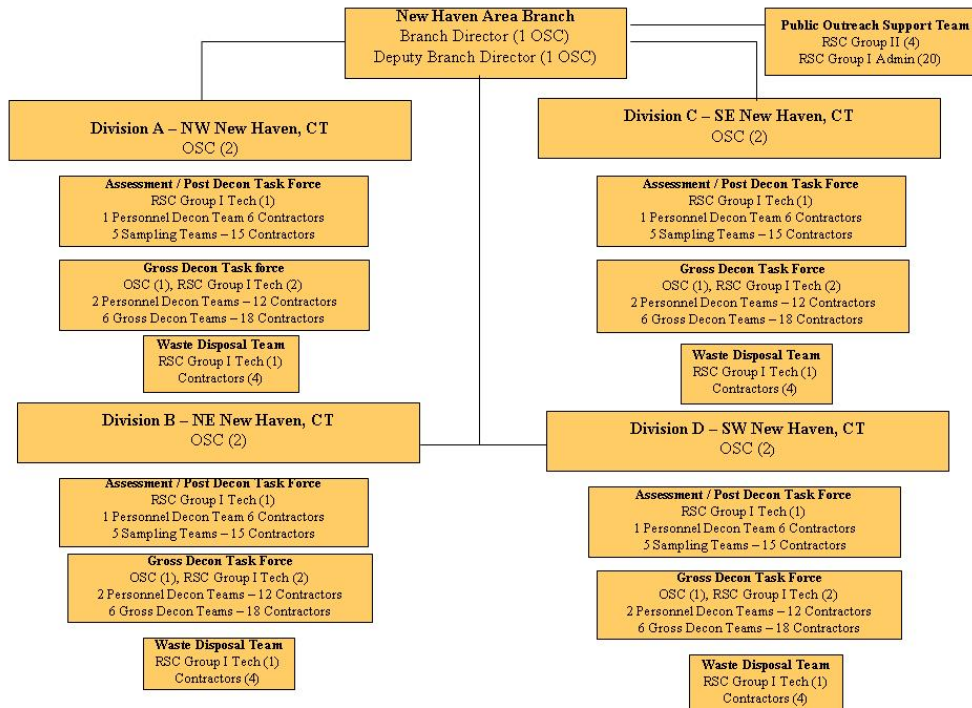
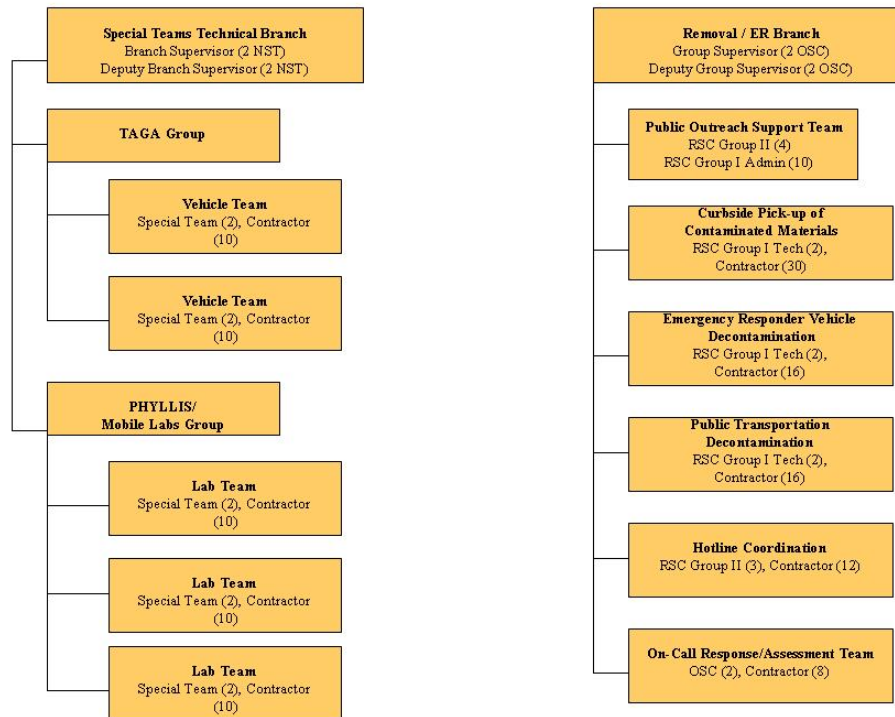
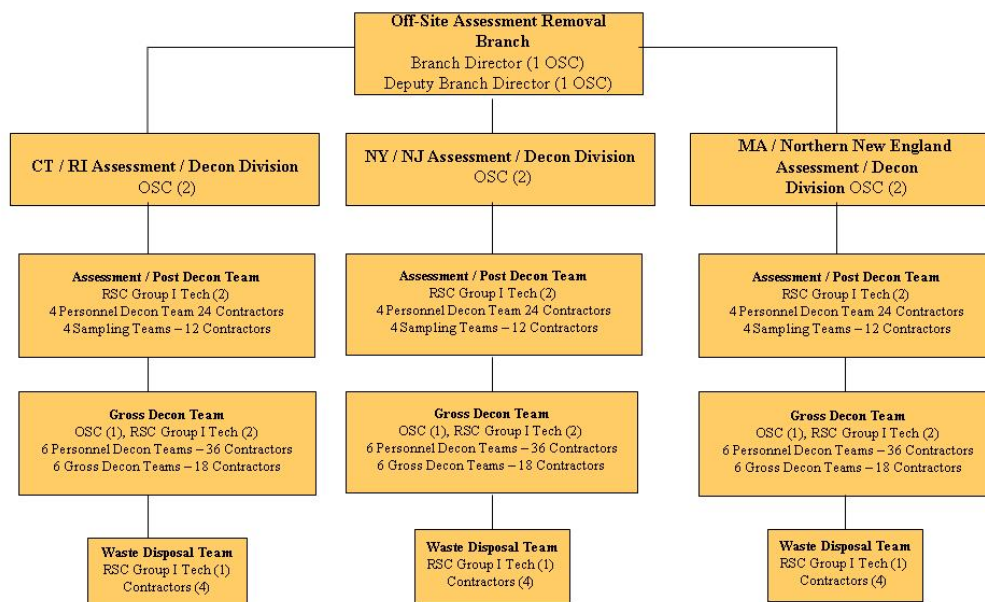


