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Directives

CPL 2-2.59A - Inspection Procedures for the Hazardous Waste Operations and Emergency Response Standard, 29 CFR 1910.120 and 1926.65, Paragraph (q): Emergency Response to Hazardous Substance Releases.

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- **Record Type:** Instruction
- **Directive Number:** CPL 2-2.59A
- **Title:** Inspection Procedures for the Hazardous Waste Operations and Emergency Response Standard, 29 CFR 1910.120 and 1926.65, Paragraph (q): Emergency Response to Hazardous Substance Releases.
- **Standard Number:** [1910.120](#); [1926.65](#)
- **Information Date:** 04/24/1998



DIRECTIVE NUMBER: CPL 2-2.59A	EFFECTIVE DATE: April 24, 1998
SUBJECT: Inspection Procedures for the Hazardous Waste Operations and Emergency Response Standard, 29 CFR 1910.120 and 1926.65, Paragraph (q): Emergency Response to Hazardous Substance Releases	

ABSTRACT

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), 29 CFR 1910.120 and 1926.65, which covers emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.

Scope: This instruction applies OSHA-wide.

References: 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.
29 CFR 1926.65 Hazardous Waste Operations and Emergency Response.
OSHA Instruction CPL 2.94, OSHA Responses to Significant Events of Potentially Catastrophic Consequences.
OSHA Instruction CPL 2.103, Field Inspection Reference Manual.
OSHA Instruction TED 1.15, OSHA Technical Manual.

Cancellations: OSHA Instruction CPL 2-2.59 dated October 25, 1993 is canceled.

State Impact: This instruction describes a Federal Program Change that affects State Programs. See Paragraph VI.

Action Offices: OSHA Regional and Area Offices

Originating Office: Office of Health Compliance Assistance (OHCA)

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By and Under the Authority of
Charles Jeffress
Assistant Secretary

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- I. 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), 29 CFR 1910.120 and 1926.65, which covers emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.
- II. Scope. This instruction applies OSHA-wide.
- III. Action Information.
 - A. Responsible Office. Office of Health Compliance Assistance (OHCA)
 - B. Action Offices. OSHA Regional Offices and Area Offices
 - C. Information Offices. State Designees, NIOSH Regional Program Directors, 7(c) (1) Project Managers
- IV. Cancellation. OSHA Instruction CPL 2-2.59 dated October 25, 1993 is canceled. OSHA Memorandum to All Regional Administrators, from John B. Miles, Jr., Subject: Update to HAZWOPER Emergency Response Guidance: Coordination with Local Fire Departments, dated October 30, 1996, is canceled.
- V. Actions Required. OSHA Regional Administrators and Area Directors shall use the guidelines in this instruction to ensure uniform enforcement of the HAZWOPER Standard, 29 CFR 1910.120.
- VI. Federal Program Change. This instruction describes a Federal program change which State adoption is not required.

NOTE: In order to effectively enforce safety and health standards, guidance to compliance staff is necessary. Therefore, although adoption of this instruction is not required, States are expected to have standards, enforcement policies and procedures which are at least as effective as those of Federal OSHA.

VII. Definitions. The definitions for HAZWOPER are listed in 29 CFR 1910.120(a)(3). Clarification and interpretation of terms used in 29 CFR 1910.120(a)(3), Definitions, is provided in Appendix D of this instruction.

VIII. References.

- A. 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.
- B. 29 CFR 1926.65 Hazardous Waste Operations and Emergency Response.
- C. OSHA Instruction CPL 2.94, OSHA Responses to Significant Events of Potentially Catastrophic Consequences.
- D. OSHA Instruction CPL 2.103, Field Inspection Reference Manual.
- E. OSHA Instruction TED 1.15, OSHA Technical Manual.
- F. Additional reference materials for HAZWOPER are listed in Appendix H of this instruction.

IX. Background. The final Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, 29 CFR 1910.120, was published in the Federal Register on March 6, 1989 and became effective March 6, 1990. The HAZWOPER standard was incorporated into the Construction standards as 29 CFR 1926.65 on June 30, 1993. 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.

A. Superfund Amendments and Reauthorization Act, title I.

- 1. 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.
- 2. 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.

B. Superfund Amendments and Reauthorization Act title III.

- 1. 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.
- 2. 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 allowed by facility owners, local emergency responders and emergency medical

personnel.

C. Interface Between HAZWOPER and SARA title III.

1. 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.
 2. 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.
 3. 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.
 4. 29 CFR 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."
 5. The NRT published "The National Response Team's Integrated Contingency Plan Guidance" in the Federal Register on June 5, 1996 (61 FR 28641). The Integrated Contingency Plan (ICP or "one plan") is intended to assist employers in preparing integrated emergency response plans that meet the requirements of multiple federal agency regulations with a single plan. The OSHA regulations addressed by the one-plan guidance include 29 CFR 1910.38(a), 1910.119, and 1910.120; EPA and DOT/US Coast Guard regulations are also covered under the plan. The NRT ICP Guidance is guidance only and does not relieve employers from their obligations under existing federal emergency response planning requirements. (See Appendix F, Paragraph II.G., for further discussion of the NRT ICP. Also see the NRT website at <http://www.nrt.org>.)
- X. General Consideration. The final standard, 29 CFR 1910.120, applies to all operations that require, or have the potential to require, emergency response operations involving exposure to hazardous substances.
- A. 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 29 CFR 1910.120, Compliance Safety and Health Officers (CSHO's) shall

consider both the specific requirements and whether the intent of the standard has been met.

- B. 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.
 - 1. When reviewing an emergency response plan, the CSHO must evaluate the employer's ability to contain, control, and cleanup hazardous substance(s) if an emergency were to occur.
 - 2. 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.) Although HAZWOPER may not apply, incidental chemical releases are still covered by the Hazard Communication standard, 1910.1200 and 1926.59. Check what, if any, written procedures exist in the employer's written hazard communication program for handling incidental releases.
- C. Paragraph (q) of HAZWOPER lists seven emergency responder categories, which include five principal training levels (first responder awareness level, first responder operations level, hazardous materials technician, hazardous materials specialists, and 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 that is intended to ensure that emergency responders are properly trained and equipped to perform their assigned tasks.
- D. OSHA Instruction CPL 2.94, "OSHA Responses to Significant Events of Potentially Catastrophic Consequences," offers guidance and procedures that will apply to many inspections covered under this instruction. In order to avoid duplication, the significant sections of CPL 2.94 have not been reprinted in this instruction. Prior to inspection of any emergency response, or in a routine review of the emergency response provisions of HAZWOPER, compliance staff are advised to review both this instruction and CPL 2.94 to ensure the safety and health of CSHO's and employees and to provide consistent and uniform application of OSHA policy.

