

INFORMATION MEMORANDUM 95 X 95

TO: OSH Managers, Supervisors, and Field Personnel

FROM: W. M. Lybrand

DATE: April 11, 1994

SUBJECT: Inspection Procedures for the Hazardous Waste Operations and  
Emergency Response Standard, 1910.120, Paragraph (q): **Emergency  
Response to Hazardous Substance Releases**

- A. Purpose. This instruction establishes policies and provides clarification to ensure uniform enforcement of paragraph (q) of the Hazardous Waste Operations and Emergency Response standard (HAZWOPER), 1910.120, which covers emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.
- B. Background. The final Hazardous Waste Operations and Emergency Response standard, 29 CFR 1910.120, was published in the Federal Register on March 6, 1989, and became effective March 6, 1990. The U.S. Environmental Protection Agency (EPA) also promulgated the OSHA standard in 40 CFR Part 311 (Federal Register June 23, 1989) for coverage of public employees that are both compensated and non-compensated in States where Federal OSHA has enforcement authority.

South Carolina adopted 1910.120 on May 2, 1989.

1. Superfund Amendments and Reauthorization Act, Title I.
  - a. OSHA was required to promulgate standards for the protection of employee health and safety during hazardous waste operations, including emergency responses to releases of hazardous substances, through the Superfund Amendments and Reauthorization Act of 1986 (SARA), Title I.
  - b. OSHA published an interim final rule in December of 1986. In August of 1987 OSHA issued a Notice of Proposed Rulemaking and Public Hearings that set forth OSHA's proposed language, based on the outline given in SARA Title I, which eventually became the current final rule.
2. Superfund Amendments and Reauthorization Act, Title III.
  - a. SARA Title III, also referred to as the "Emergency Planning and Community Right-to-Know Act of 1986," requires States and local jurisdictions to develop emergency response plans. In addition, certain

facilities must share information about the hazardous substances they have on site with the community emergency response planners.

- b. SARA Title III directed Governors of each State to appoint a State emergency response commission (SERC), which would in turn appoint and coordinate the activities of local emergency planning committees (LEPC). The LEPCs must develop a community emergency response plan that contains emergency response methods and procedures to be followed by **facility owners, local emergency responders and emergency medical personnel.**

3. Interface Between HAZWOPER and SARA Title III.

- a. HAZWOPER and SARA Title III address the safety and health of two populations during an emergency: HAZWOPER protects employees, both in the facility and those who enter the facility to respond to an emergency, and SARA Title III is concerned with the community at large.
- b. Paragraph (q) of HAZWOPER requires facilities to plan for emergencies if there is a potential for an emergency involving hazardous substances. Under SARA Title III, LEPC's and SERC's must coordinate emergency responders, such as local fire departments, police departments and hospitals, and utilize information which facilities are required to give to them.
- c. Facilities with extremely hazardous substances in excess of a "threshold planning quantity" (as defined in SARA Title III) must comply with HAZWOPER. Facilities that do not have reportable quantities defined by SARA, but who will have employees respond to releases of hazardous substances that pose an emergency, must also comply with HAZWOPER and should consider informing their LEPC of the hazardous substances on site to further protect the community.
- d. Section 1910.120(q) allows community responders to use the plan developed under SARA Title III in complying with OSHA. HAZWOPER paragraph (q) states that "... emergency response organizations who have developed and implemented programs equivalent to this paragraph for handling releases of hazardous substances pursuant to Section 303 of the SARA ... shall be deemed to have met the requirements of this paragraph."

C. General Consideration. The final standard, 1910.120, applies to all operations that require, or have the potential to require, emergency response operations involving exposure to hazardous substances.

1. HAZWOPER's provisions require facilities to consider both overall performance and specific elements when complying with the standard. HAZWOPER is referred to as a performance-oriented standard, which allows employers the flexibility to develop a safety and health program suitable for their particular facility. The standard offers work practice

guidelines to protect employees from potential risks, but also has specific requirements. In evaluating compliance with 1910.120, Compliance Officers and Industrial Hygienists (CO/IH) shall consider both the specific requirements and whether the intent of the standard has been met.

2. The most important aspect of HAZWOPER paragraph (q) is planning for emergencies through the development of an emergency response plan and/or an emergency action plan.
  - a. When reviewing an emergency response plan, the CO/IH must evaluate the employer's ability to contain, control, and cleanup hazardous substance(s) if an emergency was to occur.
  - b. If a facility does not have an emergency response plan or an emergency action plan, the employer must prove that the chemicals and the quantities used in the facility will not develop into an emergency incident if released in a (reasonably predictable) worse case scenario. In other words, if there is a potential for an emergency the employer must plan for it, and if there is no potential then the employer does not fall within the scope of HAZWOPER. (See Appendix E of this instruction for guidance on releases that require an emergency response.)
3. Paragraph (q) of HAZWOPER lists seven emergency responder categories, which include five principal training levels (beginning with the first responder awareness level and culminating to the on-scene incident commander), skilled support personnel and specialist employees. Employees responding to emergencies at different levels in the command structure are required by OSHA to have specific training, which is intended to ensure that emergency responders are properly trained and equipped to perform their assigned tasks.

D. Inspection Guidelines for Emergency Response, Paragraph (q).

The following guidance provides a general framework to assist the CO/IH in conducting an inspection (see Appendices).

1. Determine if the facility has EPA reportable quantities and/or threshold limit quantities in 1910.119.
2. Request a briefing of the procedures to be followed in the event of an emergency (see Appendix E).
3. Review the required elements of the emergency response plan in accordance with 1910.120(q)(2) and/or the emergency action plan in 1910.38(a) (see Appendix B).
4. Identify the incident commander and review duties and responsibilities.
5. Evaluate the emergency responder training and refresher training required by 1910.120(q)(5), (q)(6) and (q)(8). (See Appendix B and OSHA Information Memorandum 93 X 91).

6. Determine whether the employer is providing medical consultations and evaluations as required in 1910.120(q)(9).
7. Evaluate the Personal Protective Equipment Program (1910.120(q)(10)).
8. Verify that emergency telephone numbers are accurate.
9. Determine if adequate decontamination facilities are available.

Consult with the incident commander and refer to “The Occupational Safety and Health Guidance Manual for Hazardous Waste Sites Activities.”

10. Do not conduct walkaround inspection without appropriate PPE. If additional equipment is needed, contact your supervisor immediately. COs/IHs should never expose themselves to hazardous substances or contaminants.
11. If a release has occurred, the CO//IH shall observe the following:
  - a. Compliance personnel should not enter any area while the area is still considered hazardous or expose himself/herself to any contaminant.
  - b. If, due to unforeseen circumstances, an exposure to a hazardous substance occurs and signs or symptoms develop, the CO/IH should seek medical attention. The CO/IH must be sure to notify his/her supervisor of the exposure.
  - c. If an exposure event occurs that requires decontamination, COs/IHs should use the site decontamination facilities if: (1) the facilities are judged to be adequate and (2) the facilities can be used by OSH personnel. In the event that decontamination facilities are not available, nonexistent, or not adequate, the COs/IHs should remain in a safe area and immediately call the Compliance Manager or Health Supervisor for guidance.
  - d. The CO/IH should consult, as appropriate, with any other agency or department on site, such as DHEC, Law Enforcement officials, Fire Departments, EMTs, EPA, Coast Guard or DOT.
12. For inspections on hazardous waste sites, the CO/IH should have experience and training equivalent to the OTI Course 331, Hazardous Waste Site Inspection and Emergency Response.
13. Inspections procedures, violation classification shall be in accordance with the S.C. Compliance Manual.

E. Additional Guidelines, References.

Appendices A, B, D, E, G, & H from the Federal OSHA Instruction CPL 2-2.59 are attached for information.

## Appendix A

### Procedures for Reviewing an Emergency Response Plan (See Appendix B for audit guidelines or self-audit.)

The function of this appendix is to present a thorough discussion of the required elements of an emergency response plan as required in 1910.120(q)(2) *Elements of an emergency response plan*, and to enable adequate technical review of emergency response plans during compliance inspections.

- A. Background. The Hazardous Waste Operations and Emergency Response (HAZWOPER) standard is a performance oriented standard. However, there are several parts of the standard that specify what the employer must do to be in compliance. This is particularly true of the requirements in 29 CFR 1910.120(q).
1. Paragraph (q) is the broadest in its scope of coverage. It applies to emergency responders such as fire departments, police, emergency medical personnel, etc., and any place of employment which has a sufficient quantity of hazardous substance on hand capable of posing an emergency. There is a spectrum of compliance options ranging from evacuation of the area and calling outside assistance, to development of sophisticated hazardous material response teams.
  2. The key to compliance with 29 CFR 1910.120(q) is the emergency response plan (ERP) required in 29 CFR 1910.120(q)(1), and elaborated on in (q)(2). This document must be reviewed carefully to determine whether employers are in compliance with 29 CFR 1910.120. (An ERP is not required by HAZWOPER if employers elect to develop an emergency action plan in accordance with 29 CFR 1910.38(a) and evacuate all employees.)
  3. It may be that some of the requirements of an ERP are not applicable to the place of employment in question. While OSHA does not expect the employer to meet requirements that are not applicable, an explanation of how the specific requirement is inappropriate, or is otherwise met, must be addressed in the ERP.
- B. The Initial Inspection. The first step in a compliance inspection should be a paper review of the 29 CFR 1910.120 ERP, or the emergency action plan in accordance with 29 CFR 1910.38(a). If an employer does not have an ERP, he or she must have an emergency action plan and evacuate all employees when there is a release that would require an emergency response, or prove that the chemicals used will not require an emergency response if released in a reasonably predictable worst-case scenario. (The CSHO must still document violations fully and be able to defend any citations.)
1. The CSHO can establish that the employer would fall under the scope of 29 CFR 1910.120 by documenting the existence of a hazardous substance that

would cause, or could potentially cause, an emergency if released in an uncontrolled manner.