Figure 4 - ICS 207: Operations Section During Peak Phase (continued)

## Regions 1 and 2 Blister Agent Response Plan – Peak Response Period – Operations Section



## Regions 1 and 2 Blister Agent Response Plan – Peak Response Period – Operations Section



### Crisis Communications

There will be significant and extensive public information needs during the Peak Phase of the response. The following is a brief inventory of **Public Information Products** that would be required for the response:

1. Press releases every day that cover all EPA activities and updates.
2. Media alerts/as needed for new information requiring immediate action (i.e., boil water orders, clothing decontamination instructions, etc.).
3. Fact sheets – focus on media-specific areas:
  - Drinking Water fact sheet to utilities and users;
  - Wastewater – to utilities, state partners (fish advisories),
  - State DEPs (waivers and exemptions);
  - Medical providers (including guidelines for decontamination);
  - Laboratory information – to help public understand sampling procedures and timeframes for analyses for blister agents;
  - Fact sheets – focus on media-specific areas:
  - Public Health effects of blister agents;
  - Waste disposal – helping public understand safe disposal of contaminated waste.
4. Web updates (hourly)
  - Clickable maps for sample results
  - GIS tools and mapping of impacted area.
5. Develop materials for daily updates for incident command.
6. Flyers for door to door messages (air monitoring information, soil sampling).
7. “Ask EPA” – blog or other interactive web communication vehicle.
8. Public Service Announcements that could give people advice on soil contamination; decontamination of clothing and other items.
  - a. Target audiences: pet owners, parents, schools, community services,
  - b. Translators and multi-lingual services will be required for all communications.
  - c. Special needs populations – decontamination issues around wheelchairs.

Additionally, based on the Planning Team’s modification of the Operations Section, there will be an extensive community outreach and public information campaign to successfully conduct sampling and assessment operations. In addition to conducting “common public information tasks during the incident (i.e., issuing daily press releases, media advisories, maintaining and updating web content, etc.), the public information office will provide extensive support EPA’s Operations Branches as follows.

The CIC teams identified below will be organized as a technical specialist teams assigned with the branch it serves. The CIC Team Leader reports to the Branch Director and would also share community involvement responsibilities. The Team Leaders will work



closely with the overall Community Involvement Coordinator serving on the command staff, in regard to technical directions (messaging, materials, methods, etc.). However, day to day assignments will come through the Branch Director in support of the needs of the Groups or Divisions.

1) **Impact Area Branch:** to conduct assessments, sampling and decontamination of all structures located in the Impact Area – which may or may not include decontamination of the Yale Bowl itself.

- Public information will be an important component of these efforts to provide timely information about evacuation plans, assessment and air monitoring results and decontamination procedures.
- One team of 5 CICs will be deployed to support Impact Area Branch.