XI. Inspection Guidelines for Emergency Response Paragraph (q). The following guidance provides a general framework to assist the CSHO in conducting an inspection (See Appendices A through F.):

- A. Request a briefing on the procedures to be followed in the event of an emergency. This shall be done to ensure that the CSHO is familiar with the emergency response procedures at the facility in the event an emergency occurs during the inspection. (See Appendix E of this instruction for guidance on releases that require an emergency response.)
- B. Review the required elements of the emergency response plan, in accordance with 29 CFR 1910.120(q)(2), or the emergency action plan, in accordance with 29 CFR 1910.38(a), to determine if the response plan adequately addresses the

elements in 29 CFR 1910.120(q)(2). (See Appendix A of this instruction for discussion on the different elements of an emergency response plan, and Appendix B of this instruction for audit guidelines.)

- C. Identify the Incident Commander (IC) defined in the emergency response plan and review how the incident command position is passed up the ranks to those in higher authority. It may be helpful to review the pertinent sections of the emergency response plan with the IC (or one of the ICs, since there may be several individuals who will potentially become an IC). CSHO's shall also interview employees to determine the extent to which the plan is implemented. (See Appendix B of this instruction for audit guidelines.)
- D. Evaluate the emergency responder training required in 29 CFR 1910.120(q)(5) and (q)(6) and the refresher training required in 29 CFR 1910.120(q)(8) to ensure compliance, and interview the employer, employee representatives, and employees who may be involved in an emergency involving hazardous substances in order to determine their ability to perform their designated response roles and responsibilities. (See Appendix B of this instruction for audit guidelines.)
- E. Ensure that the employer is providing medical consultations and evaluations to those employees who are entitled to them, as detailed in 29 CFR 1910.120(q)(9). A sample of affected employees shall be interviewed to determine that medical evaluations/consultations are being conducted.
- F. Evaluate the employer's Personal Protective Equipment (PPE) Program for compliance with 29 CFR 1910.120(q)(10) in addition to 29 CFR 1910 Subpart I. (Paragraph (q)(10) of HAZWOPER requires employers to meet the requirements of paragraph 1910.120(g)(5): Personal protective equipment (PPE) program.)
- G. Contact the local fire department to determine whether the employer has notified them concerning the company's ERP, including the circumstances or conditions under which outside responders will provide emergency response to the site or facility. Verify the fire department's role in the response, and ask whether responders are capable and trained to respond to the hazards at the facility. Contact other randomly-selected emergency response organizations listed in the Emergency Response Plan (ERP) and/or Emergency Action Plan (use main office numbers, not emergency dispatch numbers) to determine accuracy of contact information and to verify that the facility or site has **in fact** coordinated with these outside parties. Emergency dispatch phone numbers that should be used only in true emergencies should not be dialed.
- H. Ask the employer if the facility has EPA reportable quantities and, if they do, whether the facility notified the LEPC of the hazardous substances. Ask the employer if the facility has experienced any chemical releases in excess of reportable quantities. Ask the employer for information regarding the facility's emissions inventory. This would establish the quantities and types of hazardous substances at a facility and provide documentation through EPA's reporting requirements. Referrals, as appropriate, shall be made in writing to the EPA Regional Office.
- I. For inspections of an ongoing emergency response or post-emergency response operation where there has been a catastrophic event, or where OSHA is acting under the National Contingency Plan (NCP), Regional Administrators shall determine the overall role that OSHA will play. (See Appendix C for inspection guidance pertaining to on-going or recently completed emergency response operations. Also, see paragraph XIV. of this instruction regarding training for

OSHA personnel.)

1. The Regional Administrator may delegate further responsibilities to Area Directors, OSHA Investigation Team Leaders, and other OSHA personnel.
 2. The delegated OSHA personnel shall seek Regional guidance if there are problems or difficulties in performing OSHA's duties. Policies for notification, communication, and other procedures during an emergency are provided in OSHA Instruction CPL 2.94, "OSHA Response to Significant Events of Potentially Catastrophic Consequence," and OSHA Instruction CPL 2.103, the Field Inspection Reference Manual (FIRM), Chapter II.B.2. (See Appendices A through F in this instruction for further inspection guidelines.)
 3. During an event that is covered by the NCP, OSHA has a responsibility (and has authority) to be both an enforcer of its regulations and a provider of technical advice and assistance to the Federal on-scene coordinator. One method of performing the two functions would be to have separate OSHA teams for enforcement and technical assistance.
- J. Specific Provisions of 29 CFR 1910.120. Guidelines and clarifications relating to specific provisions of the standard are provided in Appendices A through F to assist CSHO's in conducting inspections.
1. Appendix A -- Procedures for Reviewing an Emergency Response Plan.
 2. Appendix B -- Guidance for 29 CFR 1910.120 Emergency Response Compliance Inspection.
 3. Appendix C -- Inspections Procedures at Ongoing or Recently Completed Emergency Response Operations.
 4. Appendix D -- HAZWOPER Interpretive Guidance.
 5. Appendix E -- Releases of Hazardous Substances that Require an Emergency Response.
 6. Appendix F -- Relationship of 29 CFR 1910.120(q) with Other OSHA Standards and Other Agency Regulations.
 7. Appendix G -- List of Acronyms.
 8. Appendix H -- Reference Materials for HAZWOPER.
- XII. Classification and Grouping of Violations. The procedures in the Field Inspection Reference manual (FIRM), Chapters III.C.2., III.C.3, and III.C.5., shall be followed except as modified by this instruction.
- A. If deviations appear appropriate, however, they shall be coordinated with the Directorate of Compliance Programs, Office of Health Compliance Assistance, through the Regional Office.
 - B. Serious violations shall be issued whenever a deficiency in the program can contribute to a potential exposure capable of causing death or serious physical harm. In addition, the CSHO must document that the employer knew or should

have known of the violation.

XIII. Authorization to Review Limited Medical Information. Appropriately qualified compliance personnel, under the direction of the OSHA Supervisory Industrial Hygienist, are authorized to review medical records and medical opinions pertinent to HAZWOPER. This authorization has limitations and procedures which must be followed as set forth in OSHA Instructions CPL 2-2.30, CPL 2-2.32, and CPL 2-2.33.

