Emergency Response Refresher - Performance Measures

Facilitator Guide

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Midwest Consortium for Hazardous Waste Worker Training
Acknowledgement

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We encourage you to comment on these materials. Please give your suggestions to those teaching the program in which you are now enrolled or forward them to the Midwest Consortium for Hazardous Waste Worker Training, University of Cincinnati, PO Box 670056 Cincinnati, Ohio, 45267-0056 or http://med.uc.edu/eh/academics/training/mwc.

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Disclaimer

The Occupational Safety and Health Administration (OSHA) rule to help assure worker health and safety at hazardous materials responses requires annual refresher training. Refresher training requirements are specified in 29 CFR 1910.120(q)(8). This program is intended to help meet the requirements for knowledge and skills that the employer must certify annually.

Additional training is necessary to perform many activities. These activities include developing an emergency response plan, identifying materials using monitoring instruments, selecting protective equipment, and assuming the role of incident commander.

For information about this matter, consult the training instructor and/or your company emergency response plan or your company health and safety representative.
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Introduction

This program follows multi-day emergency response training, including operations or technician-level training. The goals of the program are to:

- Review basic skills and knowledge about hazardous materials response
- Engage in learning and problem-solving activities that will help to improve safety and health conditions at a hazardous material response
- Implement safe work practices
- Demonstrate use of personal protective equipment
- Implement procedures in an emergency response plan to control hazards
- Assist the employer in meeting requirements in Section (q) (8) of the Hazardous Waste Operations and Emergency Response Standard, 19 CFR 1910.120

Activities are used throughout the program to encourage trainees to think about the potential hazards on sites and develop and implement exposure control strategies.

Delivery of this program requires that the facilitator present a release scenario with chemical exposure hazards and resources for the activities, including a SOGs for tasks that will be conducted.

If the response activity is conducted in an arena, a Site Safety Plan is required and anyone in Levels A or B must have medical clearance for training.

Performance measures are used throughout to document skills.

The following guidance is provided to instructors preparing to present the program.
Resources

The following are resources to be used in program development, and delivery as appropriate for the agenda used:

- ERR Performance Measures Participant Guide
- Facilitator Guide from the 24-hour Operations-level and 40-hour Technician-level programs (see [http://med.uc.edu/eh/academics/training/mwc/training-manuals](http://med.uc.edu/eh/academics/training/mwc/training-manuals)).
  - NOTE: the 40-hour facilitator guide includes 6 response scenarios. These are useful resources to be used or to be used as a model for developing a tailored emergency response. Each includes a map of the scene.
- Hard copy or databases to find information (e.g., Emergency Response Guidebook, SDSs for released hazardous materials)
- ERG Performance Measure (see [http://med.uc.edu/eh/academics/training/mwc/exercise-resources](http://med.uc.edu/eh/academics/training/mwc/exercise-resources)).

Instructor Preparation

- Review site safety plan for training facility (Appendix A is Plan from 40T)
- Review relevant sections of the Operations and/or Technician Program Instructor Guides
- Prepare lesson plan for material/sections to be presented
  - Relevant sections of an Emergency Response Plan
    - Obtain from an employer
    - Use Training-only Plan
- Prepare a response scenario
Use/modify scenario in the 40-hour Technician program

Prepare tailored version (see below for factors to consider)
  - Include scene map

- Develop lesson plan using
  - reconnaissance from the employer(s)
  - evaluation report from last presentation to this group (contract program only)
  - select work activity(s) for the response, based on training level of participants. (example, no plugging unless there are technician-level participants).
  - assemble required SOPs/SOGs (minimum: Hazard Assessment, PPE, Monitoring, Confinement and other Work Task(s), Decon, Debriefing/Critique)

Standard lesson plan forms are shown in Appendix B.

- Assemble resources—SDS, NIOSH Pocket Guide, glove charts, Levels of Protection graphics, etc.

- Copy Performance Checklist and the ERG Performance Measure Answer Sheet for participant use (these will be retained as part of the program file). See Appendix C for set of materials.
  - NOTE: Successful Completion for this program is defined as:
    - Attendance
      - >=70% on ERG Exercise
      - >=70% ERR Performance Measure Checklist
    - All must be documented in the Program File

- Have participants complete the ERG Performance Measure and then provide additional information to complete the Fact Sheet. This will be the basis for decision-making as the scenario unfolds.