2) **New Haven Area Branch:** to conduct assessments, sampling and decontamination of all structures and vehicles belonging to potentially impacted persons residing within the New Haven area. The Planning Team divided the New Haven Area Branch into four geographical divisions (NE, NW, SE, and SW). Each team contains an assessment and decontamination teams.

- The public information office will support these efforts through the teams of CICs that will be assigned to provide advance support in residential neighborhoods prior to sampling and assessment work. This advance work will lay the groundwork for sampling and assessment by informing impacted citizens of plans, protocols and access to sampling sites.
- Two teams of 5 CICs will be deployed to each support two geographical divisions.

3) **Removal / Emergency Response Branch** - to support the IMT with decontamination of high value assets, remove residential potentially contaminated material (curbside pick-up) and establish a dedicated reporting and response mechanism to address incident related emergencies; and coordinate and establish a Curbside-Pickup Program of residential contaminated materials (ex. clothing worn by concert attendees); and a “hotline” service is a 24-hour operation supported by a day and night emergency response team. All waste disposal issues in the Removal / Emergency Response Branch will be coordinated through the Waste Disposal Group of the Impact Area Branch and the IMT Environmental Unit.

- The public information office will dedicate resources to help staff the 24-hour hotline through the leadership of the IO for External Affairs. Additionally, one team of 5 CICs will provide community outreach for waste disposal pick-up for debris and contaminated clothing, similar to the Household Haz. Waste pick-up roles that EPA was responsible for after Hurricanes Katrina and Rita.

#### Communications Products Necessary for Scenario

The following is a detailed inventory of Public Information Products necessary for effective response to the Blister Agent Scenario:

- Press releases each day that covers all EPA activities and updates.
- Media alerts/as needed for new information requiring immediate action (i.e., boil water order, or clothing decon instructions)
- Fact sheets – focus on media-specific areas: Drinking water; Waste water; Decon; waste disposal procedures; laboratory procedures. Audiences include general public, utilities, medical care providers.
- Web page with regular updates.
- Interactive Maps depicting sampling and results and impacted areas.
- Talking points for IC as needed
- Flyers for door to door messages (air monitoring information, soil sampling).
- Ask EPA – blog or other interactive web communication vehicle.
- Public Service Announcements (PSAs) that could give people advice on soil contamination; decon. of clothing and other items.

Translators and multi-lingual services will be required for all communications.

#### Regional and Headquarters EOCs

The Planning Team made only minor changes to the EPA OEM Incident Command and Planning Section Resource Templates. The most significant changes include increasing the number of personnel resources in the Legal Support and Liaison functional areas of the Incident Command, and the Resource Unit functional area of the Planning Section. The Planning Team also increased the number of positions for double shift assignment on both the Incident Command and Planning Section Resource Templates. The Planning Team made minimal changes to the Regional Operations Resource Template (only some double shift changes) and did not alter the Headquarters Operations Resource Template.

#### **Discussion of Regional Resource Needs and Gaps During Peak Response**

The Regional Resource Template for Peak Response is included as Attachment 5. During the Peak Response phase, it is estimated that Regional personnel staffing would require 48 OSCs, 273 RSC members and 43 managers, working in either the field, incident command post, or Regional EOC. Additionally, the response is supported by 934 contractor personnel.

Of the 273 Response Support Corp members identified as necessary for peak response, this number includes “Other EPA employees”, who would be called upon to perform their regular duties to support the Regional response mission – but who are not registered in the RSC.

#### Staffing Gap and discussion of needed Skills/Expertise development

The staffing gap identified to support double shifted operations with replacement teams necessary for this scenario is as follows:

- OSCs: 29
- Non-OSC KLPs (minus PIOs): 9
- I-403 PIOs: 12
- I-400 CIC Managers: 49

#### On-Scene Coordinators:

The Regional pairing has sufficient OSC personnel resources to staff a full rotation, but falls short of the number of OSCs necessary to provide a full replacement team to sustain a long term response action needed for this scenario. The OSC gap identified to sustain double-shifted operations, with replacement teams is 29. This gap is based upon the planning assumption that in addition to the IC, PSC and OPS positions (and deputies), that all Branch Directors and Division/Group Supervisors (and deputies) would need to be filled by On-Scene Coordinators. The Planning Team agrees with the planning assumption that it is preferable that the IC, OPS, PSC, and Division/Group Supervisor positions (and deputies) be filled by OSCs. However, it is less necessary that all Branch Directors be assigned from the OSC community. The Regional pairing does have sufficient numbers of Regional supervisors, team leaders, and other RSC members who are capable to serve as Branch Directors.