- a. CSHOs can establish the quantities of a hazardous substance before visiting a site by asking the local emergency planning committee (or the State emergency planning commission) to supply Tier I or Tier II reporting forms. These forms must be submitted by the employer in accordance with SARA Title III and offer useful documentation about the chemicals for enforcement purposes. (See G.2. in this instruction.)
- b. CSHOs shall look at the employer's list of hazardous chemicals developed in accordance with 29 CFR 1910.1200.
- c. The CSHO may also inquire about the hazardous substances on site and the quantities in which they are stored as they observe tanks. A determination of quantities of a particular hazardous substance that warrant compliance with 29 CFR 1910.120(q) can be made later in the inspection.
- d. The CSHO shall also examine whether chemicals are present that are compatible with each other which could cause an emergency if accidentally mixed. For example, if two vessels are stored close to each other, and one contains ammonia and the other bleach, the two solutions would generate toxic chlorine gas when they become accidentally mixed.

C. Review Procedures for Emergency Action Plans. Facilities that intend to evacuate their employees from the danger area when a release that required an emergency response occurred are not required to comply with the other provisions of 29 CFR 1910.120(q) if they provide an emergency action plan complying with 29 CFR 1910.38(a). (See N.3 of this instruction.)

1. If the employer expects employees to handle incidental releases of hazardous substances and the release incident escalates beyond an incidental release, the employees are then expected to evacuate in accordance with the employer's emergency action plan. The employer must have plans and procedures for these activities. The employer must provide the appropriate training and necessary PPE in order to minimize the risks to employees when they are expected to handle incidental releases. All employers, whose employees may be involved in these tasks, must be in compliance with 29 CFR 1910.120(q)(6)(i) first responder awareness level training, 29 CFR 1910.38(a), 29 CFR 1910.1200, 29 CFR 1910.132, and other applicable standards.
2. There is a certain level of knowledge which is needed to distinguish between incidental spills that can be handled by employees who are not trained to handle releases that would require an emergency response, and spills that require evacuation and the assistance of emergency responders. First responder awareness level training would meet this requirement.
  - a. If the employer cannot utilize 29 CFR 1910.38(a) to ensure that employees can identify an emergency, at least one employee per shift should be given

training equivalent to the first responder awareness level. This designated employee would determine whether a situation posed an emergency and whether all employees in the area needed to be evacuated. Employees must be told how to act when a release that required an emergency response occurred – if employees who are not trained as emergency responders were to take action during a release of hazardous substances that would pose an emergency, 29 CFR 1910.120(q)(6) shall be cited.

- b. Employers may choose to include the competencies described in 1910.120(q)(6)(i) – first responder awareness level – in their hazard communication training program. This must include training in recognizing when a situation has escalated beyond the employees capability.

3. In reviewing an emergency action plan, ask:

- a. What chemical releases have occurred at the facility in the past?
- b. Does HAZWOPER apply?
- c. Is the plan in writing?
- d. Are emergency escape procedures and emergency escape routes assigned? (For example, if wind direction is a factor, has the employer provided any wind direction indicators such as windsocks to help employees determine where to seek refuge.)?
- e. Are procedures established to account for all employees after the emergency evacuation has been completed?
- f. Has an employee alarm system, which complies with 29 CFR 1910.165, been established?
- g. If an employee alarm system is used for other purposes, have distinctive signals for each purpose been developed?
- h. Has the employer designated and trained a sufficient number of persons to assist in the safe and orderly evacuation of employees?
- i. Has the employer reviewed the emergency action plan with each employee covered by the plan initially, and when the plan or employee's responsibilities under the plan change?
- j. Is the written plan kept at the workplace and made available for employee review?
- k. Does the employer intend to have employees respond to emergencies in any way? Is the plan just a means to avoid compliance with 29 CFR 1910.120(q)?

D. Review Procedures for Emergency Response Plans. If an employer has chosen to have their own employees respond to releases that would require an emergency response, the employer must develop emergency response capabilities that are appropriate to their individual situation. The CSHO shall examine the ERP in terms of what is expected of the employees during an emergency response. Are all the employees that are expected to respond:

- Adequately trained for their intended job duties?
  - Properly equipped for the intended tasks?
  - Capable of responding in a safe manner?
  - Managed by competent leaders?
1. The non-mandatory appendix to 29 CFR 1910.120, Appendix C, section 6., recommends that offensive action be composed of an on-scene Incident Commander (IC), and a minimum of two emergency responders. OSHA recommends that back-up personnel be available and ready to act in case rescue becomes necessary. Members of the team may play more than one role, for example the safety official may be played by the IC. This is a minimum response team that could be used for a limited emergency, and is not appropriate for releases at all facilities.
  2. CSHO's shall review ERPs for the following 29 CFR 1910.120(q)(2) components:

**(i) Pre-emergency planning and coordination with outside parties [for facilities that intend to call in outside responders].**

- a. During inspections, it is recommended that verification be made with the fire department, or other outside emergency response organizations. CSHOs may ask the following questions:
  - (1) Does the plan address coordination with outside emergency response organizations, such as fire departments and emergency medical services, as an absolute minimum?
  - (2) Have employers notified and coordinated their ERP with the organizations listed?
  - (3) Are telephone numbers and contact personnel for in plant officials and local authorities correct?
- b. In addition, under SARA Title III, facilities are required to share information on hazardous chemicals on site with the local emergency planning committee. You may refer industry personnel to the SARA Title III hotline at 1-(800)-535-0202, or to the EPA Regional Offices. CSHOs are encouraged to refer EPA to facilities that have not complied with SARA Title III.

**(ii) Personnel roles, lines of authority, training and communication.**

- c. Personnel roles must be defined clearly. One method of doing this is to list job titles and describe their projected role in emergency response operations. Although specific HAZWOPER titles are not required, employees should be designated to play roles that parallel to and are trained in accordance with 29 CFR 1910.120(q)(6). For example, an employer may use the job title "containment operator" to describe a

responder whose responsibilities are equivalent to the first responder operations level. Employers would indicate in the ERP that the employee with this job title had acquired training equal to the first responder operations level, and CSHOs would cite any inadequacies in training under 29 CFR 1910.120(q)(6)(ii).

- d. Lines of authority must also be made clear in the ERP. The on-scene IC must be notified expeditiously by a predefined chain of communication in the event of a release that would require an emergency response. Although employees at the scene of the release may be expected to inform their supervisors (as opposed to the on-scene IC), the supervisor, unless properly trained, can do nothing other than call for the emergency response personnel and report what is known to be present.
- e. Provisions for employee training should be incorporated into the ERP. This might include a general outline of the training to be completed for each of the various levels of emergency responders addressed in the ERP, or reference to the location of the training manual. The plan should also address a schedule for required annual refresher training.
- f. The lines of communication need to be defined clearly in the ERP. Essentially all employees that may encounter a release that requires an emergency response should be addressed in the ERP and must understand to whom they are to report a release. These lines of communication can be developed for groups of employees in specific areas that would be required to report to the same individual in the event of an emergency. A system to communicate the need and method for evacuation of all employees who are not designated as emergency responders must be developed. These evacuation procedures should, at a minimum, meet the requirements of 29 CFR 1910.38(a).
- g. Means of communication to be used during an emergency response must be established and written into the ERP. This might include dedicated radio frequencies, hand signals, and siren blasts.

**(iii) Emergency recognition and prevention.**

- h. This section of an ERP must define the types of releases that could potentially require an emergency response and should define what types of releases would not be an emergency, or, in other words, what may be handled as an incidental release. (See Appendix E of this instruction of criteria.)
  - (1) The ERP should include an inventory of the hazardous substances found on site, the quantities in which they are stored and the consequences of an uncontrolled release. Scenarios or circumstances that trigger activation of the ERP should be described for the various hazardous substances stored in sufficient quantities to cause a potential emergency. Reasonably predictable worse case scenarios must be made in the planning phase.

- (2) Employees such as chemical process operators may be required to shut down processes, close emergency valves and otherwise secure operations that are not in the hot zone or danger area before evacuating in the event of an emergency. (See 29 CFR 1910.38(a)(2)(ii).) These procedures need to be delineated carefully, and employees must be trained to be able to perform these pre-evacuation procedures safely. Employees who perform these operations are not considered “emergency responders”; however, if they perform duties in the hot zone, or danger area, then they would be expected to be trained as emergency responders in accordance with 29 CFR 1910.120.
- (3) Chemical process operators who have informed the incident command structure of an emergency, who have adequate PPE and training in the procedures they are to perform and who employ the buddy system, may take limited action in the danger area (e.g., turning a valve) before the emergency response team arrives. The limited action taken by process operators must be addressed in the Emergency Response Plan. Once the emergency response team arrives, these employees would be restricted to the actions that their training level allows.
- This limited action assumes that the emergency response team is on its way, their arrival is imminent, and that the action taken is necessary to prevent the incident from increasing in severity (i.e., to prevent a catastrophe). Employers must inform employees during their training that they are to evacuate when they lack the capabilities to respond in a safe manner and in accordance with the standard operating procedures defined in the emergency response plan.
  - If the process operator takes action beyond what they have been trained to do, and the action was comparable to the aggressive role that a HAZMAT technician would take, CSHOs shall cite a violation of 29 CFR 1910.120(q)(6)(iii). If the operator takes action beyond that which they have been trained to do, and the action was comparable to the defensive role that a First Responder at the Operations level would take, CSHOs shall cite a violation of 29 CFR 1910.120(q)(6)(iii).

**(iv) Safe distances and places of refuge.**

- i. The ERP should contain a map with safe places of refuge identified for each section of the area where HAZMAT emergencies could occur, if possible. Ideally, the map should contain the location of all buildings, structures, equipment, emergency apparatus, first aid stations, routes of

entry and exit, emergency exit routes and alternate routes, staging areas, and safe places of refuge. The adequacy of safe refuge areas needs to be determined for the worst-case scenario.