XIV. Training for OSHA Personnel.

- A. For all inspections on a site where an ongoing emergency is not occurring, but where HAZWOPER applies because it is reasonable to anticipate an emergency (i.e., where 29 CFR 1910.120(q) would apply), OSHA personnel must be knowledgeable of:
1. Potential hazards they may encounter;
 2. Site specific procedures to be followed in the event of an emergency (addressed in paragraph XI.A of this instruction);
 3. Signs and symptoms of overexposure to hazardous substances, and the use of appropriate monitoring equipment;
 4. The appropriate PPE to be worn. Each CSHO who will be expected to use PPE shall be trained in the proper care, use, and limitations of the PPE. (Refer to the OSHA Technical Manual regarding instructions for respirator use.)
- B. For all inspections on a site where OSHA personnel are investigating an emergency that involves hazardous substances, OSHA personnel must be knowledgeable of the elements listed in paragraphs XIV.A.1.-4. (above). In addition, OSHA personnel must:
1. Have the appropriate training required by 29 CFR 1910.120 before entering danger areas, and any applicable annual refresher training;
 2. Be knowledgeable of the contents of OSHA Instruction CPL 2.94. OSHA Regional training shall provide an overview of OSHA's expected role during operations covered by the NCP, an overview of Regional Response Team (RRT) activities and interagency coordination pursuant to CPL 2.94; and
 3. Be familiar with the applicable sections of the Regional Contingency Plan, or the local emergency response plan for the community, if available.
- C. Regional and Area Offices shall include exercises and drills for CSHO's who will be participating in inspections or providing technical assistance during emergency incidents. (See OSHA Instruction CPL 2.94, G.1.a.) This is crucial for the OSHA offices who expect to take part in NCP responses. OSHA's presence and acceptance during emergency response operations covered by the NCP will be greatly enhanced if other agencies, who are also responding under the NCP, are aware of and can plan for OSHA's role during an emergency response.

XV. Medical Examinations for OSHA Personnel.

- A. Many of the hazards that CSHO's may encounter are already regulated by the medical surveillance requirements in other OSHA standards. In addition, Regional Administrators and Area Directors are responsible for implementing the CSHO medical examination program, which includes: Pre-Employment Examinations (OSHA Instruction PER 8-2.4), Annual Examinations (OSHA Instruction PER 8-2.5), and Emergency treatment.
 - B. Ongoing medical surveillance (as opposed to medical consultation or emergency treatment, discussed in XV.C.), which is addressed in 29 CFR 1910.120(q)(9), applies to designated hazardous material (HAZMAT) teams and hazardous materials specialists. OSHA personnel will not be expected to participate in an emergency in either of these capacities; therefore, the medical surveillance requirements of HAZWOPER would not apply.
 - C. The standard, 29 CFR 1910.120(q)(9)(ii), requires that any employee who exhibits signs or symptoms that may have been a result of exposure to hazardous substances during the course of an emergency incident must be provided medical consultation. During any investigation of emergency incidents, any CSHO experiencing such signs or symptoms shall be entitled to a medical consultation.
 - D. CSHO's who are required to wear any respiratory protection and Level A or B PPE shall be medically cleared via the CSHO Physical Examination procedures.
- XVI. Protection of OSHA Personnel. No enforcement action, on-site consultation, or on-site technical assistance is so important as to place the life and health of the CSHO in danger.
- A. Personal Protective Equipment (PPE). It is recognized that situations will arise where entry into areas involving highly hazardous substances is necessary; however, it is permitted only when appropriate PPE is available.
 - 1. Regional Administrators and Area Directors shall ensure that appropriate PPE is available for the CSHO. Further guidance on the appropriate PPE will be addressed in another instruction. (The selection of appropriate PPE is covered in Appendix B, 29 CFR 1910.120, and the OSHA Technical Manual.)
 - (a) Where respiratory protection will be necessary, the CSHO shall adhere to the guidance set forth in the OSHA Technical Manual.
 - 2. The Assistant Regional Administrator for Technical Support shall be consulted for assistance in determining the appropriateness of SCBA used in any planned entry requiring the use of SCBA.
 - (a) Whenever CSHO's wear SCBA, a buddy system shall be employed wherein each CSHO who enters a danger area is accounted for by another identically equipped CSHO, who must remain in a safe location as a standby to assist in emergency rescue and decontamination if necessary. Two CSHOs, at a minimum, shall comprise a team to enter into the danger area while their respective buddies remain in a safe location.
 - (b) Appropriately equipped and trained personnel other than CSHOs (e.g., EPA personnel) may be substituted for the required number of CSHOs under the buddy system.

3. If additional PPE is necessary, the Regional Administrators and Area Directors shall ensure that it is obtained prior to exposure. Under no circumstances shall a CSHO be unprotected from any hazard encountered during the course of an investigation.
- B. Decontamination Procedures for OSHA Personnel. Prior to site entry CSHOs shall determine if decontamination facilities exist, whether they are adequate for the expected conditions at the site, and if they will be available for OSHA use.
1. When decontamination facilities exist at the inspection site CSHOs shall utilize them if, in their professional judgment, the facilities are adequate. In the event that decontamination facilities are nonexistent, inadequate or not available for use, or if someone is not available to assist in decontamination, CSHOs shall not proceed into areas where there would be a need for decontamination, but shall contact the CSHOs' supervisor immediately.
 2. The Area Director shall ensure that decontamination equipment is available to CSHOs. The decontamination equipment shall accompany CSHOs on each inspection where it is likely that the CSHOs will be required to wear special PPE before entering the emergency response site. (Refer to the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, developed by the National Institute of Occupational Safety and Health (NIOSH), OSHA, the U.S. Coast Guard (USCG), and EPA, for guidance on decontamination equipment.)

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), and to enable adequate technical review of emergency response plans during compliance inspections.

- I. 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).
 - A. Paragraph (q) is the broadest in its scope of coverage. It applies to any emergency response operations for releases of, or substantial releases of releases of, hazardous substances without regard to the location of the hazard. 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.
 - B. 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). It is

this document which 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. If an employer has developed an Integrated Contingency Plan (ICP) according to the National Response Team's Integrated Contingency Plan Guidance, OSHA recognizes this type of document as demonstrating compliance with the requirements of 1910.120(q)(1) and 1910.38(a). The ICP must still be carefully reviewed against HAZWOPER requirements, in the same manner as an ERP.)

- C. 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.

II. 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 demonstrate 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.)

- A. 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.

1. 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 Appendix F, II.B.3. in this instruction.)
2. CSHOs shall look at the employer's list of hazardous chemicals developed in accordance with 29 CFR 1910.1200.
3. The CSHO may also inquire about the hazardous substances on site and the quantities in which they are stored. 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.
4. The CSHO shall also examine whether chemicals are present that are incompatible with each other and 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 chlorine bleach, the two solutions would generate chlorine gas if they were accidentally mixed.

III. Review Procedures for Emergency Action Plans. Facilities that intend to evacuate their employees from the danger area when a release that requires an emergency response occurs 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) and all

employees are in fact evacuated. (See Appendix F, I.C. of this instruction.)