The planning assumption that all Branch Directors would come from the OSC community was followed in order to establish the staffing gap identified in the Regional Resource Template. With exception of one Branch Director position, all personnel gaps in the template were assigned to positions as Deputy Branch Directors and Deputy Group/Division Supervisors.

#### Key Leadership Positions (non-OSCs & non 403-Trained PIOs):

In staffing out the KLPs, all On-Scene Coordinators who serve in KLPs other than IC, OPS and PSC were discounted so to maximize the OSC resource pool within the two Regions. In staffing out the necessary positions, there was no double counting of either OSCs or RSC personnel.

Staffing shortfalls identified are:

Liaison Officer:	6
Planning Section Chief:	2
Finance Section Chief:	1

It should be noted, however, the Regional pairing *does* have the 9 trained KLPs identified above within the OSC community. However, with the known shortfall of 29 OSCs to serve in the Operations Section, no OSCs were designated to fill any of these positions. (If Branch Directors were to be staffed from beyond the OSC community, then there would be no KLP shortfall.)

The Planning Team used the assumptions in the template that three 402 trained LNOs are necessary per shift. This staffing gap can also be accommodated through skills development in FEMA JFO/RRCC watchstanding and other external coordination, working as Assistant LNOs, but not necessarily needing I-402 training.

#### Public Information Officers (ICS 403):

Regions 1 and 2 have a total of 10 trained PIOs at the 403 level, and therefore fall short of the staffing estimates required to staff PIO Key Leadership Positions for this scenario. As indicated above, the Regions together could staff the Initial Phase of the response, which estimate six (6) KLP trained PIOs. However, those six trained KLP PIOs will predictably be working extremely long days from the start of the incident through 10 and will probably need a reprieve prior to beginning a three week rotation to lead the Peak Response beginning at day 10. Given that assumption, there are only four (4) trained PIOs that would be ready and capable of deploying to begin a rotation at Day 10. The shortfall therefore is 12 403-trained PIOs.

#### CIC Managers (I-400 level, with experience and skills in external affairs, community involvement or media relations )

Regions 1 and 2 combined regionally have large numbers of personnel trained at the 400 level that could arguably support the public information office during an incident. However, there is a shortfall in staff trained to the 400 level that works in, or has experience and skills in external affairs, community involvement or media relations. For purposes of this scenario, only the CIC Managers (assigned to the respective Branches) are required to have ICS training to the 400 level, and are identified in the Regional Resource Template as RSC II positions. CICs assigned within the Operations Section who are not managers are designated as RSCIII positions and are not considered to require I-400 training. Combined Regions 1 and 2 have thirteen (13) 400-level trained staff that have public affairs skills (that are not already counted as 403-level trained staff).

When factoring in double-shifting and replacement team rotations, the total gap of I-403 and I-400 level trained staff to support the Peak Response is 61 persons.

Considering the desirability of having these skills when supporting a public information office during an incident, there is a significant shortfall of 400 trained staff that also have public affairs skills and experiences.

#### Discussion of Gaps in Capital Resources

There is a significant capital equipment gap in the ability of the Regional pairing to perform the operation. In brief, the Planning Team has only accounted for Chemical Warfare Agent (CWA) detection equipment in the capital equipment resource analysis. While other capital equipment is necessary to fulfill the overall response mission (e.g. conventional ER entry equipment – TVA1000, O2/GCI, Radiation meter) or a

consumable low cost item (M256 & M272 kits or M8/M9 paper), CWA detection equipment is the only type of equipment which is not readily available. A complete list of equipment necessary to complete the mission, including its limitations, is included in “Attachment 6 - Limitations of Sampling and Monitoring Equipment Necessary for Blister Scenario”

Within the Impact Area Branch, New Haven Area Branch, Emergency Response Branch, and Off-Site Assessment & Removal Branch, each of the assessment, gross decontamination, post-decon sampling, and personnel decon teams will need dedicated CWA detection equipment (ADP2000 and AP2Ce). As reflected in the Regional Resource Template, this results in a capital equipment need of:

- 168 APD2000 units and
- 54 AP2Ce units.

The number of actual units within the Regional pairing (listed below) and even the national EPA inventory of this equipment is far below the capital equipment cache necessary to complete the blister agent mission. None of the ERRS contractors has company-owned pieces of this equipment, relying exclusively on equipment rental for this need.