- (1) The safe places of refuge should be the areas in which accounting of all employees will be performed. This can be critically important for identifying individuals that did not get out and for estimating where they may be.
- (2) Information on safe places of refuge must be given to the emergency response organization in a timely fashion.

**(v) Site security and control.**

- j. Areas surrounding the danger area need to be controlled during emergencies by prohibiting unauthorized personnel from entering the exclusion zone, or hot zone. Personnel expected to set up the exclusion zone must be trained to the first responder operations level. Once the exclusion zone is set, employees (preferably trained to the first responder awareness level) may control entry and exit in the area. An employee trained to first responder awareness may not set up safe distances because they lack knowledge regarding potential of exposure, explosion, or radiation. For example:
  - (1) In a traffic accident police trained to the first responder awareness level could divert traffic or control crowds; while
  - (2) A fire fighter trained to first responder operations level could set up the exclusion zone to determine how close to the accident cars should be permitted to drive.
- k. Methods of excluding areas and defining various zones need to be addressed in the ERP. Emergency responses are coordinated from a command post a safe distance away from the exclusion zone. The way this command post is assembled and its functions must also be addressed in the ERP. (See 29 CFR 1910.120 Appendix C, section 7., for further guidance.)

**(vi) Evacuation routes and procedures.**

- l. All employees that are not trained in emergency response and who will not be needed during the response operation should be evacuated from the exclusion and decontamination zones. This aspect of the emergency response plan should be in compliance with 29 CFR 1910.38(a) as described in D.9.b. and d. of this appendix. CSHOs must use 29 CFR 1910.38(a) as a model to evaluate the employer's "evacuation routes and procedures".

**(vii) Decontamination.**

- m. The ERP must contain provisions for decontamination of emergency responders leaving the exclusion zone. Individuals who will assist the responders as they leave the exclusion area must be trained in decontamination procedures. These individuals should wear PPE at the same level or one level below the emergency responders they are supporting.
- (1) Decontamination of response equipment left in the exclusion zone and the contaminated area may be handled in the post-emergency response and; therefore, decontamination procedures for these areas and equipment does not necessarily need to be part of the ERP.
  - (2) If emergency responders are expected to decontaminate their own equipment or the contaminated area then the procedures to be followed must be included in the ERP. (See 29 CFR 1910.120, Appendix C, section 3., for further guidance.)

**(viii) Emergency medical treatment and first aid.**

- n. This section of the ERP must provide for advance first aid personnel or better (which must be on standby, as per 29 CFR 1910.120(q)(3)(vi)), and list all qualified emergency medical personnel on site, their certifications and how best to contact them during an emergency. Additionally, hospitals that are capable of receiving accident victims that may arrive contaminated must be listed. (See Appendix D of this instruction.)

**(ix) Emergency alerting and response procedures.**

- o. This section of the ERP should address how employees will be informed that an emergency exists and how they should respond. The alarm systems must inform “all affected employees” that an emergency exists and what their immediate response should be. There are three important questions that need to be addressed:
- Who needs to be made aware of the emergency?
  - What do they need to be told to do?
  - How will they be alerted?
- (1) Depending on the size and the magnitude of the emergency “all affected employees” may include all employees, or just employees from a limited area. If employers intend to evacuate people from a limited area, they must have alerting procedures in place that can communicate who must evacuate.
  - (2) The following list outlines the information necessary to inform the employees of what their immediate response should be. All of these criteria may not be applicable to all employers, depending on

the size and nature of the place of work and the employer's pre-planning efforts:

- Notification. Making the existence of the emergency situation known.
- Level & Type of Response. The required response based on the extent and type of emergency
- Nature of the Response. The type of emergency condition (explosion, chemical spill, medical).
- Location. Critically important in large facilities.
- Ambient Conditions Environmental factors that influence evacuation or response procedures (wind speed and direction).

**(x) Critique of response and follow-up.**

- p. Emergency response plans are based on site specific needs and experience. It is important to consider previous emergency incidents in preparing an ERP. It is just as important to consider new information, experience, and incidents with the goal of enhancing the effectiveness of the ERP and keeping it current.
  - (1) Formalized procedures for the critique of an emergency response must be written into the ERP. Appropriate changes should be made in the ERP in accordance with the results of a critique of a specific incident.
  - (2) Time spent by emergency response employees reviewing incidents can be credited toward their refresher training requirements.

**(xi) PPE and emergency equipment.**

- q. This section of the ERP lists the inventory of PPE and emergency response equipment and materials. The ERP should include instructions on how the PPE and equipment and materials are to be used, their limitations, and when emergency responders will use them.
  - (1) HAZWOPER requires the IC to be aware of the equipment and PPE available during an emergency, and responders trained to the HAZMAT technician and HAZMAT specialist levels must be trained in the selection of the proper use of PPE.
  - (2) Emergency responders must be made aware of the inventory in order to utilize the PPE and emergency response equipment effectively.

**(xii) Emergency response organizations may use the local emergency response plan or the state emergency response plan to avoid duplication. Those items of the emergency response plan that are being properly addressed by the SARA Title III plans may be substituted into their emergency plan or otherwise kept together for the employer and employee's use.**

- r. Community emergency response agencies should be integral components of the community ERP. The community wide ERP should spell out specific roles and responsibilities for various organizations or agencies, and will state which function each agency is expected to play in the event of an emergency. This predetermined role will be the basis for an agency's ERP.
- (1) For example, local area police will provide security and traffic control at the scene, the emergency medical personnel will provide care and coordinate with local hospitals, and fire departments may be expected to respond to hazardous substance emergencies and assess and control the situation until the regional HAZMAT team arrives.
  - (2) The area fire department would then be expected to develop an ERP in keeping with that role. Fire fighters expected to be involved in assessment and control of the situation would be trained to the first responder operations level. The police and emergency medical personnel would be trained at least to the awareness level and know their role under the local community plan.
  - (3) The incident command structure will be detailed to provide for smooth transition of command at the emergency site.

## Appendix B

### Guidance for 29 CFR 1910.120 Emergency Response Compliance Inspection

The function of this non-mandatory appendix is to supply the compliance officer guidance on pertinent information to be collected relating to various subparagraph requirements in 1910.120(q) Emergency response to hazardous substance releases.

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(Name of Site)

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(Street Address or Geographic Location of Incident)

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(City, State, Zip)

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(Name of Manager/Owner)

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(Phone Number)

#### **1. Review of the Emergency Response Plan (ERP).**

(See Appendix A of this instruction for a discussion of Emergency Response Plan (ERP) requirements and strategies.)

a. Do the provisions of 29 CFR 1910.120(q) apply to the employer? (Would the substances present on-site require an emergency response if released?) (See Appendix E.)

Citation  
(q)

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b. Which compliance strategy does the employer use—evacuation of all employees in accordance with 29 CFR 1910.138(a), or response procedures described in the facility's emergency response plan?

(q)(1)

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- c. If the employer does not have an emergency response plan or an emergency action plan, cite paragraph (q)(1). (q)(1)
- d. If the employer does not have an ERP or an emergency action plan, but expresses an intent to evacuate all and not allow any employees to respond, then 29 CFR 1910.38(a) shall be cited. The determination that the employer intends to evacuate all employees must be documented on the Narrative, OSHA-1A Form. 1910.38(a)
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- e. If the employer does not have an emergency response plan and the emergency action plan is inadequate, 29 CFR 1910.38(a) should be cited. 1910.38(a)
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- f. Emergency Action Plan compliance checklist: 1910.38(a)
- (1) Is the Plan in writing?
  - (2) Is the written plan accessible to employees?
  - (3) Are emergency escape procedures and emergency escape routes assigned?
  - (4) Are procedures established to account for all employees after the emergency evacuation has been completed?
  - (5) Has an employee alarm system which complies with 29 CFR 1910.165 been established? 1910.38(a)
  - (6) If an employee alarm system is used for other purposes, have distinctive signals for each purpose been developed?
  - (7) Has the employer designated and trained a sufficient number of persons to assist in the safe and orderly evacuation of employees (generally one warden per 20 employees)? (See Appendix to Subpart E—Means of Egress, 3.)
  - (8) Has the employer reviewed the emergency action plan with each employee covered by the plan initially, and when the plan or the employee's responsibilities under the plan change?

- (9) Is the written plan kept at the work-place and made available for employee review?
- (10) Is the plan real or just a subterfuge to avoid compliance with 1910.120(q)? Does the employer actually intend to have employees respond to emergencies?
- (11) Does the employer intend to have employees handle incidental releases? If so, are the training, tools, equipment and PPE appropriate for handling small releases of the hazardous substance available in the work area?

g. Is the Emergency Response Plan (ERP) in writing? (q)(1)

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h. Is the ERP easily accessible to employees? (q)(1)

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i. Does the employer make use of the local or state ERP in the company ERP? If so, does the local or state ERP adequately provide employee protection for this employer? (q)(2)(xii)

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NOTE: Emergency response organizations may use the local or state ERP as part of their ERP to avoid duplication. However, the plan must address all of the provisions listed in 29 CFR 1910.120(q)(2) and (q)(3).

j. Does the ERP reflect pre-emergency planning and coordination with outside parties (including local fire department, police, emergency medical care, and skilled support personnel)? (q)(2)(i)

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- k. Are personnel roles, lines of authority, training, and communication provided in the ERP? (q)(2)(ii)

(Suggestion: Review personnel roles and lines of authority with the designated On-Scene Incident Commander if possible.)

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- l. Does the ERP address emergency recognition and prevention? (q)(2)(iii)

(Suggestion: Determine if the employer established the kinds of emergencies that could occur in the workplace, trained employees to recognize potential emergencies, and/or installed monitoring devices to alert employees to an emergency.)