- A. 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. If the employer expects employees to handle only incidental releases of hazardous substances and the release 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. If workers are required to respond to occurrences that are likely to result in an uncontrolled release of a hazardous substance, then the appropriate requirements of 1910.120(q) are applicable. The level of training required is based on the responsibilities and duties expected of a worker during an emergency response operation.
- B. There is a certain level of knowledge that 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.
 1. 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 need to be evacuated. Employees must be told how to act when a release that requires an emergency response occurs. 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.
 2. 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 employee's ability to respond.
- C. In reviewing an emergency action plan, ascertain from the employer:
 1. What chemical releases have occurred at the facility in the past?
 2. Does HAZWOPER apply?
 3. Is the plan in writing?
 4. 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 wind socks to help employees determine where to seek refuge?)
 5. Are procedures established to account for all employees after the emergency evacuation has been completed?
 6. Has an employee alarm system, which complies with 29 CFR 1910.165, been established?

7. If an employee alarm system is used for other purposes, have distinctive signals for each purpose been developed?
8. Has the employer designated and trained a sufficient number of persons to assist in the safe and orderly evacuation of employees?
9. 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?
10. Is the written plan kept at the workplace and made readily available for employee review?
11. 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)?
12. Does the employer have procedures for notifying both inside and outside parties of incidents so that employees are not at risk? Examples of at risk employees may include those employees who are required by the plan to remain to operate critical operations prior to their evacuation, and where the plan does not have procedures for the employer to ensure that outside responders are notified and are capable of a timely response. CSHOs should look closely at emergency action plans that do not have procedures for immediately contacting the local fire department and other outside responders in order to determine whether such plans place any workers at risk.

- IV. 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?
- A. The non-mandatory appendix to 29 CFR 1910.120, Appendix C, section 6, states that in response to a **small incident**, the Incident Commander (IC), in addition to normal command activities, may become the safety officer and may designate only one employee (with proper equipment) as a backup to provide assistance if needed. OSHA does recommend, however, that at least two employees be designated as backup personnel since the assistance needed may include rescue. 29 CFR 1910.120(q)(3)(v) requires that operations in **hazardous areas** of an emergency response be performed using the buddy system in groups of two or more. Furthermore, 29 CFR 1910.120(q)(3)(vi) requires at least two additional personnel outside the hazardous area as backup personnel. Thus, there must be at least four individuals at the site. One of the

two individuals outside the hazard area can be assigned to another task, provided that the second assignment does not interfere with the performance of the standby role.

B. CSHOs shall review ERPs for the following 29 CFR 1910.120(q)(2) components:

1. **(i) Pre-emergency planning and coordination with outside parties.**

Note: The term "outside parties" means outside responders (fire departments, police, private hazmat teams, emergency medical service personnel, and other pertinent components of the local, state, and federal emergency response system) and other employers in the surrounding area who could be affected by a hazardous substance emergency incident.

(a) CSHOs may ask the following questions:

(1) Does the plan address coordination with outside emergency response organizations?

(2) Have employers notified and coordinated their ERP with the organizations listed? CSHOs must verify with the local fire department that the employer has contacted them regarding the employer's emergency response capabilities and needs and the fire department's role, if any, in providing emergency response. The planning and coordination procedures in the employer's written emergency response plan should state the conditions or circumstances under which outside responders will provide emergency response to the site or facility. The CSHO should also verify with other randomly-selected emergency response organizations listed in the ERP that these outside parties are aware and capable of their role under the site's ERP.

(3) Are telephone numbers and contact personnel for in plant officials and local authorities correct?

(4) Do the employer's pre-emergency planning and coordination procedures address how outside parties are notified of a potential emergency situation and what role each would play in an incident? Verify whether the employer has conveyed these elements of the ERP by contacting several of the affected outside parties.

(5) Are outside responders aware of any circumstances that were either not disclosed or considered by the employer that would delay or prevent them from responding to an incident (e.g., distance, lack of training, etc.)?

(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 to EPA facilities that have not complied with SARA title III.

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

(a) Personnel roles must be clearly defined. One method of doing this is to list job titles and describe their projected roles in emergency response operations. Although specific HAZWOPER titles are not required, employees should be designated to assume duties that parallel 29 CFR 1910.120(q)(6) and must be trained accordingly. 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 has 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).

(b) 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.

(1) Are the lines of authority established in the emergency response plan that prescribe the roles and responsibilities of outside responders (e.g., fire, police, etc.) during a response?

(c) 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.

(d) 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).

(e) 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, siren blasts, or any other system devised by the employer to alert employees that an emergency response operation has begun.

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

(a) 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 for 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 active 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)(ii).

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

(a) 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 where an accounting for all employees will be performed. This can be critically important for identifying individuals that did not get out, estimating where they may be, and initiating any rescue operation.

(2) Information on safe places of refuge must be given to the emergency response organization in a timely fashion.

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

(a) 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 the first responder awareness level may not set up safe distances because they lack knowledge regarding potential of exposure, explosion, or radiation. For example:

(1) An employee trained to the first responder awareness level could assist in preventing unauthorized entry into an emergency release area; while

(2) An employee 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.

(b) 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.)

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

(a) 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 paragraph III.C. of this appendix. CSHOs must use 29 CFR 1910.38(a) as a model to evaluate the employer's "evacuation routes and procedures."

7. **(vii) Decontamination.**

(a) 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; the PPE level must be appropriate to the hazards.

(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.)

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

(a) The plan must provide for advance first aid personnel or better (who 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.

9. (ix) Emergency alerting and response procedures.

(a) The plan must also address how employees will be informed that an emergency exists and how they should respond. The alarm system must inform "all affected employees" that an emergency exists and what their immediate response should be based on the alarm sequence. 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, employees who work for other employers in the same facility or nearby facilities, 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 preplanning 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).

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

(a) 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.

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

(a) 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 in what situations emergency responders will use them.

(1) HAZWOPER requires the IC to be aware of the equipment and PPE available during an emergency. In addition, responders trained to the HAZMAT technician and HAZMAT specialist levels must be trained in the selection of and 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.

12. **(xii) Emergency response organizations may use the local emergency response plan or the state emergency response plan or both as part of their 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 use by the employer and employees.**

(a) 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.

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 that should be collected relating to various subparagraph requirements in 1910.120(q), Emergency response to hazardous substance releases.