- Print or be prepared to display the final agenda, as part of program introduction
• File agenda and lesson plan including site description, medical clearance for training needs, training site safety plan per Training Center procedures

• This becomes the Instructor Guide documentation for the program

Training center personnel will assure that all registration and evaluation materials are available for use in the program, and processed appropriately. Note: if the Risk Management exercise is used, the standard evaluation forms go to ESC and the Plan and supporting materials go to Tim Hilbert as shown in the Facilitator Guide for that exercise.

Run the activities, as shown in the Participant Guide for the response scene you have developed, hazards and work activity(s) selected. Use Summary section of each module to review importance and facilitate discussion.

Useful notes:

1. It may be useful in the introduction to ask about recent releases that have occurred. If participants have no responses, ask the participants how they would assess hazards and respond to the following:

    1500-gallon spill of water and gasoline mixture that overflowed a containment tank. It went across the facility drive, out the gate and into a road ditch across the street. Plant staff and responding fire service repeatedly drove over the spilled areas.

    No planned response, no proper notification, no isolation or zones set up.

2. Notification. You may be able to leverage plant layout in some contract programs. This might involve:

    Going into the plant where a release has or might occur. Discuss initial actions, notification, identifying who the Incident Commander would be, where zones might be set up, possible controls. If there are in-house air monitors and PPE, go to those areas and identify what would be useful for the response.

3. Review levels of training and actions that can be conducted

**Awareness Level** (report a release):

• Understand hazardous materials and associated risks

• Understand potential outcomes of emergencies
• Have the ability to recognize hazardous materials
• Identify hazardous materials if possible
• Understand the role of the emergency responder
• Have the ability to contact appropriate personnel

**Operations Level** (act defensively, away from release):
• Fulfill requirements of Awareness Level
• Know basic hazard and risk assessment techniques
• Select and use proper personal protective equipment that is provided
• Know basic hazardous materials terms
• Know basic control, containment, and/or confinement operations
• Know basic decontamination
• Understand relevant standard operating procedures
• Know termination procedures

**Technician Level** (offensive actions to stop a release):
• Have fulfilled requirements of Awareness and Operations levels
• Able to implement an emergency response plan
• Can identify, classify, and verify materials using air monitoring instruments and field survey techniques
• Know toxicological terms and behaviors
• Can perform advanced control, containment, and/or confinement operations
• Able to select and decontaminate personal protective equipment
• Understand risk assessment and incident command
• Understand and can implement termination procedures

**Incident Commander** (leads response):
• Have fulfilled requirements of Operations level
• Able to implement incident command system and emergency response plan
• Understand hazards for employees working in personal protective equipment
• Know the state emergency response plan and the federal regional response team plan
• Understand the importance of decontamination procedures
At the end of the program, complete the Performance Checklist, to provide documentation of skills demonstrated during the program. Remediate any deficiencies according to Training Center remediation policy.
CLOSING AND PROGRAM EVALUATION

Time Requirement: .25 hour
Number of Instructors: 1

Materials
The following materials will be needed:

- Chalkboard, marker board or easel with paper
- Markers or chalk
- Evaluation forms

Objectives

- Review activities conducted as part of the response scenario
- Answer questions
- Review need for annual refresher
- Thank participants
Teaching Methods

Discussion

Suggested Instructor Preparation

Review agenda and chemicals included in the scenario

Minimum Content Requirements

The following are minimum content requirements for the section:

- Answer questions
- Participants complete and hand in evaluation forms
- Thank participants

Questions You May Be Asked

“What happens if I do not take a refresher?” If needed for a job, you will not be up-to-date and may be required to take this program again. Some employers 'stretch' the requirement to 18 months, if the refresher is taken ASAP, but it is a gamble.

Presentation of the Session

Thank participants for attending the program.

This is an opportunity for final questions and to assure that the list of questions generated on day has been addressed during the program.

Evaluation is important to continued program improvement. This should not be rushed. Provide 15 minutes to complete the program evaluation forms and collect them.
NOTE: Modify the resource below from the 40T program for the response and task(s) to be included in the Refresher program.