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- m. Does the ERP address safe distances and places of refuge adequate for all employees who may need it? (q)(2)(iv)

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- n. Does the ERP designate equipment, people, and procedures to ensure site security and control? (q)(2)(v)

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- o. Are evacuation routes and procedures developed, and do they work well with the methods developed for emergency alerting and the designation of places of refuge? (q)(2)(vi)

(Suggestion: Check the evacuation routes and procedures against the requirements given in 29 CFR 1910.38(a), emergency action plans.)

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- p. Does the ERP address the setting up of a decontamination station, and the decontamination of personnel and equipment? (q)(2)(vii)

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- q. Are emergency medical treatment and first aid available to employees during an emergency response? (q)(2)(viii)

(Suggestion: Are emergency medical personnel aware of their roles in an emergency and trained to fulfill their roles?)

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- r. Are emergency alerting and response procedures addressed in the ERP? Is there evidence of an alerting and response system? (q)(2)(ix)

(Suggestion: If the emergency situation calls for special instructions, determine if the emergency alerting system indicates the location of the hazard, the direction employees should evacuate, what the hazard is, and any special PPE employees must don.)

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- s. Does the ERP address the types and uses of PPE and emergency response equipment to be used? (q)(2)(xi)

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- t. Does the ERP provide procedures for the critique of emergency responses? (q)(2)(x)

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- u. Are there any other features that are missing or should be addressed in the employer's ERP? (q)(1)

NOTE: The elements listed in (q)(2) are minimum requirements. The performance-oriented aspect of the ERP is in (q)(1), which states that the ERP “shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations.”

2. Review of Procedures for Handling Emergencies

- a. Has a single individual been identified as the On-Scene Incident Commander? (q)(3)

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- b. Is there a system in place that passes the senior official position up the line of authority as more senior officials arrive on the scene? (q)(3)

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NOTE: The senior official assists the On-Scene Incident Commander, “the individual in charge of the Incident Command System” in 29 CFR 1910.120(q)(3).

- c. Has a safety official been identified? (q)(3)(vii)

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NOTE: In smaller responses the On-Scene Incident Commander may play this role.

3. Review of Training Requirements.

- a. Has the employer certified that the employee has been provided training? (q)(6)(ii)-(v)

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NOTE: The employee does not necessarily have to be provided with a certificate, although the employer must certify that employees who have successfully completed the first responder operations, HAZMAT Technician, HAZMAT Specialist and On-Scene Incident Commander levels are trained by showing some form of documentation.)

- b. If employee training is done in-house, the OSHA compliance officer may review the training materials to ensure that training is based on the specific duties and functions to be performed at the site. (q)(6)
- 
- 

NOTE: Keep in mind that OSHA cannot endorse a training program, but can offer suggestions and can cite the employer in deficiencies.

- c. Does the employer have a “statement of training” or “statement of competency” for annual refresher training or competency for all employees trained in emergency response? (q)(8)
- 
- 

NOTE: Methods of demonstrating competency include critiques of actual incidents or ‘dress rehearsals’ which identify any weakness and effectiveness of the response effort.

- d. If employee annual refresher training is done in-house, the OSHA compliance officer may review the training materials. (q)(8)
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- 

NOTE: Keep in mind that OSHA cannot endorse a training program, but can offer suggestions and cite the employer in deficiencies.

#### **4. Review of Medical Surveillance.**

- a. Does the employer furnish the employee with the physician’s written opinion indicating medical results and whether the employee is capable of working with hazardous materials? 1910.20
- 
- 

Is medical recordkeeping done in a manner consistent with 29 CFR 1910.20, Access to Employee Exposure and Medical Records? 1910.20

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**5. Review of Personal Protective Equipment Program.**

Ask to review the written PPE Program required in 29 CFR 1910.120(q)(10) and 29 CFR 1910.120(g)(5).

NOTE: Subparagraph (q)(10) refers to the provisions for PPE in 29 CFR 1910.120(g)(3)-(g)(5).

- a. Is the PPE chosen sufficiently protective of employees, based on hazards and potential hazards? (q)(10)

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- b. Is the PPE maintained and inspected routinely? (q)(10)

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- c. Does the PPE appear to be in good condition and up to date? (q)(10)

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- d. Is air monitoring equipment available to assist the Incident Commander in determining when to lower the level of PPE? (q)(3)(iv)

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**6. Employee Interview Questions.**

**Opening questions:**

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(Employee's Name)

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(Home Address)

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(Home Phone Number) (Work Phone Number)

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(Employee Job Title)

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(Years Employed in Present Position)

a. Does the employee have access to the ERP? Citation

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(q)(1)

b. Has the employee ever been through an emergency response drill or an evacuation drill? Is the employee aware of their evacuation route in the event of an emergency? (q)(2)(i)

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NOTE: Drills may be required by SARA Title III if the facility or emergency response organization designated to be part of a community emergency response.

c. Is the employee expected to take any action, other than evacuating, during an emergency? If so, what level of training does the employee have? (q)(6)

(Suggestion: Review with the employee the competencies for the level of training that the employee has received.)

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d. Does the employee feel the training was sufficient to perform expected duties and functions during an emergency as an emergency responder? (q)(6)

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e. Does the employee know how to select, use, and inspect the PPE designated for employee use during an emergency? (q)(6)(ii)-(iv)

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f. Have the employees been fitted properly for PPE? (q)(10)

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1910.133  
1910.134

NOTE: Paragraph (q)(10), *Chemical protective clothing*, refers to the provisions in 29 CFR 1910.120(g)(3)-(5): PPE selection (which requires selection and use of PPE in

compliance with 29 CFR Part 1910, Subpart I) ; totally encapsulating chemical protective suits; and a written PPE program.

- g. Does the employee know how to use the emergency response equipment designated for use in performing control, containment and/or confinement operations? (q)(6) (ii)-(iv)

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- h. If possible, interview the designated On-Scene Incident Commander to determine if the individual:

1. Is aware of the potential hazards and/or benefits associated with certain PPE and engineering controls;

(q)(3)

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2. Is capable of implementing appropriate emergency operations;

(q)(3)(ii)

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3. Can readily designate a safety official;

(q)(3)(vii)

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4. Can implement appropriate decontamination procedures;

(q)(3)

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5. Has received training as an On-Scene Incident Commander.

(q)(6)

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- i. Has the employee gone through refresher training or demonstrated competency annually?

(q)(8)

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- j. Have employees who are entitled to a base line physical and periodic consultations received them?

(q)(9)

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NOTE: Designated members of HAZMAT Teams and HAZMAT Specialists must receive baseline physicals and be part of a medical surveillance program.

- k. Are employees offered medical consultation following the development of signs or symptoms resulting from exposure to hazardous substances during an emergency incident?

(q)(9)

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## Appendix H

### Reference Materials for HAZWOPER

Federal Register, Vol. 57, No. 95, May 15, 1992, pages 20944-20954: Hazardous Materials; Training for Safe Transportation; Final Rule. (49 CFR Parts 171-177)

Federal Register, Vol. 57, No. 36, February 24, 1992, pages 6356-6417: Process Safety Management of Highly Hazardous Chemicals; Explosives and Blasting Agents; Final Rule. (29 CFR 1910.119)

Federal Register, Vol. 56, No. 75, April 18, 1991, pages 15832-15833: Hazardous Waste Operations and Emergency Response; Final Rule; Corrections.

Federal Register, Vol. 55, No. 72, April 13, 1990, pages 14072-14075: Hazardous Waste Operations and Emergency Response; Final Rule; Corrections.

Federal Register, Vol. 55, No. 18, January 26, 1990, pages 2776-2794: Accreditation of Training Programs for Hazardous Waste Operations; Notice of Proposed Rulemaking.

Federal Register, Vol. 54, No. 120, June 23, 1989, pages 26654-26658: Worker Protection Standards for Hazardous Waste Operations and Emergency Response; Final Rule. (40 CFR Part 311)

Federal Register, Vol. 54, No. 42, March 6, 1989, pages 9294-9336: Hazardous Waste Operations and Emergency Response; Final Rule. (29 CFR Subpart 1910.120)

Federal Register, Vol. 52, No. 163, August 24, 1987, pages 31852-31886: Hazard Communication; Final Rule. (29 CFR 1910.1200)

Federal Register, Vol. 52, No. 85, May 4, 1987, pages 16241-16243: Hazardous Waste Operations and Emergency Response; Interim Final Rule; Corrections.

Federal Register, Vol. 51, No. 244, December 19, 1986, pages 45654-45675: Hazardous Waste Operations and Emergency Response; Interim Final Rule.

OSHA Instruction CPL 2.46, March 22, 1982, "Memorandum of Understanding Between the Occupational Safety and Health Administration and the United States Coast Guard."

OSHA Instruction CPL 2.94, July 22, 1991, "OSHA Response to Significant Events of Potentially Catastrophic Consequence."

OSHA Instruction CPL 2-2.30, November 14, 1980, "29 CFR 1913.10(b)(6), Authorization of Review of Medical Opinions."

OSHA Instruction CPL 2-2.32, January 19, 1981, “29 CFR 1913.10(b)(6), Authorization of Review of Specific Medical Information.”

OSHA Instruction CPL 2-2.33, February 8, 1982, “29 CFR 1913.10, Rules of Agency Practice and Procedure Concerning OSHA Access to Employee Medical Records—Procedures Governing Enforcement Activities.”

OSHA Instruction CPL 2-2.45A, September 28, 1992, “29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals—Compliance Guidelines and Enforcement Procedures.”

OSHA Instruction CPL 2-2.51, November 5, 1990, “Inspection Guidelines for Post-Emergency Response Operations Under 29 CFR 1910.120.”

OSHA Instruction CPL 2-2.54, February 10, 1992, “Respiratory Protection Program Manual.”

OSHA Instruction STP 2-1.154C, June 10, 1991, “Hazardous Waste Operations and Emergency Response; Final Rule and Corrections.”