(Name of Site)

(Street Address or Geographic Location of Incident)

(City, State, Zip)

(Name of Manager/Owner)

(Phone Number)

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

	<u>Citation</u>	<u>Met Y/N</u>
<p>A.</p> <p>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.)</p> <p>_____</p> <p>_____</p>	(q)	
<p>B.</p> <p>Which compliance strategy does the employer use? Evacuation of all employees in accordance with 29 CFR 1910.38(a), or emergency response by employees in accordance with</p>	(q)(1)	

<p>29 CFR 1910.120(q)?</p> <hr/>		
<p>C.</p> <p>Does the employer have an emergency response plan or an emergency action plan? If not, cite paragraph 29 CFR 1910.120(q)(1).</p> <hr/> <hr/>	<p>(q)(1)</p>	
<p>D.</p> <p>If the employer does not have an ERP but expresses an intent to evacuate all personnel and not allow any employees to respond, does the employer have an emergency action plan in accordance with 29 CFR 1910.38(a) (may be communicated orally to employees by employers with 10 or fewer employees)? If not, 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.</p> <hr/> <hr/>	<p>1910.38 (a)</p>	
<p>E.</p> <p>If the employer does not have an emergency response plan but has an emergency action plan, is the emergency action plan adequate? If not, then 29 CFR 1910.38(a) should be cited.</p> <hr/>	<p>1910.38 (a)</p>	

F. Emergency Action Plan compliance checklist:	1910.38 (a)	
1. Is the Plan in writing (may be communicated orally to employees by employers with 10 or fewer employees)?	1910.38 (a)(1)	
2. Are emergency escape procedures and emergency escape routes designated?	1910.38 (a)(2)(i)	
3. Are procedures established to account for all employees after the emergency evacuation has been completed?	1910.38 (a)(2) (iii)	
4. Has an employee alarm system which complies with 29 CFR 1910.165 been established?	1910.38 (a)(3)(i)	
5. If an employee alarm system is used for other purposes, have distinctive signals for each purpose been developed?	1910.38 (a)(3)(ii)	
6. Has the employer designated and trained a sufficient number of persons to assist in the safe and orderly evacuation of employees (generally one per 20 employees)? (See Appendix to	1910.38 (a)(5)(i)	

<p>29 CFR 1910 Subpart E -- Means of Egress, 3.)</p>		
<p>7. 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?</p>	<p>1910.38 (a)(5)(ii)</p>	
<p>8. Is the written plan kept at the workplace (may be communicated orally to employees by employers with 10 or fewer employees) and made available for employee review?</p>	<p>1910.38 (a)(5) (iii)</p>	
<p>9. Has the plan been effectively communicated and implemented by the employer to ensure that employees do not assist in handling emergencies, or does the employer actually intend to have employees respond to emergencies?</p>		
<p>10. Does the employer intend to have employees handle incidental releases? If so, are the training, tools, equipment, and PPE appropriate for handling incidental releases of the hazardous substance available in the work area?</p>		
<p>11. Does the employer have</p>	<p>1910.38 (a)(2)(v)</p>	

<p>procedures for notifying both inside and outside parties of incidents? Employees may be placed at risk in situations where they are required by the plan to remain in a temporarily safe area to shut down an operation, and the plan does not have procedures for the employer to ensure that outside responders are notified in a timely manner. CSHOs should look closely at emergency action plans that do not have procedures for immediately contacting the local fire department and other outside parties in order to determine whether such plans place any workers at risk.</p> <p>NOTE: The term "outside parties" means outside responders (fire departments, police, private hazmat teams, emergency medical service personnel, and other pertinent components of the local, state, and federal emergency response system) and other employers in the surrounding area who could be affected by a hazardous substance emergency incident.</p>		
<p>G. Is the Emergency Response Plan (ERP) in writing?</p> <p>_____</p> <p>_____</p>	<p>(q)(1)</p>	
<p>H. Is the ERP easily accessible to</p>	<p>(q)(1)</p>	

<p>employees?</p> <p>_____</p> <p>_____</p>		
<p>I.</p> <p>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?</p> <p>_____</p> <p>_____</p> <p>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).</p>	<p>(q)(2) (xii)</p>	
<p>J.</p> <p>Does the ERP reflect pre-emergency planning and coordination with outside parties?</p> <p>_____</p> <p>_____</p>	<p>(q)(2)(i)</p>	
<p>1.</p> <p>Does the plan describe procedures or existing agreements addressing how the outside parties are to be notified of a potential emergency situation and what role each should play in an incident?</p>	<p>(q)(2)(i)</p>	
<p>2.</p>	<p>(q)(2)(i)</p>	

<p>If any response coordination procedures or agreements are included in the plan, are the local fire department and other selected outside emergency response parties aware of their roles and responsibilities as described in the plan?</p>		
<p>3. Can outside responders identify any reasons that were not considered by the employer that would delay or prevent them from responding to an incident (e.g., distance, lack of training, etc.)?</p>	(q)(2)(i)	
<p>K. Are personnel roles, lines of authority, training, and communication provided in the ERP? (Suggestion: review personnel roles and lines of authority with the designated On-Scene Incident Commander if possible.)</p> <p>_____</p> <p>_____</p>	(q)(2)(ii)	
<p>L. Does the ERP address emergency recognition and prevention?</p> <p>(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.)</p> <p>_____</p>	(q)(2)(iii)	

<p>_____</p>		
<p>M.</p> <p>Does the ERP address safe distances and places of refuge adequate for all employees who may need it?</p> <p>_____</p> <p>_____</p>	<p>(q)(2) (iv)</p>	
<p>N.</p> <p>Does the ERP designate equipment, people, and procedures to ensure site security and control?</p> <p>_____</p> <p>_____</p>	<p>(q)(2)(v)</p>	
<p>O.</p> <p>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?</p> <p>(Suggestion: Check the evacuation routes and procedures against the requirements given in 29 CFR 1910.38 (a), emergency action plans.)</p> <p>_____</p> <p>_____</p>	<p>(q)(2) (vi)</p>	
<p>P.</p> <p>Does the ERP address the setting up of a decontamination station, and the decontamination of personnel and equipment?</p> <p>_____</p>	<p>(q)(2) (vii)</p>	

<p>Q.</p> <p>Are emergency medical treatment and first aid available to employees during an emergency response?</p> <p>(Suggestion: Verify that emergency medical personnel are aware of their roles in an emergency and trained to fulfill their roles.)</p> <p>_____</p> <p>_____</p>	<p>(q)(2) (viii)</p>	
<p>R.</p> <p>Are emergency alerting and response procedures addressed in the ERP? Is there evidence of an alerting and response system?</p> <p>(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.)</p> <p>_____</p> <p>_____</p>	<p>(q)(2) (ix)</p>	
<p>S.</p> <p>Does the ERP address the types and uses of PPE and emergency response equipment to be used?</p> <p>_____</p> <p>_____</p>	<p>(q)(2) (xi)</p>	
<p>T.</p> <p>Does the ERP provide procedures for the critique of emergency responses?</p>	<p>(q)(2)(x)</p>	

<p>_____</p> <p>_____</p>		
<p>U.</p> <p>Are there any other features that are missing or should be addressed in the employer's ERP?</p> <p>_____</p> <p>_____</p> <p>NOTE: The elements listed in 29 CFR 1910.120(q)(2) are minimum requirements. The performance-oriented aspect of the ERP is in 29 CFR 1910.120(q)(1), which states that the ERP "shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations."</p>	<p>(q)(1)</p>	