Equipment	EPA R1	EPA R1 START	EPA R2	EPA R2 START	Total
<b>ADP2000</b>	3	2	1	2	8
<b>AP2Ce</b>	3	2	4	1	10

The Regional pairing would be requesting all available ADP2000 and AP2Ce equipment pieces throughout the country, tapping into the Agencies national inventory. However, it should be noted that the ADP2000 and AP2Ce equipment throughout all the Regions still falls far short of the equipment levels necessary to sustain the operation required during peak response. Nationally, the Agency has 32 ADP200 units and 34 AP2Ce units. (The national numbers cited here do not include START owned equipment, which may also close the gap.)

Not all the capital equipment gap would need to be purchased by the Agency, as some the necessary equipment may come with contractors and some may be rented for incident-specific use.

Under this scenario, EPA would work within the RRT/NRT structure to close the equipment gap by arranging for loans of these units from the Department of Defense. It is also very plausible that – under the scenario given – this equipment may also be able to be loaned to EPA from states across the country, and even through the private sector. (This capital equipment need may also be supported by activity of the FEMA JFO,

especially in working the issue of equipment loans through the private sector, working up to the peak response.)

### State Resources and Participation in Response

The work group selected the State of Connecticut for the scenario because it is considered to be representative of mid-level capability of the northeastern states.

#### Connecticut Department of Environmental Protection (CT DEP)

CT DEP has 16 Emergency Responders located throughout in 3 regional offices (Old Saybrook, Hartford, Marlborough). It has an active ER program and is Level A, B, C & PPE capable. CT DEP has oil, hazmat and WMD detection capability, communications capability, several boats and is sorbent boom deployment capable. Their emergency response program has an annual \$1.5M Emergency spill response account and quick response contractor access. Its resources also include a mobile lab, for which its capabilities are further detailed in “Attachment 6 – CT DEP Mobile Lab Capabilities”.

For this scenario, the Planning Team believes that CT DEP ER and Water programs will be heavily involved at all levels throughout the Unified Command System and deploy the bulk of their staff to this response, maintaining only other critical functions. CT DEP is expected to provide several key personnel at the command or general staff level, field staff and possibly contractor sources if funding can be provided. Examples we expect are a CT DEP Unified Incident Commander, Section Chiefs (or a Deputy), command staff and a H&S and/or Public Information Officer in addition to field teams in operations section.

#### Connecticut Department of Public Health

The CT DPH has a state lab in Hartford, which has a sample triage plan for WMD. It has an Environmental Health Unit Field Team. The CT DPH has a cooperative agreement with ATSDR for Health Consults; will consult on action and cleanup levels. It can also provide PIO support via JIC, and liaisons with town Health Officers. The capabilities of the State lab are further detailed in “Attachment 7 – CT DPH State Lab Capabilities”.

For this scenario, the Planning Team expects that CT DPH will be involving similarly as CT DEP. However, CT DPH resources will be heavily committed to address decontamination of impacted personnel, health assessment of the exposed public and related issues. CT DPH involvement is envisioned to be several personnel in the environmental unit to develop clean up and screening concentrations and in presenting these numbers to the public. We also envision that CT DPH lab facilities will be a major lab capacity resource for the response.

#### Other State Agencies

The CT Air National Guard Civil Support Team is accessed through CT Emergency Management Agency. It is not expected that the CST would have a role in the

decontamination mission, or assessment mission beyond the initial response phase of approximately the first week.

The CT EMA is assumed to be the overall lead entity for the response and that EPA assets will be supporting and augmenting into the appropriate Unified Incident Command Posts and JFO. The majority of EPA assets will be under the direction of the ESF-10 (or closely related similar) Unified IC with some liaison officers assigned to other ESF functions, such as ESF-3, and 15.

### Policy Guidance and Field Capability Gaps

The Planning Team has also identified a major gap in lab capacity to handle the level of samples generated to complete the mission. In order to evaluate the capacity necessary for the mission during peak response, the Planning Team developed the following screening and sampling methods in order to minimize the number of samples which would need to be taken, but not to the extent that it would undercut public confidence in the methods or results.