“Memorandum of Understanding Between the United States Coast Guard, U.S. Department of Transportation, and the Occupational Safety and Health Administration, U.S. Department of Labor, Concerning Their Authority to Prescribe and Enforce Standards or Regulations Affecting the Occupational Safety and Health of Seamen Aboard Vessels Inspected and Certificated by the United States Coast Guard,” March 4, 1983.

State of Washington Industrial Safety and Health Administration, May 3, 1991; “Inspection Guidelines for Post-Emergency Response Operations Under WAC 296-62-300.”

Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH/OSHA/USCG/EPA; October 1985. (Publication Number: 85-115)

Health and Safety Audit Guidelines, SARA Title I, Section 126, December 1989, United States Environmental Protection Agency: Office of Solid Waste and Emergency Response, Office of Emergency and Remedial Response, and Emergency Response Division. (EPA/540/G-89/010)

Emergency Response Guidebook, U.S. Department of Transportation, Washington, DC, 1990.

Recommended Practice for Responding to Hazardous Materials Incidents; National Fire Protection Association Standard 471; August 14, 1992.

Standard for Professional Competence of Responders to Hazardous Materials Incidents;  
National Fire Protection Association Standard 472; August 14, 1992.

## APPENDIX D

### HAZWOPER Interpretive Guidance

This appendix includes clarifications and interpretations which respond to the most frequently asked questions and points of common misunderstanding regarding 29 CFR 1910.120 paragraph (q) *Emergency response to hazardous substance releases*. Where possible, clarifications are keyed to the most applicable paragraph or subparagraph of the HAZWOPER standard.

#### **29 CFR 1910.120(a): Scope, application, and definitions.**

##### **How (a)(1) Scope affects certain employers who may be engaged in hazardous waste operations:**

- (a)(1)(v) Asbestos Removal. Occupational exposure to asbestos, including removal operations, falls under the scope of 29 CFR 1910.1001, the Asbestos, Tremolite, Anthophyllite, and Actinolite standard. Employees are covered under 29 CFR 1926.58 at construction sites. In emergency situations the HAZWOPER standard will apply; e.g., when asbestos is released during a transportation accident.
- (a)(1)(i)-(v) Construction. Construction sites are covered by HAZWOPER. This is explained in the application section of the HAZWOPER standard, 29 CFR 1910.120(a)(2)(i): “If there is a conflict or overlap, the provision more protective of employee safety and health shall apply....”
- If an employee on a construction site is directed to engage in emergency response involving hazardous substances, then the employer is subject to all of the provisions of 29 CFR 1910.120(q). However, most construction employers will direct all of their employees to evacuate in an emergency, and would comply with HAZWOPER paragraph (q) by having a written emergency action plan in accordance with 29 CFR 1910.38(a). (Employers who have 10 or fewer employees may communicate the emergency action plan verbally.)
- (a)(1) Contractors. Contractor employees must receive HAZWOPER training if their duties or activities fall within the scope of the standard. If a contractor is expected to be part of an emergency response, the employer must comply with the provisions of 29 CFR 1910.120(q). Contractors who have employees that will be called in as specialists or skilled support personnel must act in accordance with the HAZWOPER standard.

#### **Personnel Services**

- Shared Responsibility. Both contractors and their clients are responsible for complying with the OSHA regulations. OSHA considers personnel providers/contractors who send their own employees to work at other facilities to be employers whose employees may be exposed to hazards, for example utility workers.
  - Since the contractor maintains a continuing relationship with employees, but it is the client who creates and controls the hazards, there is a shared responsibility for ensuring that employees are protected from workplace hazards. The client has the primary responsibility for such protection; however, the contractor-employer has a responsibility under the OSH Act.
- Contracts. It is in the interest of the contractor-employer to ensure that all steps required in the OSHA standards have been taken to the client employer to ensure a safe and healthful workplace for the contracted employees. Written contracts with clients should clearly describe the responsibility of both parties in order to ensure that all requirements of the standards are met. (See OSHA Instruction CPL 2.45B, the FOM, on OSHA citation policy for multiemployer worksites.)

(a)(1) Employee Exposure. The term “exposure” for the scope section of this standard is consistent with the definition used in 29 CFR 1910.120, the Hazard Communication standard, given below:

“Exposure” or “exposed” means that an employee is subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.), **and includes potential exposure.**

NOTE: The definition of exposure is similar; however, the scopes of the respective standards cover different situations and substances.

(a)(1)(v) Hospitals as Part of a Community Emergency Response. Under the Superfund Amendments and Reauthorization Act (SARA) of 1986, the National Contingency Plan (NCP) was revised to require communities to prepare local emergency response plans. Designated local hospitals who will participate in the local planning committee are considered part of the emergency response organization.

### **Hospitals with Responsibility Under the NCP**

- Hospitals, or other emergency medical services who are designated by the LEPC, SERC or local fire department, do not have to develop

an entire emergency response plan for community emergency response because their role will be addressed in the contingency plan. The hospital should have designated decontamination areas, although areas dedicated solely to decontamination need not be set aside.

- In terms of a community emergency response, a hospital is not expected to comply with 29 CFR 1910.120 if it has not been designated by a planning committee or by a hazardous waste site as a decontamination facility. The hospital may have responsibility under 1910.120(q) in terms of the potential for an emergency caused by the release of hazardous substances used at the hospital.

### **Training in Decontamination**

- Hospitals that will receive contaminated accident victims must stress decontamination and personal protective equipment (PPE) in the training for personnel designated to set up decontamination. For medical personnel who will receive and decontaminate accident victims, employers may develop an in-house training course that would focus on decontamination and PPE or provide additional training in decontamination and PPE after sending personnel to a standard “first responder operations level” course.

### **Emergency Medical Services at Release Area**

- Facilities that create an emergency response plan under 29 CFR 1910.120 must coordinate with hospitals or other medical care providers prior to emergencies in case victims will need to be decontaminated at a hospital (29 CFR 1910.120(q)(2) and (l)(2) list “emergency medical treatment and first aid” as one of the elements to be covered in the emergency response plan). If a hospital is selected by a facility, it must be made aware of a facility’s intent to use its services so that the hospital may ensure that it is prepared for its duties (e.g., has PPE, methods of containing the hazardous material, waste water, etc.)
- Hospitals that employ emergency medical service personnel, who would be exposed to hazardous substances because they are expected to treat contaminated patients at the release area (i.e., ambulance personnel), are required by 29 CFR 1910.120(q) to train these personnel to safely perform these duties.
- Other medical personnel whose expected job duties do not include treating contaminated patients may be needed to respond to accidents where the chemical’s hazards were unforeseen. These employees may be considered “skilled support personnel” and must be given an initial briefing which includes instruction in the wearing of

appropriate PPE, any limitations of the PPE, the chemical hazards involved, and the facility's safety and health precautions.

**Jurisdictional Issues Involving the Provisions in 29 CFR 1910.120(a)(2) Application:**

(a)(2) U.S. Department of Transportation. The Hazardous Materials Transportation Uniform Safety Act (HMTUSA) of 1990 concerns the handling of hazardous materials in the transportation industry. Under Section 7 of that act the regulation entitled "Hazardous Materials; Training for Safe Transportation; Rule" (49 CFR 171-177), requires employers to train their employees in the safe loading, unloading, handling, storing, and transportation of hazardous materials.

- OSHA has limited jurisdiction for over-the-road vehicle operation. If operators of vehicles in transportation become actively involved in an emergency response to a release of hazardous substance, then they are covered by 29 CFR 1910.120(q).
- The operators of vehicles involved in an emergency response would need to be trained at least to the first responder awareness level to recognize an emergency situation, understand their role in an emergency response, and call predesignated authorities for the containment and control of the release.

(a)(2) U.S. Department of Transportation, U.S. Coast Guard (USCG). The USCG has issued comprehensive standards regulating the safety and health of seamen (this term is intended to be non-gender specific and includes women) performing work on vessels which have been inspected and certified by the USCG ("inspected vessels"); therefore, OSHA does not apply its standards to these employees. The USCG has also issued some standards affecting the safety of seamen on uninspected vessels.

- With these exceptions, OSHA has jurisdiction for seamen aboard vessels located on the waters within a 3-mile limit, or in the case of Florida and Texas within the limit of three marine leagues (the territorial waters). OSHA also has jurisdiction for employees performing work on shore or at other locations not aboard a vessel but within U.S. territorial waters.
- OSHA is not prohibited from inspecting USCG "inspected vessels" if non-seamen (e.g., contractors) are on board. (See the "Memorandum of Understanding Between the United States Coast Guard, U.S. Department of Transportation, and the Occupational Safety and Health Administration, U.S. Department of Labor, Concerning their Authority to Prescribe and Enforce Standards or Regulations Affecting the Occupational Safety and Health of Seamen Aboard Vessels Inspected and Certificated by the United States Coast Guard," effective March 8, 1983.)

- (a)(2) Employees of Governmental Agencies and Non-Compensated Workers. Public sector employees in States with an OSHA-approved State plan are protected by the hazardous waste standards adopted by these State plans.
- The U.S. Environmental Protection Agency (EPA) promulgated a standard that adopts 29 CFR 1910.120 to protect employees who work in the public sector where there is no OSHA approved State program in place (40 CFR 311).
  - In addition, EPA specifically included “non-compensated workers” (i.e., volunteer workers) who work for governmental agencies engaged in emergency response, such as volunteers who will take part in operations involving hazardous substances must be trained in accordance with the applicable sections of 29 CFR 1910.120.
  - States with OSHA-approved State plans are encouraged both by OSHA Instruction STP 2-1.154C and EPA’s standard, 40 CFR 311, to cover volunteer workers engaged in hazardous waste operations, including emergency response.
  - EPA and OSHA have agreed that interpretations regarding compliance with HAZWOPER will be made by OSHA.