**Site Simulation - Health and Safety Plan**

**Trainer Qualifications for Response Simulation**

One lead instructor and 3 or more helpers are needed at a minimum for the mechanics of conducting the simulation. See the NIEHS Minimum Criteria for most recent guidance for specific tasks included in the simulation (download from key documents at http://tools.niehs.nih.gov/wetp/).

All personnel are medically certified for use of respiratory protection and unrestricted physical activity. At least one instructor is certified in First Aid and CPR (if EMS is on site, this requirement can be waived). Specialized training in heat stress related illnesses is recommended. See the OSHA heat stress guidance at https://www.osha.gov/SLTC/heatillness/index.html.

The lead trainer must have successfully completed formal, documented training or otherwise possess the skills, ability and knowledge gained through actual experience to recognize the use of and to anticipate the problems in the use of all the levels of protection used in the Simulation.

Personal work experience in the use of Levels A, B and C protection is recommended. The lead trainer should have prior experience in training personnel in the use and
decontamination of Levels A, B and C PPE. All trainers must have a working knowledge of the training center Emergency Response Plan.

Emergency Response Plan for the Conduct of the 40T Simulation

Introduction

The Response Simulation Exercise is a complex exercise that integrates much of the training in the 40-hour Technician Program into a hands-on simulation during which participants don and doff appropriate PPE to perform specific roles in the ICS according to SOPs/SOGs in the ERP.

As with any hands-on simulation or exercise there are numerous potential safety hazards (e.g., splash to the face with the simulated release hazard). In order to assure that instructors and participants are aware of these potential hazards and how to react, the minimum safety requirements shown below must be implemented during every Response Simulation Exercise.

Safety Briefing

Before the Response Simulation Exercise is started, all program attendees will receive a safety briefing that covers the contents of this plan. (You may want to have participants sign an acknowledgement of participation in the briefing.) If in-suit radios are not used, a clear set of hand signals must be established, verified and used during the Exercise.

Emergency Communications

Emergency communication equipment (telephone or 2-way radio) will be present on the site.

Communication equipment will be verified to be working before the Exercise begins.

Emergency telephone numbers and directions to the site will be posted at each telephone on site.

Maps to the nearest treatment center should be posted in the event it is elected to transport a non-emergency case for treatment.
Emergency Medical treatment

At least one instructor present shall have current certification in the Red Cross Basic CPR Course or its equivalent (8 hours).

A standard First Aid Kit shall be available for use during the Response Simulation Exercise.

Use of a standby EMS crew may be used as an alternative to the above.

Site Access

There shall be at least two entrance/exit points to the simulation site.

If the Response Simulation Exercise is conducted in a public area, a sign shall be posted identifying it as a training simulation.

Physical Hazards

Heavy lifting, walking on uneven surfaces and physical exertion may be required. Extra caution is required because of the additional stresses from PPE wear. Use of proper lifting technique is essential.

The bulky, heavy PPE increases potential for falling because it restricts range of motion and changes the center of gravity. The extra weight also increases the risk of injury from a fall. These problems will be magnified if the simulation site is not on level ground. A non-suited safety person must stay close to each suited person.

Approaching the point of release is always a hazardous activity. All instructors and course attendees on site are required to wear safety shoes. Extra care and attention is required to protect against spreading contamination.

Heat Stress

Heat stress due to wearing heavy equipment and chemical protective suits must be a major concern in summer months and cannot be ignored even in cold weather.

All attendees should be familiar with heat stress from classroom presentations and be able to recognize sings/symptoms.

Adequate drinking water and electrolyte replacements (e.g., Gatorade) must always be available. At high heat, stress levels up to two liters of liquid per hour may be required by each person to maintain body fluid levels.
Air temperature and humidity should be monitored before suits are donned. This information is available from the National Weather Service or the local airport weather station.

The lead instructor on site must monitor heat stress conditions and adjust work/rest times and breaks to insure everyone drinks enough fluid.

All instructors and attendees must insure they drink adequate liquids to avoid becoming a heat casualty.

A shaded break area is recommended.

Cool or cold conditions may present opposite problems, as the suit is removed a person could chill from cold air hitting the body.