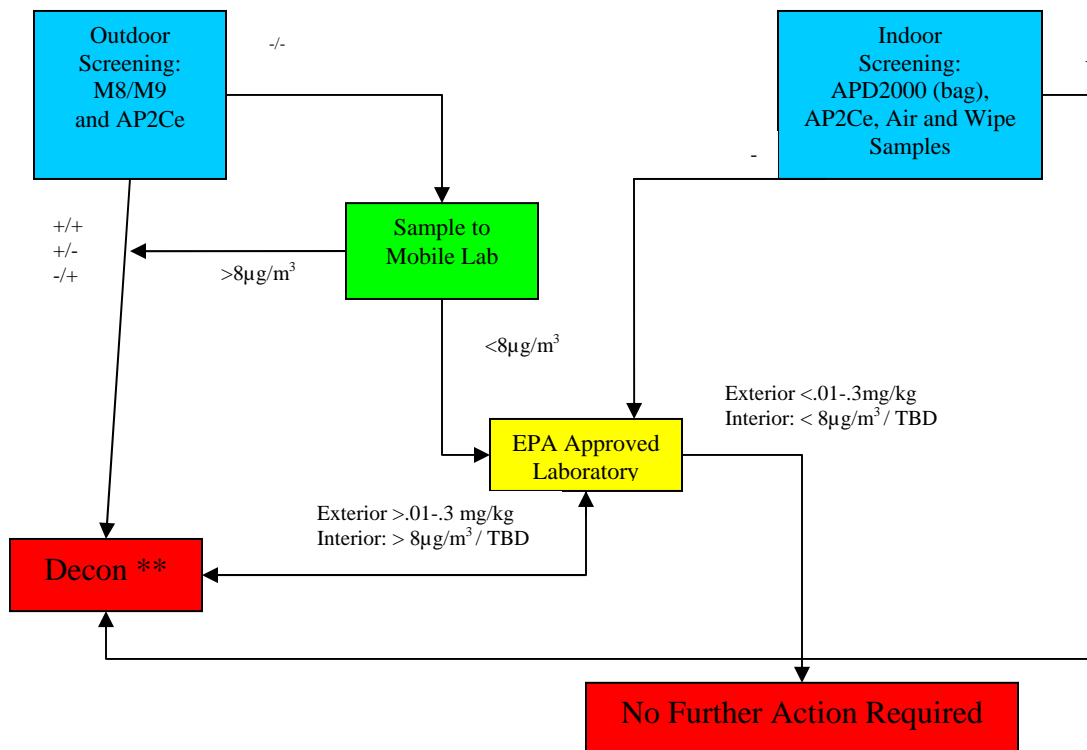
### Screening and Sampling Strategy

EPA Regions 1 and 2 developed a screening and sampling decision tree to assess HL contamination levels in exterior and interior environments. This decision tree is depicted in Figure 5. This sample screening and sampling strategy has been developed through modification of the Decision Tree developed by the EPA IMT Environmental Unit during the 2005 TOPOFF3 exercise to assess contamination in a similar scenario. The screening strategy is necessary to determine the number of number of samples which would be taken per day in order to determine the lab capacity needed for this response.

**Exterior Environment Sampling:** Sampling teams use the AP2Ce and M8/M9 paper to screen exterior environments for HL contamination. The AP2Ce is equipped with a soil-sampling device to sample solid materials and M8/M9 papers are easy to use (although relatively inaccurate) and provide timely results. Any positive reading at this stage of the screening results in adding the exterior environment to the “Decontamination” list. If the AP2Ce and M8/M9 screening results are negative, the sampling teams collect samples from the respective exterior environments and transfer the samples to a mobile laboratory for headspace analysis. The Unified Command (UC) uses the AEGL 1 (8 hour) value of  $8\text{ug}/\text{m}^3$  as the screening level for the mobile laboratory headspace screening. The UC adds exterior environments with headspace analysis results exceeding  $8\text{ug}/\text{m}^3$  to the “Decontamination” list. The UC sends exterior environment soil samples with headspace analysis results below  $8\text{ug}/\text{m}^3$  to an EPA approved laboratory for final analysis to determine if decontamination is required. The UC uses the EPA PRG value of .3 mg/kg as the action level to determine if the exterior environment requires decontamination. The EPA approved laboratory conducts post-decontamination confirmation sampling with a “clean up level” of .01 mg/kg (EPA PRG).

**Interior Environment Sampling:** Sampling teams use the AP2Ce, APD2000, air and wipe samples to assess interior environments for HL contamination. Interior sampling involves several different sampling methods including 1) sampling of bagged personal property using the APD2000, 2) sampling of high-traffic areas using the AP2Ce for on-the-spot analysis, and 3) collection of air samples and up to six wipe samples from high-traffic areas for analysis by an EPA approved laboratory. If the APD2000 or AP2Ce screening results in concentrations greater than the  $400\mu\text{g}/\text{m}^3$  instrument detection limit, the UC adds the property to the decontamination list. If the APD2000 and AP2Ce levels are below the  $400\mu\text{g}/\text{m}^3$  instrument detection limit, the UC sends the air and wipe samples to an EPA approved laboratory for analysis. The UC adds interior environments with air concentrations exceeding the  $8\mu\text{g}/\text{m}^3$  AEGL 1 (8hr) action level or surface concentrations in excess of the UC incident specific surface action level to the decontamination list. Interior environments with laboratory results below the established air and surface action levels do not require any further EPA action. EPA approved laboratories analyze post decontamination wipe samples to confirm the effectiveness of the decontamination procedures.