**Clarification and Interpretation of Terms Used in 29 CFR 1910.120(a)(3)**

**Definitions:**

- (a)(3) Emergency Response. An “emergency response” is an organized response to an incident that is, or may pose, an emergency. Since every industry will experience different kinds of emergencies, OSHA will not attempt to create a formula into which all emergencies will fit. (See Appendix E of this instruction for further guidance.)
- (a)(3) Immediate Release Area. The immediate release area is the area, process, or machine which is creating the hazardous spill. This term is not meant to be used exclusively to determine whether a situation is an emergency under this standard. The key factor which must be considered on a case-by-case basis is the actual or estimated exposure or degree of danger to responders, other employees, neighbors, etc. In order to determine this, factors such as the size of the spill/release, the material of the spill, and the location of the incident (e.g., confined space) play a significant role. Planning must take place prior to any releases that pose an emergency. An employer must determine all likely potentials for emergencies using worst-case assumptions and plan response procedures accordingly; past history of emergencies at the site should be used as a guide.
- (a)(3) Hazardous Substance, Radioactive. The term “hazardous substance” as defined by 29 CFR 1910.120, includes radioactive waste in addition to hazardous waste, and should not be confused with 29 CFR 1910.1200,

Hazard Communication, which specifically excludes any radioactive chemicals.

- The U.S. Nuclear Regulatory Commission (NRC) has jurisdiction “inside the fence” at NRC licensed nuclear facilities for the risks involved with licensed radioactive procedures. OSHA had jurisdiction “inside the fence” for non-licensed radioactive materials.
- There may be both NRC and OSHA jurisdiction when there is an emergency involving mixed wastes (licensed radioactive materials and other hazardous substances) “inside the fence” to emergency response and clean-up activities involving hazardous substances, including licensed radioactive wastes.

(a)(3) Infectious Materials. Employers must include infectious materials in their effort to comply with 29 CFR 1910.120(q) if there is a possibility that a release could cause an emergency.

- The definition of “hazardous substance” used in the standard was corrected in the Federal Register, April 13, 1990, to define:

(B) Any biological agent and other disease-causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring.

- Employers with employees engaged in emergency response activities involving infectious materials must comply with the requirements in 29 CFR 1910.120(q), and may also have to comply with the Bloodborne Pathogens standard, 29 CFR 1910.1030. If there is a conflict or overlap, the provision that is more protective of employee safety and health applies.

(a)(3) Mixtures Containing a Hazardous Substance. The hazards of a mixture containing hazardous substances would be expected to be treated as a hazardous substance for compliance purposes, unless testing data on the mixture shows that the mixture does not possess hazardous characteristics.

**Interpretations of 29 CFR 1910.120(q) Emergency Response to Hazardous Substance Releases:**

- (q)(2) Lack of an Emergency Response Plan. If a facility does not have an emergency response plan, the employer must at least have an emergency action plan and evacuate all employees. In the event that an employer does not plan for emergencies by not complying with either provision, the employer must prove that the chemicals used in the facility will not require an emergency response if released in a reasonably predictable worst-case scenario. CSHOs must still document violations fully and be able to defend any citations. Past history of emergencies at the site may be used as a guide.
- (q)(2) Evacuation Routes and Procedures. CSHOs shall use 29 CFR 1910.38(a) to serve as an example of what employers need to address in the section of the emergency response plan that requires “evacuation routes and procedures” to be addressed in 29 CFR 1910.120(q)(2)(vi).
- (q)(5) Specialist Employees. The “specialist employees” category is to be used for employees from off-site who assist or advise the on-scene Incident Commander (IC). These employees may be individuals who work with and are trained in the hazards of a specific hazardous substance, but do not necessarily have all of the competencies of the HAZMAT technician or HAZMAT specialist.
- Specialist employees who may be sent to the scene of an emergency to advise and assist the person in charge must receive training or demonstrate competency annually. (See 29 CFR 1910.120, Appendix C, section 2., for more details.)
  - Activities of all emergency responders responding to or on the scene of a release of a hazardous substance must be coordinated and controlled through the individual in charge of the Incident Command System, as per 29 CFR 1910.120(q)(3)(i). Specialist employees are not exempted from this requirement.
- (q)(6)(i) Training. Fire fighters and police officers who are expected to be engaged in responding to emergencies involving hazardous substances are subject to the HAZWOPER training requirement.
- Generally, police officers should be trained to the first responder awareness level, since they are likely to witness or discover a release of a hazardous substance.
  - Fire fighters expected to respond to releases of hazardous substances must be trained to at least the first responder operations level, since they will respond to releases, or potential releases, of hazardous substances for the purpose of protecting nearby persons, property, or the environment.

(q)(6)(ii)

First Responder Operations Level. Fire fighters responding to propane and gasoline fires:

- Fire fighters trained to the operations level, who are also trained in the hazards of propane, may enter the danger area to shut off the valves that will starve the fire and thus extinguish it. Normally, employees trained to the operations level would be restricted from taking aggressive action. **This is considered to be a special case.** The principle hazards from propane are fire and explosion, not toxicity. Because propane fires are common, most fire fighters are fully trained and equipped to respond to propane fires, including taking aggressive action by shutting off the valves in the danger area.
  - If fire fighters are fully trained and equipped (which is a high degree of training), and have also received first responder operations level training, OSHA believes they have sufficient training to take aggressive action due to propane's relatively low toxicity.
  - It would be only a technical violation of 29 CFR 1910.120(q)(6) for not having the additional training required of a HAZMAT technician if a fire fighter took aggressive action in the danger area during a propane fire or leak, was fully trained and equipped to handle the fire and had first responder operations level training. In this circumstance OSHA would not issue a citation.
  
- Releases of gasoline similar to the example involving propane discussed above may be addressed by operations level emergency responders if they have the required PPE, emergency response equipment, and specific training in the safety and health hazards associated with gasoline.
  - Employers who expect fire fighters to shut off a gasoline valve in the danger area, and who can show that employees are trained to the operations level and adequately trained in the hazards of gasoline, have committed a technical violation of 1910.120(q)(6)(iii) for such employees not having the training required of a HAZMAT technician.

NOTE: The fire and explosion hazards of propane and gasoline are very substantial. The interpretations herein are applicable only when fire fighters are fully trained and equipped to handle the explosion and fire hazards of propane, gasoline, or similar flammable gases and liquids.

- If an injury occurred during an emergency response involving these responders (operations level plus additional training) the CSHO would need to consider whether the responders' training and experience were sufficient for the tasks being performed.
  - A violation of training requirements that resulted in an actual injury to an employee during an emergency response by definition cannot be a "technical violation". Thus, if an injury occurred and the CSHO determined that the responders' training and experience were not sufficient for the tasks being performed, then a citation should be issued noting a violation of 29 CFR 1910.120(q)(6)(iii) and carrying a penalty that requires abatement. Whether abatement should require full training in all of the competencies of the HAZMAT technician level, or whether certain training requirements could safely be omitted, would depend on the training needed to safely perform the tasks in question.
  - If, however, the CSHO determined that the training which had been provided to the employees in question had been **adequate**, then the training violation would be considered a de minimis violation and no citation would be issued for inadequate training. In this situation the CSHO might determine that the cause of the injury was due to a violation of some other requirement of 29 CFR 1910.120 or other standards, for which a citation carrying a fine and requiring abatement would be appropriate.

(q)(6)(iii)

Process Operators Responding within a Facility. Process operators who have (1) informed the incident command structure of an emergency (defined in the facility's emergency response plan), (2) adequate PPE (3) adequate training in the procedures they are to perform, and (4) employed the buddy system, may take limited action in the danger area (e.g., turning a valve) before the emergency response team arrives. The limited action taken by process operators must be addressed in the emergency response plan.

- Once the emergency response team arrives, these employees would be restricted to the actions that their training level allows.
- This limited action assumes that the emergency response team is on its way and that the action taken is necessary to prevent the incident from increasing in severity (i.e., to prevent a catastrophe).
- Employers must inform employees during their training that they are to evacuate when they lack the capabilities to respond in a safe manner and in accordance with the standard operating procedures defined in the emergency response plan.
- If the process operator takes action beyond what they have been trained to do, and the action was comparable to the aggressive role that

a HAZMAT technician would take, CSHOs shall cite the employer for a violation of 29 CFR 1910.120(q)(6)(iii). If the operator takes action beyond that which they have been trained to do, and the action was comparable to the defensive role that a first responder at the operations level would take, CSHOs shall cite the employer for a violation of 29 CFR 1910.120(q)(6)(ii).

(q)(6)(v) On Scene Incident Commander. The intent of the standard is to provide an incident command system that is headed up by a single person who is well trained in managing emergencies of differing severity, as well as overseeing the HAZMAT team, but does not necessarily have extensive knowledge of certain technical aspects such as classification and verification of hazardous materials. Appendix C, section 6., of the standard explains:

“This enable(s) one individual to be in charge of managing the incident, rather than having several officers from different companies making separate, and sometimes conflicting, decisions. The individual in charge of the (incident command system) would delegate responsibility for performing various tasks...”

- Consequently, the IC requires more training in general matters, plus extensive training in command and management.
- Training for the IC may require more than 24 hours of total training. The 24 hours covers 29 CFR 1910.120(q)(6)(ii)(A)-(F), and additional training would be needed for (6)(v)(A)-(F). The training hours suggested in the standard are minimums. HAZWOPER training programs often must exceed the 8, 24, or 40 hour minimums in order to include all of the required subjects.

(q)(6) Limiting Training Components. An employer with a limited range of hazardous substances on-site may opt to supply their personnel with one type of PPE, and require employees to wear the entire complement of PPE for any response. This strategy would relieve that particular employer of the requirement of training HAZMAT technicians to be able to “select appropriate PPE,” if employees are trained in the PPE which they are required to wear, and which will always provide sufficient protection.

NOTE: Employers must consider heat stress, physical constraints, maintenance, permeability and other factors if they choose to select just one type of PPE for all releases that require an emergency response.