II. Review of Procedures for Handling Emergencies.

<p>A.</p> <p>Has a single individual been identified as the On-Scene Incident Commander?</p> <p>_____</p> <p>_____</p>	<p>(q)(3)</p>	
<p>B.</p> <p>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?</p> <p>_____</p>	<p>(q)(3)</p>	

<p>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).</p>		
<p>C. Has a safety official been identified?</p> <p>NOTE: In smaller responses the On-Scene Incident Commander may play this role.</p>	(q)(3) (vii)	

III. [Review of Training Requirements.](#)

<p>A. Has the employer certified that the employee has been provided training?</p> <p>NOTE: The employee does not necessarily have to be provided with a certificate, although the employer must certify in writing that employees who have successfully completed the first responder operations, HAZMAT Technician, HAZMAT Specialist, and On-Scene Incident Commander levels are trained.</p>	(q)(6)	
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<p>B.</p> <p>If employee training is done in-house, is training based on the specific duties and functions to be performed at the site?</p> <p>_____</p> <p>_____</p> <p>NOTE:</p> <p>Keep in mind that OSHA does not endorse training programs, but may offer suggestions as to their comprehensiveness.</p>	<p>(q)(6)</p>	
<p>C.</p> <p>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?</p> <p>_____</p> <p>_____</p> <p>NOTE:</p> <p>Methods of demonstrating competency include critiques of actual incidents or "dress rehearsals" which identify any weakness and effectiveness of the response effort.</p>	<p>(q)(8)</p>	
<p>D.</p> <p>If employee annual refresher training is done in-house, is training adequate for the site?</p> <p>_____</p> <p>_____</p> <p>NOTE:</p>	<p>(q)(8)</p>	

<p>Keep in mind that OSHA does not endorse training programs, but may offer suggestions as to their comprehensiveness.</p>		
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IV. Review of Medical Surveillance.

<p>A.</p> <p>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?</p> <p>_____</p> <p>_____</p>	<p>1910.120 (q)(9)(i) 1910.1020</p>	
<p>B.</p> <p>Is medical recordkeeping done in a manner consistent with 29 CFR 1910.1020, Access to Employee Exposure and Medical Records?</p> <p>_____</p> <p>_____</p>	<p>1910.1020</p>	

V. Review of Personal Protective Equipment Program. Ask to review the written PPE Program required in 29 CFR 1910.120(q)(10).

NOTE:

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

<p>A.</p> <p>Is the PPE chosen sufficiently protective of employees, based on hazards and potential hazards?</p> <p>_____</p>	<p>(q)(10)</p>	
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<p>_____</p>		
<p>B.</p> <p>Is the PPE maintained and inspected routinely?</p> <p>_____</p> <p>_____</p>	<p>(q)(10)</p>	
<p>C.</p> <p>Does the PPE appear to be in good condition and up to date?</p> <p>_____</p> <p>_____</p>	<p>(q)(10)</p>	
<p>D.</p> <p>Is air monitoring equipment available to assist the Incident Commander in determining when to increase or lower the level of PPE?</p> <p>_____</p> <p>_____</p>	<p>(q)(3) (iv)</p>	

VI. Employee Interview Questions.

Opening questions:

(Employee's Name)

(Home Address)

(Home Phone Number)
Number)

(Work Phone

(Employee Job Title)

(Years Employed in Present Position)

<p>A.</p> <p>Does the employee have access to the ERP?</p> <p>_____</p> <p>_____</p>	<p>(q)(1)</p>	
<p>B.</p> <p>Has the employee ever been through an emergency response drill or an evacuation drill? Is the employee aware of the evacuation route in the event of an emergency?</p> <p>_____</p> <p>_____</p> <p>NOTE: Drills may be required by SARA title III if the facility or emergency response organization is designated to be part of a community emergency response.</p>	<p>(q)(2)(i)</p>	
<p>C.</p> <p>Is the employee expected to take any action, other than evacuation, during an emergency? If so, what level of training does the employee</p>	<p>(q)(6)</p>	

<p>have?</p> <p>(Suggestion: Review with the employee the competencies for the level of training that the employee has received.)</p> <p>_____</p> <p>_____</p>		
<p>D.</p> <p>Does the employee feel the training was sufficient to perform expected duties and functions during an emergency as an emergency responder?</p> <p>_____</p> <p>_____</p>	(q)(6)	
<p>E.</p> <p>Does the employee know how to select, use, and inspect the PPE designated for employee use during an emergency?</p> <p>_____</p> <p>_____</p>	(q)(6) (ii)-(iv)	
<p>F.</p> <p>Have the employees been fitted properly for PPE?</p> <p>_____</p> <p>_____</p> <p>NOTE: Paragraph 29 CFR 1910.120(q)(10), Chemical protective clothing, refers to the provisions in 29 CFR 1910.120(g)(3-5): PPE selection (which requires selection and use</p>	(q)(10) 1910.133 1910.134	

<p>of PPE in compliance with 29 CFR Part 1910, Subpart I), totally encapsulating chemical protective suits, and a written PPE program.</p>		
<p>G.</p> <p>Does the employee know how to use the emergency response equipment designated for use in performing control, containment and/or confinement operations?</p> <p>_____</p> <p>_____</p>	<p>(q)(6) (ii)-(iv)</p>	
<p>H.</p> <p>If possible, interview the designated On-Scene Incident Commander to determine if the individual:</p>		
<p>1.</p> <p>Is aware of the potential hazards and/or benefits associated with certain PPE and engineering controls;</p> <p>_____</p>	<p>(q)(3)</p>	
<p>2.</p> <p>Is capable of implementing appropriate emergency operations;</p> <p>_____</p>	<p>(q)(3)</p>	
<p>3.</p> <p>Can really designate a safety official;</p> <p>_____</p>	<p>(q)(3) (vii)</p>	
<p>4.</p> <p>Can implement appropriate decontamination procedures;</p> <p>_____</p>	<p>(q)(3)</p>	

<p>5.</p> <p>Has received training as an On-Scene Incident Commander.</p> <p>_____</p>	<p>(q)(6)(v)</p>	
<p>I.</p> <p>Has the employee gone through refresher training or demonstrated competency annually?</p> <p>_____</p> <p>_____</p>	<p>(q)(8)</p>	
<p>J.</p> <p>Have employees who are entitled to a baseline physical and periodic consultations received them?</p> <p>_____</p> <p>_____</p> <p>NOTE: Designated members of HAZMAT Teams and HAZMAT Specialists must receive baseline physicals and be part of a medical surveillance program.</p>	<p>(q)(9)(i)</p>	
<p>K.</p> <p>Are employees offered medical consultation following the development of signs or symptoms resulting from exposure to hazardous substances during an emergency incident?</p> <p>_____</p> <p>_____</p>	<p>(q)(9)(ii)</p>	

Appendix C

INSPECTION PROCEDURES AT ONGOING OR RECENTLY COMPLETED
EMERGENCY RESPONSE OPERATIONS

The function of this appendix is to provide guidance for inspection activity at ongoing or recently completed emergency response operations. The focus of this appendix is a review and discussion of the requirements of 29 CFR 1910.120(q)(3), Procedures for handling emergency response.