**Figure 5: Interior / Exterior Screening Sampling Decision Tree**





[Decon \*\*] = following decon activities, re-enter Screening Decision Tree at either the indoor or outdoor screening box.

### Rate of Sampling and Analysis Needs During Peak Response

Planning assumptions for determining the number of samples generated:

- Each Team can sample 8 houses per day, except for the offsite teams that due to travel distance will only get 4 houses per day.
- There are 22,000 people in the impact area of which only 10% were affected. This leads to 2,200 people or approximately 1,000 houses.
- 60,000 contaminated people left the stadium, and assuming 2 people per house, that leads to the possibility of 30,000 houses not in the impact area.
- Approximately 15,000 cars, ambulances, trains, etc. will require testing leading to approximately 30,000 wipe samples (one inside the car and one outside).
- While up to six wipe samples may be taken per house we will assume on average three samples will be taken per house, along with three air samples. In the impact area three soil samples will be taken per house as well.

The total sample estimates for the project are:

93,000 air samples
3,000 soil samples
123,000 wipe samples

During the peak operational phase there will be 52 sample teams:

Peak sample Rate:

- Impact Area: 10 Assessment sample teams x 9 samples per house x 8 houses per day = 720 samples
- Impact Area: 10 Confirmation sample teams x 6 samples per house x 8 house per day = 480 samples
- Soil confirmation samples not needed at this time
- New Haven Area: 20 sample teams x 6 samples per house x 8 houses per day = 960 samples
- The 6 sample include 3 wipe and 3 air.
- Offsite Area: 12 sample teams x 6 samples per house x 4 houses per day = 288 samples

This leads to a **peak rate of 2,448 samples per day** (240 soil, 1,104 air, and 1,104 wipe)

### Gaps in Lab Capacity, Policy and Guidance

#### Lab Capacity

EPA Headquarters has established several Basic Ordering Agreements (BOAs) and Inter-Agency Agreements (IAGs) for analytical support of Chemical Warfare samples. The BOAs are accessible to On-Scene Coordinators by utilizing their warrant authority. The IAGs can be activated by contacting the appropriate Project Officer. As of this release, the Department of Defense has the lead for analysis of chemical warfare samples taken from the environment. Because of this, if the requester goes through the IAG for chemical analysis, DOD will either conduct the analysis themselves or submit the samples to one of the listed BOA contractors. EPA regional laboratories are not capable of analyzing for chemical warfare agents.

Battelle	BOA; Limited number of samples that can be analyzed (lab capacity), holding times, etc
Mid-West Research Institute	BOA; Limited number of samples that can be analyzed (lab capacity), holding times, etc
Alion and IIT Research Institute	BOA; Limited number of samples that can be analyzed (lab capacity), holding times, etc
Southwest Research Institute	BOA; Limited number of samples that can be analyzed (lab capacity), holding times, etc
Aberdeen	IAG; Sample amounts, military needs, transportation hurdles, sample preparations, custody issues
Dugway Proving Ground	IAG; Sample amounts, military needs, transportation hurdles, sample preparations, custody issues
EPA – Regional Labs	Regional Labs and contract labs do not provide CWA analytical services yet. Five regional labs have been designated by DHS to provide for chemical warfare analysis in environmental samples. Regions 1 and 3 are in the process of undergoing infrastructure criteria, health and safety issues, and finding appropriate chemists. EPA has not finalized methodologies.
States	Some states have gotten limited funding through the CDC Laboratory Response Network for chemical warfare analysis. However, the labs are being developed to handle clinical samples and not environmental samples. New York and New Jersey have been getting funding, but no state in the country has yet to utilize this method because the network is not ready.

EPA's Regional Mobile Laboratories are not set-up to handle the analysis of chemical warfare agents. Through the National Decon Team, several mobile analytical labs should be available to handle needed analytics.