- Another example of requirements specified in the standard that may not be universally applicable is found in 29 CFR 1910.120(q)(6)(iii)(B), training for HAZMAT technicians, where

knowledge of “the classification, identification, and verification of known and unknown materials by using field survey instruments and equipment” is required. In many chemical manufacturing facilities this may not be necessary, because all hazardous substances that have a potential for being released are known.

- The emergency response plan and training components may cover this by identifying the known hazardous substances that would cause, or have the potential to cause, an emergency if released.
- Employees trained in this limited manner would only be able to respond to spills on site that involve the limited range of hazardous substances in which they are trained. For example, employees trained to respond only to releases of ethylene oxide, without broadening their limited training.

(q)(7) Training Alternatives for Employers. A video-only approach to train employees would not be sufficient, although videos could be used for part of the training if the employer can fully assure that the employee has sufficient knowledge and skills. Providing an instructor to respond to the employees’ questions after the video presentations, and evaluating employee understanding of the material would be required. Higher levels of training would require hands-on training and more interaction with the instructor.

- An in-house training program, among other options, may be developed. Credential requirements for trainers is defined in 29 CFR 1910.120(q)(7).
- Equivalent training for First Responder Awareness Level and First Responder Operations Level is acceptable, as per 1910.120(q)(6)(i) and (ii), which states that employees must “have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas....” However, the employer must ensure that the employee accomplishes all training objectives.

(q)(8) Refresher Training. Refresher training is required because employees must stay up-to-date in their skills and knowledge. If the employee has gone without refresher training, the employer must evaluate whether the initial comprehensive training may need to be repeated.

(q)(9) Medical Surveillance. Under 29 CFR 1910.120 employers are obligated to make medical surveillance and medical consultation available to specific employees without cost to the employees. However, OSHA does not require employees to participate. A record should be made in the employees’ personnel files indicating that the employees voluntarily chose not to take part in the medical surveillance program. The CSHO may

choose to interview the employees entitled to medical surveillance whose personnel files indicate that they waived their right.

(q)(10)

Selection of Personal Protective Equipment. PPE shall be selected and used with the intent to protect employees from hazards and potential hazards.

- In situations where the type of hazard is fire or thermal energy then 29 CFR 1910.120(q)(3)(iii) must be followed, and when the type of chemical and its concentration are “totally unknown” or “somewhat known”, the appropriate level of protection must be based on experience, judgment, and professional knowledge.
- Obtaining air measurements with monitoring equipment for toxic concentrations of vapors, particulates, explosive potential, and the possibility of radiation exposure, would be appropriate in determining the nature, degree, and extent of the hazards. Also, visual observation, reviewing the existing data, and past experience can help determine the potential risks.

(q)(11)

Emergency Response/Post-Emergency Operation. As long as an emergency response team is still in control of the site and a safety or health hazard exists, the emergency situation continues to be in effect. For example, if a vacuum truck arrives to remove spilled gasoline while an emergency response team is managing the activity, the vacuum truck operator’s activity is part of the emergency response operations. Once the IC has declared the response activity over or finished, and the immediate threat has been established, any remaining clean-up would be considered a post-emergency operation.

- In a large enough release, emergency response and post-emergency response activities may occur simultaneously, as in a marine oil spill. The IC must be careful to define the boundaries between the emergency response area and the post emergency response area in this scenario. (See OSHA Instruction CPL 2-2.51.)
- The IC must convey information on all of the hazards that may still remain at a post-emergency clean-up site to employees who are involved in the clean-up operations. The individuals who will take control of the site to perform the post-emergency response clean-up also have a responsibility to contact the IC to determine if there are any remaining hazards or any special conditions on the site. If the IC feels that the post-emergency response clean-up crews are not sufficiently trained or prepared to perform their duties, the Commander may notify the employer or OSHA.

(q)(11)(i)  
& (ii)

Post-Emergency Response for Contract Personnel.

- Contract personnel assigned full time at a plant facility are considered “plant or workplace employees” for the purposes of 29 CFR 1910.120(q)(11)(ii) when such employees are conducting clean-up in areas they routinely work.
- Contractors brought in specifically for clean-up are covered by 29 CFR 1910.120(q)(11)(i).

(q)(11)

Emergency Response During a Post-Emergency Response.

If an emergency release of a hazardous substance occurs during a post emergency response clean-up, the HAZWOPER emergency response provision that applies would depend upon who is handling the clean-up, who will be responding, and whether the clean-up is done on plant property.

- If the emergency is responded to by an outside response team or responders, 29 CFR 1910.120(q) would apply.
- Employees who work at a hazardous waste clean-up site or RCRA corrective action (a post emergency response may be considered either), and are trained in accordance with 29 CFR 1910.120(e)(7), may respond to emergencies.
- The contractor hired for clean-up the procedure may respond to emergencies during the clean-up if the contractor’s employees who are involved in the clean-up are trained in accordance with 29 CFR 1910.120(e)(7) and (1).

## Appendix E

### Releases of Hazardous Substance That Require an Emergency Response

The function of this appendix is to present a thorough discussion of the distinction between incidental releases of hazardous substances and releases that require an emergency response, and hence, compliance with the provisions of 1910.120(q) *Emergency response to hazardous substance releases*. This has been a point of considerable inquiry to and interpretation by OSHA.

An understanding of the distinction between an incidental release of a hazardous substance and a release that requires an emergency response is fundamental to proper compliance with the provisions of 29 CFR 1910.120(q). This part of the standard was written to cover a wide array of facilities and situations: “Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.” (29 CFR 1910.120(a)(1)(v)).

Potential releases of hazardous substances in the workplace can be categorized into three distinct groups in terms of the planning provisions of 1910.120(q). These groups are:

1. Releases that are clearly incidental regardless of the circumstances,
2. Releases that may be incidental or may require an emergency response depending on the circumstances, and
3. Releases that clearly require an emergency response regardless of the circumstances.

#### **Releases that are Clearly Incidental**

The scope of the HAZWOPER standard does not cover the inevitable release of a hazardous substance that is limited in quantity and poses no emergency or significant threat to the safety and health of employees in the immediate vicinity. This type of release is referred to as an “incidental release” in 29 CFR 1910.120(a)(3), where “emergency response” is defined.

An incidental release is a release of hazardous substance which does not pose a significant safety or health hazard to employees in the immediate vicinity or to the employee cleaning it up, nor does it have the potential to become an emergency within a short time frame. Incidental releases are limited in quantity, exposure potential, or toxicity and present minor safety or health hazards to employees in the immediate work area or those assigned to clean them up.

If the hazardous substances that are in the work area are always stored in very small quantities, such as a laboratory which handles amounts in pint sizes down to test tubes, and the hazardous substances do not pose a significant safety and health threat at that volume, then the risks of having a release that escalates into an emergency are minimal.

In this setting incidental releases will generally be the norm and employees will be trained to protect themselves in handling incidental releases per the training requirements of the Hazard Communication standard (29 CFR 1910.1200).

### **Releases That May Be Incidental or Require an Emergency Response Depending on the Circumstances**

The properties of hazardous substances, such as toxicity, volatility, flammability, explosiveness, corrosiveness, etc., as well as the particular circumstances of the release itself, such as quantity, confined space considerations, ventilation, etc., will have an impact on what employees can handle safely and what procedures should be followed. Additionally, there are other factors which may mitigate the hazards associated with a release and its remediation, such as the knowledge of the employee in the immediate work area, the response and personal protective equipment (PPE) at hand, and the pre-established standard operating procedures for responding to releases of hazardous substances. There are some engineering control measures that will mitigate the release which employees can activate to assist them in controlling and stopping the release.

These considerations (properties of the hazardous substance, the circumstances of the release, and the mitigating factors in the work area) combine to define the distinction between incidental releases and releases that require an emergency response. The distinction is facility-specific and is a function of the emergency response plan.

For example: A spill of the solvent toluene in a facility that manufactures toluene may not require an emergency response because of the advanced knowledge of the personnel in the immediate vicinity and equipment available to absorb and clean up the spill. However, the same spill inside a furniture refinishing shop with personnel that have had only the basic hazard communication training on toluene may require an emergency response by more highly trained personnel. The furniture refinishing shop's emergency response plan in this case would call for evacuation for all but the most minor spills, which evacuation and emergency response would be necessary for only much larger spills at the chemical manufacturing facility.

### **Releases that Require an Emergency Response Regardless of the Circumstances**

There are releases of hazardous substances that pose a significant enough threat to health and safety that, by their very nature, require an emergency response regardless of the circumstances surrounding the release or the mitigating factors. An employer must determine the potential for an emergency in a reasonably predictable worst-case scenario (or "anticipated emergencies," 29 CFR 1910.120(q)(1)), and plan response procedures accordingly.

Table B.1. An emergency response includes, but is not limited to, the following situations:

1. The response comes from outside the immediate release area;
2. The release requires evacuation of employees in the area;
3. The release poses, or has the potential to pose, conditions that are immediately dangerous to life and health (IDLH);
4. The release poses a serious threat of fire or explosion (exceeds or has the potential to exceed the lower explosive limit or lower flammable limit);
5. The release requires immediate attention because of imminent danger;
6. The release may cause high levels of exposure to toxic substances;
7. There is uncertainty that the employee in the work area can handle the severity of the hazard with the PPE and equipment that has been provided and the exposure limit could easily be exceeded; and
8. The situation is unclear, or data is lacking on important factors.

### **Responders from outside the Immediate Release Area**

“Emergency response” is defined in 29 CFR 1910.120(a)(3) as follows:

“Emergency response”... means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

The standard covers responses “by other designated responders”. The use of the “or” means that responders are a separate group, different from employees within the immediate release area, directed to respond to the emergency by the employer. Employees working in the immediate release area (not just outsiders) are covered if the employer designates them as emergency responders. The standard, 29 CFR 1910.120(q), uses the term “responders” generally to refer to employees who respond to emergencies.