**Wearing level A and B**

Wearing Level A and B protection presents additional hazards which need attention:

- **Weight**—the additional weight increases stress and affects mobility and balance
- **Claustrophobia**—some people cannot be enclosed in a suit. They must be calmed and removed from the suit.
- **Hyperventilation**—the stress of the suit or respirator causes some people to hyperventilate. They must be calmed and removed from the suit to restore normal breathing.
- **Breathing Rate**—under stress the breathing rate increases and the SCBA tanks will empty faster than the rated time. This means less work can be accomplished.
- **Low Pressure Alarm**—people wearing SCBAs should be reminded that the low pressure alarm does not mean the air is gone, but there is 3 to 5 minutes remaining. This additional reminder may help to prevent panic when someone’s alarm sounds.

While wearing level A or B, each person shall have a ‘buddy’ within an arms length who is not suited and can notify the IC and provide assistance in any emergency.

All SCBA face masks will be cleaned/disinfected between users.

All Level A training suits should be sprayed with a disinfectant and towel (paper) dried between users.
Responsibilities

Instructors:

- Insure that all issues listed in this plan have been discussed in class prior to the Simulation.
- Insure all participants are aware of the hazards, how to recognize and react to them.
- Have at least three instructors present at all times during the Exercise (four preferable based on Minimum Criteria). One shall be designated as lead and have overall responsibility for the exercise.

Participants:

- Be aware of hazards from classroom and hands-on training
- Be aware of all aspects of the safety briefing
- Watch yourself and your fellow participants to try to avoid hazards

Weather

In the event of adverse or inclement weather, the lead instructor must determine if the Exercise can be conducted without endangering participants substantially beyond the inherent risks of the Exercise under the best conditions. Weather conditions to be considered include but are not limited to excessive heat or cold, rain, snow, limited visibility, high winds.

Plans should exist for use of an alternate sheltered site to avoid disruption due to weather.

Emergency Stop

An emergency stop signal (e.g., hand position, air horns) that is separate and distinct from any signal used as a training stimulus will be used to terminate the exercise in case of an emergency.

All personnel on site must know the emergency stop signal.
Lesson Plan Form 1

<table>
<thead>
<tr>
<th>Teaching Methods for This Lesson Plan</th>
<th>Audiovisual Requirements</th>
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<tbody>
<tr>
<td>_ Presentation</td>
<td>_ Training handbook</td>
</tr>
<tr>
<td>_ Discussion</td>
<td>_ Supplemental handbook material</td>
</tr>
<tr>
<td>_ Question and answer</td>
<td>_ CD ROM</td>
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<tr>
<td>_ Hands-on simulation</td>
<td>_ Web Sites:</td>
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<td>_ Team teaching</td>
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<tr>
<td>_ Small-group exercises</td>
<td>_ Easels and paper, chalkboards or marker boards</td>
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<tr>
<td>_ Case study</td>
<td>_ Hands-on simulation</td>
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<tr>
<td>_ Other (describe):</td>
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<table>
<thead>
<tr>
<th>Reference Materials</th>
<th>Special Space or Facility Requirements</th>
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<tr>
<td>(List any room size or special facility regulations here, such as set-up areas, equipment storage concerns, etc.)</td>
<td></td>
</tr>
<tr>
<td>Suggested Discussion Questions</td>
<td>Suggested Instructor Preparation</td>
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**Lesson Plan Form 2**

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<th>Subject Area or Element</th>
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<td>Major subject heading or Roman numeral item from outline format.</td>
<td>Detailed breakdown of subject area or element. This area will necessarily occupy more space than the column to the left.</td>
<td>e.g., page number in training notebook, section number of regulation, or audiovisual material.</td>
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Appendix C

The Performance Measure Checklist is found on the next page.
# Performance Measure Checklist

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<td><strong>Trainee ID</strong></td>
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<tr>
<td><strong>Assigned role/task</strong></td>
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</tbody>
</table>

**CPC Selection**
- Selected the correct CPC for hazard

**Respirator Selection**
- Selected correct protection for hazard

**CPC Don/Doff**
- Correctly checked tears and other flaws
- Made pull-tabs for buddy
- Did not touch outside of suit when it was being removed

**Respirator Donning**
- Correctly inspected the valve(s)
- Correctly performed a user seal check
- Correctly adjusted straps

**Decon**
- Always moved toward cleaner area
- Correctly removed inner gloves at end of decon
- Deposited contaminated equipment in proper container

**Confinement**
- Selected correct method and materials
- Worked to minimize contamination
- Visually verified if confinement effective

**Resupply**
- Identified one item that needed to be resupplied