<b>PHILIS</b>	<b>The second generation PHILIS (meaning EPA's version) are not yet deployable. All 3 mobile labs will be needed, along with all necessary support staff of chemists, sample preps, data valuator, etc. Lab sample capacity, power issues, validation concepts. Once operational, NDT estimates that each lab could perform analysis on 100 samples per day.</b>
<b>TAGA</b>	<b>Availability, amount of support staff, transmittal and interpretation of data. The TAGA units cannot be used for analysis of any of these samples.</b>

The capacity to conduct the necessary analysis to support the response effort falls far short of the needs. Once fully operational, the PHILIS labs – which have Hi-Throughput capacity - could each only support 100 samples per day. The BOA labs have only limited capacity, and likely not for a sustained period of time. The nearly 2,500 samples per day taken by the sampling and decontamination teams established during the peak response phase is what is considered by the Planning Team to be sustainable and reasonable to meet the heavy demand of assessment and decon throughout the affected community. If lab capacity were to be the limiting factor in the pace of that operation, the consequence would be that the overall response effort may extend for years, rather than months.

#### Clean-Up and Screening Levels

**Considering that there is not much information available on Mustard-Lewisite mixtures, clean-up levels, screening levels, and guidance is limited. Standards and ARARs will need to be discussed, determined, and established in the field. A consensus will be needed from local, state, and federal health, environmental, and safety offices.**

**Additionally, it does not appear conclusive that approve lab methods even exist for analysis of Mustard and Lewisite.**

<b>ATSDR Fact Sheets</b>	<b>Limited information on HL. Gives an Airborne Exposure Limit (TWA) of 0.003 mg/m<sup>3</sup></b>
<b>CHPPM</b>	<b>Limited information on HL. Does not list any exposure or clean-up standards.</b>
<b>EPA</b>	<b>No screening levels or clean-up levels have been established for HL in the environment and in homes.</b>

#### Data Management

EPA does not a system in place to effectively manage, display and disseminate the nearly 2,500 sampling results generated per day and fully support the Communication Product identified as necessary for this response.

### Maximum Concentration Levels (MCLs) for Drinking Water

There are no established MCLs for any of the chemical warfare agents or dozens of other contaminants which could be used for a deliberate event. In the case of this scenario, EPA could only base its public assurance sampling and analysis of drinking water on Arsenic, which is one of the compounds which HL breaks down to.

Additionally, it is unknown what the by-product formation would be from water treatment disinfection. There is also conflicting information regarding persistency data in different media.

### Wastewater

It is unknown if there would be an impact on the biological activity if the decon water were to be discharged directly into the POTW.

### Legal Issues

The Agency will also need to develop the capacity to handle a large number of property access issues. In addition, the Agency will need to consider how it will balance of protection of personal information obtained during sampling/analysis with disclosure of environmental data obtained in private residences.

In a response scenario where EPA's primary mission is within tens of thousand of homes, the Agency will also need to be capable to handle a large number of claims which may arise.

**List of References**  
**Region 1 and 2 Homeland Security Summit**  
**Response Plan – Blister Agent Scenario**

US EPA Emergency Response Team  
*Quick Reference Guide for Lewisite (L) – CAS 541-25-3.*  
 August 29, 2005

US EPA Emergency Response Team  
*Quick Reference Guide for Sulfur Mustard (HD) – CAS 505-60-2*  
 2006.

Agency for Toxic Substances and Disease Registry (ATSDR)  
 Division of Toxicology ToxFAQs  
*Blister Agents: Lewisite (L) CAS#541-25-3*  
*Mustard-Lewisite Mixture (HL) CAS# Not Available*  
 April 2002

U.S. Army Center for Health Promotion and Preventive Medicine  
*Detailed Facts about Blister Agent Mustard-Lewisite Mixture (HL)*  
 218-15-1096 CAS# Not Available

Department of the Army Field Manual (DA FM) 3-9  
*Potential Military Chemical/Biological Agents and Compounds*, 1990

US EPA  
*Table 1. Summary of Chemical Agent Air Exposure Values*  
 Information Updated 8/03/04, Verified current 12/23/04 by Veronique Hauschild (US EPA).

TOPOFF3 IMAAC Scenario Report: Connecticut Venue (UCRL-TR-209892)  
 Michael B. Dillon, Adam H. Love and John E. Brockmann, February 18, 2005.  
 University of California Lawrence Livermore National Laboratory  
 Technical Information Department, Livermore, CA 94551

TOPOFF3 Environmental Unit Meeting – 4/20/05  
 Recorded on US EPA Region 1 White-board., US EPA Region 1 RRC, Boston, MA  
 POC: Ted Bazenas, US EPA Region 1