The Superfund Amendments and Reauthorization Act (SARA), the statute that mandated HAZWOPER, directs broad coverage of all employees responding to emergencies with no limitation on their location. SARA states, “... standards shall set forth responding requirements for training of workers who are responsible for responding to hazardous emergency situations who may be exposed to toxic substances.” (See SARA 126(d)(4).) For an emergency to be covered by the standard, conditions causing a dangerous situation which involve hazardous substances are sufficient, there need not be both an emergency and a response by outside responders before the employer prepares for an emergency.

For example: A release of chlorine gas above the IDLH, obscuring visibility and moving through a facility is an emergency situation even if the initial responders are from the

immediate release area. Employees who would respond to this hypothetical situation, whether they work in the immediate area or come from outside, would need to act in accordance with 29 CFR 1910.120(q).

Employees must not be made to respond to releases in the immediate release area that would otherwise require outside assistance from a trained hazardous materials team merely because the definition of an emergency response states that an emergency response is "... a response effort by employees from outside the immediate release area."

Conversely, incidental releases of hazardous substances that are routinely cleaned up by those from outside the immediate release area need not be considered emergency responses solely because the employee responsible for cleaning it up comes from outside the immediate release area.

For example: Paint thinner is spilled in an art studio and the janitor is called from outside the immediate release area to mop it up. The janitor does not have to respond in accordance with 29 CFR 1910.120, although the janitor would be expected to understand the hazards associated with paint thinner through the hazard communication training.

### **Other OSHA Standards**

Other standards that impact emergency response to fires, chemical releases, or other incidents will help to determine how well prepared an employer is in addition to 29 CFR 1910.120. Flammable chemical spills and other small fires are covered by 29 CFR 1910.157 as well as 29 CFR 1910.156. The "Process Safety Management for Highly Hazardous Chemicals," 29 CFR 1910.119, and "Hazard Communication," 29 CFR 1910.1200, as well as some of the specific expanded health standards in Subpart Z would also apply. (See subparagraphs in O. of this instruction.)

## Appendix F

### Relationship of 1910.120(q) with other OSHA standards and agencies.

1. Expanded Health Standards.

When there is an overlap between an expanded health standard and 1910.120, the more specific standard will be cited. If there are any questions, consult with your Supervisor.

2. 1910.1200 – In workplaces where there is a potential for emergencies, the HCS Training Program must address the HAZWOPER Emergency Response Plan and/or emergency action plan.
3. 1910.38(a) – Employers who evacuate all employees have the option of creating a written emergency action plan under 1910.38(a).
4. 1910.1450 – Spills or releases of hazardous substances inside labs and require an emergency response are covered by HAZWOPER.
5. 1910.119 – Facilities covered by the PSM standard fall under the scope of 1910.38(a) and 1910.120(q) if employees respond to emergency releases and/or chose to have EAP under 1910.120(q)(1) and 1910.38.
6. 1910.1030 – The Bloodborne Pathogens Standard may apply in the clean up of hazardous waste site containing infectious waste, operation of RCRA-permitted infectious waste incinerator or in response to an emergency caused by the uncontrolled release of an infectious waste.
7. 1910.156 – Employees who are expected to respond to incidents involving hazardous substances must receive HAZWOPER training.
8. Other Agencies –

When there has been a spill or release of hazardous substances, the CO/IH will encounter authorities from other State, Federal or local agencies.

The CO/IH shall cooperate and assist or seek advice as appropriate.

If there are any problems concerning jurisdiction, the CO/IH shall contact the office as soon as possible.

The OSH Administrator, Assistant Administrator or Compliance Manager will consult with Federal OSHA, other agencies and/or Legal Counsel to quickly resolve the issue.

## Appendix G

### List of Acronyms in this Document

CERCLA:	Comprehensive Environmental Response Compensation and Recovery Act of 1980 (also, Superfund)
CFR:	<u>Code of Federal Regulations</u>
CSHO:	Compliance safety and health officer
DOT:	U.S. Department of Transportation
EPA:	U.S. Environmental Protection Agency
ERP:	Emergency response plan
EtO:	Ethylene Oxide
FOM:	“Field Operations Manual”
HAZCOM:	Hazard Communication standard, 29 CFR 1910.1200 (also, HCS)
HAZMAT:	Hazardous materials
HAZWOPER:	Hazardous Waste Operations and Emergency Response standard, 29 CFR 1910.120
HCS:	Hazard Communication standard, 29 CFR 1910.1200 (also, HAZCOM)
HMTUSA:	Hazardous Materials Transportation Uniform Safety Act of 1990
IC:	[On-scene] incident commander
IDLH:	Immediately dangerous to life or health
LEPC:	Local emergency planning committee
MOU:	Memorandum of Understanding
MSDS:	Material safety data sheet
NCP:	National Contingency Plan
NFPA:	National Fire Protection Association

NIOSH:	National Institute of Occupational Safety and Health
NRC:	Nuclear Regulatory Commission
NRT:	National response team
OPA 90:	Oil Pollution Act of 1990
OSC:	On-scene coordinator (term used in NCP)
OSHA:	Occupational Safety and Health Administration
OSH Act:	Occupational Safety and Health Act of 1970
PPE:	Personal protective equipment
PSM:	Process Safety Management of Highly Hazardous Chemicals standard, 29 CFR 1910.119
RCRA:	Resource Conservation and Recovery Act of 1976
RRT:	Regional response team
SARA:	Superfund Amendments and Reauthorization Act of 1986
SCBA:	Self-contained breathing apparatus
SERC:	State emergency response commission
TSDf:	Treatment, storage and disposal facility (also, "TSD facility")
USCG:	United States Coast Guard
UST:	Underground storage tank

## Appendix H

### Reference Materials for HAZWOPER

Federal Register, Vol. 57, No. 95, May 15, 1992, pages 20944-20954: Hazardous Materials; Training for Safe Transportation; Final Rule. (49 CFR Parts 171-177)

Federal Register, Vol. 57, No. 36, February 24, 1992, pages 6356-6417: Process Safety Management of Highly Hazardous Chemicals; Explosives and Blasting Agents; Final Rule. (29 CFR 1910.119)

Federal Register, Vol. 56, No. 75, April 18, 1991, pages 15832-15833: Hazardous Waste Operations and Emergency Response; Final Rule; Corrections.

Federal Register, Vol. 55, No. 72, April 13, 1990, pages 14072-14075: Hazardous Waste Operations and Emergency Response; Final Rule; Corrections

Federal Register, Vol. 55, No. 18, January 26, 1990, pages 2776-2794: Accreditation of Training Programs for Hazardous Waste Operations; Notice of Proposed Rulemaking.

Federal Register, Vol. 54, No. 120, June 23, 1989, pages 26654-26658: Worker Protection Standards for Hazardous Waste Operations and Emergency Response; Final Rule. (40 CFR Part 311)

Federal Register, Vol. 54, No. 42, March 6, 1989, pages 9294-9336: Hazardous Waste Operations and Emergency Response; Final Rule. (29 CFR Subpart 1910.120)

Federal Register, Vol. 52, No. 163, August 24, 1987, pages 31852-31886: Hazard Communication; Final Rule. (29 CFR 1910.1200)

Federal Register, Vol. 52, No. 85, May 4, 1987, pages 16241-16243: Hazardous Waste Operations and Emergency Response; Interim Final Rule; Corrections.

Federal Register, Vol. 51, No. 244, December 19, 1986, pages 45654-45675: Hazardous Waste Operations and Emergency Response; Interim Final Rule.

OSHA Instruction CPL 2.46, March 22, 1982, "Memorandum of Understanding Between the Occupational Safety and Health Administration and the United States Coast Guard."

OSHA Instruction CPL 2.94, July 22, 1991, "OSHA Response to Significant Events of Potentially Catastrophic Consequence."

OSHA Instruction CPL 2-2.30, November 14, 1980, "29 CFR 1913.10(b)(6), Authorization of Review of Medical Opinions."

OSHA Instruction CPL 2-2.32, January 19, 1981, “29 CFR 1913.10(b)(6), Authorization of Review of Specific Medical Information.”

OSHA Instruction CPL 2-2.33, February 8, 1982, “29 CFR 1913.10, Rules of Agency Practice and Procedure Concerning OSHA Access to Employee Medical Records—Procedures Governing Enforcement Activities.”

OSHA Instruction CPL 2-2.45A, September 28, 1992, “29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals—Compliance Guidelines and Enforcement Procedures.”

OSHA Instruction CPL 2-2.51, November 5, 1990, “Inspection Guidelines for Post-Emergency Response Operations Under 29 CFR 1910.120.”

OSHA Instruction CPL 2-2.54, February 10, 1992, “Respiratory Protection Program Manual.”

OSHA Instruction STP 2-1.154C, June 10, 1991, “Hazardous Waste Operations and Emergency Response; Final Rule and Corrections.”

“Memorandum of Understanding Between the United States Coast Guard, U.S. Department of Transportation, and the Occupational Safety and Health Administration, U.S. Department of Labor, Concerning Their Authority to Prescribe and Enforce Standards or Regulations Affecting the Occupational Safety and Health of Seamen Aboard Vessels Inspected and Certificated by the United States Coast Guard,” March 4, 1983.

State of Washington Industrial Safety and Health Administration, May 3, 1991; “Inspection Guidelines for Post-Emergency Response Operations Under WAC 296-62-300.”

Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH/OSHA/USCG/EPA; October 1985. (Publication Number: 85-115)

Health and Safety Audit Guidelines, SARA Title I, Section 126, December 1989, United States Environmental Protection Agency: Office of Solid Waste and Emergency Response, Office of Emergency and Remedial Response, and Emergency Response Division. (EPA/540/G-89/010)

Emergency Response Guidebook, U.S. Department of Transportation, Washington, DC, 1990.

Recommended Practice for Responding to Hazardous Materials Incidents; National Fire Protection Association Standard 471; August 14, 1992.

Standard for Professional Competence of Responders to Hazardous Materials Incidents;  
National Fire Protection Association Standard 472; August 14, 1992.