At ongoing or recently completed emergency response operations there is a shift in emphasis from the planning requirements of the standard toward the procedural requirements of the standard. An inspection of an actual emergency response should focus on the appropriate implementation of the emergency response plan and compliance with the requirements of 1910.120(q)(3).

I. General Consideration.

- A. The CSHO upon arriving at an emergency response incident should immediately seek out and report to the On Scene Incident Commander (IC) (or the On Scene Coordinator (OSC) if the NCP is activated), or the appropriate official within the Incident Command System (ICS), such as the safety and health officer. The purpose of this meeting is to inform the IC/OSC of your presence and the purpose of your visit.
- B. The CSHO may find it necessary to hold an abbreviated opening conference, during which the CSHO should obtain a copy of the emergency response plan.
- C. The CSHO must establish whether contamination zones have been created and if so must avoid entry into zones for which the CSHO has not been appropriately trained or equipped.
- D. CSHOs should make every effort to comply with the restrictions imposed by the IC/OSC.

II. Inspection Procedures.A. HAZWOPER's Incident Command System.

- 1. The primary question to be answered is whether the emergency response procedures have been followed. These procedures are outlined in the emergency response plan as well as in 1910.120(q)(3) of the standard.

If the employer fails to follow his/her emergency plan and also responds inappropriately, the CSHO should cite the employer for both actions. An example would be where an employer has designated the local fire department as the emergency responder, and then during an incident, fails to notify the department and sends in inadequately trained employees to respond to the incident. In that case, the employer should be cited under 1910.120(q)(1) and (q)(6).

- 2. Is there an Incident Command System? This is required in 1910.120(q)

(3)(i).

3. The standard requires one individual, the most senior official on the site who has the responsibility for controlling site operations, to be in charge of the incident from beginning to end. The Incident Command System is to include a preestablished chain of command, in which control of the incident is passed up the chain of command as more senior officers arrive.

B. Site Monitoring and Characterization.

1. The IC or designated safety officer has the responsibility to "identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies."
2. The IC has a responsibility to utilize all available resources to characterize the hazards associated with response activities. The information gathering/ site characterization stage of an emergency response operation is critical in that it influences all other subsequent aspects of the response (delineation of contamination zones, personal protective equipment (PPE), etc.).

C. Appropriate Emergency Response Operations.

1. Site Characterization. Based on characterization of the site, the IC is responsible for implementing appropriate emergency response operations, and ensuring that appropriate PPE is used. To establish the appropriateness of the response operation, the CSHO must ask the IC or appropriate official within the ICS after the incident is over what he/she knew about the hazardous substances present and how he/she knew it? Did the IC rely on placards, labels, manifests, or information from the plant pursuant to 29 CFR 1910.120(q)(3)(iii)?
2. Lines of Communication. The IC must establish and maintain lines of communication including links to the senior official present for each employer. If a senior official for an employer was not incorporated in the lines of communication, there may have been a violation of 1910.120(q)(3)(i).
3. Coordination. Adequate coordination of emergency responders is critical to a safe emergency response operation. The CSHO should explore any evidence of inadequate coordination of emergency responders. Were responders receiving direction from more than one source? Was there more than one command post? Did any of the employer's employees refuse to take direction from the IC? Were the responders aware of the existence of any pre-emergency planning procedures or agreements between the facility and their organization? Were they aware of their roles once response operations are initiated?

D. Positive Pressure Self-Contained breathing Apparatus (SCBA).

1. The standard requires that positive pressure SCBA be used "while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a

decreased level of respiratory protection will not result in hazardous exposure to employees," in 29 CFR 1910.120(q)(3)(iv).

2. If the IC is limited in his or her ability to monitor and characterize the site, positive pressure SCBA must be used. If the site has not been adequately characterized and respiratory protection less protective than positive pressure SCBA is used then the employer is in violation of 1910.120(q)(3)(iv).

E. Limited Number of Emergency Response Individuals/Buddy Systems.

1. The number of individuals in areas of potential or actual exposure must be limited to those individuals actually engaged in emergency response operations. If there are excess personnel on site, or the facility was not properly evacuated, there may be a violation of 1910.120(q)(3)(v).
2. Although the IC has the responsibility to limit the number of emergency responders in areas of exposure or potential exposure, the IC must employ the buddy system for all operations in hazardous areas. At a minimum, the buddy system must be used within the hazardous area (entry by at least two persons) and at least two additional personnel must standby outside the hazardous area. One of the two individuals outside the hazard area can be assigned to another task, but the second assignment cannot interfere with the performance of the standby role. If the CSHO determines that the buddy system was not used or that the buddy system used was ineffective; i.e., individuals in the danger area were out of sight of others, then 1910.120(q)(3)(v) shall be cited.

F. Backup Personnel. For emergency responders that enter the danger area there must be backup personnel standing by who are identically equipped (or have a higher level of protection). (Please see Appendix C, II.E. above)

G. First Aid. The standard requires that advanced first aid personnel and transportation also be standing by in 29 CFR 1910.120(q)(3)(vi).

H. Safety Official.

1. The IC has the responsibility to designate a safety official (the IC may designate herself or himself as safety official). The safety official must have the following competencies as required by 1910.120(q)(3)(vii):

(a) Be knowledgeable in the operations being implemented at the emergency response site.

(b) Have ability to identify existing hazards and to provide direction with respect to the safety of operations for the emergency at hand.

Note: Although a Certified Industrial Hygienist may play the role of safety official, this certification should not be regarded as an absolute criteria of eligibility. The safety official must have knowledge in the emergency response operations and procedures to be followed, and must possess the ability to identify the safety and health hazards likely to be encountered during the response.

2. When the safety official believes that there is a situation that poses an

imminent danger to life or health, the safety official must be vested with the authority to suspend operations. Evidence to the contrary should be cited as a violation of 1910.120(q)(3)(viii).

- I. Decontamination. The IC has the responsibility to institute appropriate decontamination procedures as a part of the emergency response operations.
- J. Training Levels of Emergency Responders.
 1. The IC, or appropriate official in the ICS, should be cognizant of the training levels of the various emergency responders under his or her command. Some HAZMAT teams have reportedly color coded their response personnel based on their HAZWOPER training level. This is not required; however, ICs do need to be informed as to the training levels of responders under their command.
 2. If the IC inappropriately orders an employee to take actions for which the employee has not been adequately trained, the employer would be cited for a violation of the 1910.120(q)(6) training requirements.

Appendix D

HAZWOPER INTERPRETIVE GUIDANCE

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

- I. 29 CFR 1910.120(a): Scope, application, and definitions.
 - A. How (a)(1) Scope affects certain employers who may be engaged in hazardous waste operations.
 1. Asbestos Removal (a)(1)(v). Occupational exposure to asbestos in all industries covered by the Occupational Safety and Health Act falls under the scope of 29 CFR 1910.1001, except as provided by 1910.1001(a)(2) and (a)(3). Employees are covered under 29 CFR 1926.1101 at construction sites and during asbestos work which involves the removal, repair, maintenance, or demolition, even if such work is performed within a facility otherwise regulated under the general industry standard. In certain emergency situations the HAZWOPER standard will apply, e.g., when asbestos is released during a transportation accident.
 2. Construction (a)(1)(i)-(v). Hazardous waste operations and emergency response for construction sites is covered by 29 CFR 1926.65, and this directive. Paragraph (a)(2) defines the applicability of the construction HAZWOPER standard. Paragraph (a)(2)(i) states that all requirements of 29 CFR Part 1910 and Part 1926 apply pursuant to their terms to hazardous waste and emergency response operations whether covered by

1926.65 or not, and when there is a conflict between requirements, "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 1926.65(q). However, construction employers may direct that all of their employees evacuate in an emergency, and would comply with HAZWOPER paragraph (q) by having a written emergency action plan in accordance with 29 CFR 1926.35. (Employers who have 10 or fewer employees may communicate the emergency action plan verbally.)

3. Contractors (a)(1). 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.

(a) 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 (e.g., utility workers) to be employers whose employees may be exposed to hazards.

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 continuing responsibility under the OSH Act.

(b) Contracts. It is in the interest of the contractor-employer to ensure that all steps required in the OSHA standards have been taken by 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 2.103, the Field Inspection Reference Manual (FIRM), Chapter III.C.6., on Multi-employer Worksites.)

4. Hospitals as Part of a Community Emergency Response (a)(1)(v). 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.

(a) 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.

(b) 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.

(c) 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 and 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 that 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.

B. Employee Exposure 1910.120(a)(1).

Employee exposure or the reasonable possibility of employee exposure to safety or health hazards must consider all routes of entry (inhalation, ingestion, and skin absorption) without regard to the use of PPE. The exposure or potential exposure must be associated with a hazardous substance from operations addressed in (a)(1)(i-iv) or with the release of a hazardous substance during operations addressed in paragraph (a)(1)(v) of the standard. Safety hazards from a hazardous substance could include fire, explosion, corrosive action, etc., from flammables, corrosive materials, etc. associated with the work site or emergency site. Health hazards from a hazardous substance could include cancer or organ function impairment from toxic, carcinogenic, or infectious material associated with the work site or emergency site. Safety hazards from sources not specifically associated with the hazardous substances at the work site or the emergency site (e.g., trenching, moving machinery, slips, trips, and falls) do not require coverage under HAZWOPER. Employees are considered

"exposed" when they encounter any amount of a hazardous substance in the work environment that could cause them harm.

C. Jurisdictional Issues Involving the Provisions in 29 CFR 1910.120(a)(2) Application.

1. U.S. Department of transportation (a)(2). 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.

2. U.S. Department of transportation. U.S. Coast Guard (USCG) (a)(2). 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.)

3. Employees of Governmental Agencies and Non-Compensated Workers (a)(2). 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 volunteer fire fighters. Therefore, 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.

D. Clarification and Interpretation of Terms Used in 29 CFR 1910.120(a)(3) Definitions.

1. 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.)
2. 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 that 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.
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 materials, including emergency response procedures. OSHA has 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." HAZWOPER may also be applicable "outside the fence" to emergency response and clean-up activities involving hazardous substances, including licensed radioactive wastes.

4. 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 include:

(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.

E. 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.

II. Interpretations of 29 CFR 1910.120(q) Emergency Response to Hazardous Substance Releases.

- A. Lack of an Emergency Response Plan (q)(2). 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 any emergencies at the site may be used as a guide.
- B. Pre-emergency Planning and Coordination with Outside Parties (q)(2). This means the establishment of procedures between employers and outside parties addressing how each party is to be notified, and what their roles are in the event of an emergency incident. The term "outside parties" means outside responders (fire, police, etc.) and other employers in the surrounding area who could be affected by a hazardous substance emergency incident.
- C. Evacuation Routes and Procedures (q)(2). 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).

- D. Specialist Employees (q)(5). 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.
1. 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.)
 2. 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.
- E. Training (q)(6)(i). 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.
1. First Responder Operations Level (q)(6)(ii). 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. However, 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 that 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.

2. Process Operators Responding within a Facility (q)(6)(iii). 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).
3. On Scene Incident Commander (q)(6)(v). The intent of the standard is to provide an incident command system that is headed 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 hours minimums in order to include all of the required subjects.
4. Limiting Training Components (q)(6). 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 that they are required to wear and this PPE will always provide sufficient protection.

NOTE: If an employer selects a single type of PPE for all releases that require an emergency response, the employer must be sure to evaluate the full range of performance criteria that PPE must meet, such as likely chemical exposures, heat stress, physical constraints, maintenance, and

permeability.

- 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 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. Where mixtures of hazardous substances may occur in an emergency and/or hazardous byproducts may be formed during an emergency, the plan must anticipate, identify, and include training components about these mixtures or byproducts.

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 chlorine may not respond to a release of ethylene oxide, without broadening their limited training.

5. Training Alternatives for Employers (q)(7). 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 are 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 state that employees must "have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas...." The employer must ensure, however, that the employee accomplishes all training objectives.
 - Refresher training (q)(8). Refresher training is required because employees must stay up-to-date in their skills and knowledge. If the employee has gone without refresher training for more than twelve months, the employer must evaluate whether the initial comprehensive training may need to be repeated.
- F. Medical Surveillance (q)(9). 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 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.

- G. Selection of Personal Protective Equipment (q)(10). PPE shall be selected and used with the intent to protect employees from hazards and potential hazards.
1. 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.
 2. 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 (including material safety data sheets), and any
- H. Emergency Response/Post-Emergency Operation (q)(11). 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 stabilized, any remaining clean-up would be considered a post-emergency operation.
1. In a large 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 area in this scenario. (See OSHA Instruction CPL 2-2.51.)
 2. 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.
- I. Post-Emergency Response For Contract Personnel (q)(11)(i)&(ii).
1. 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.
 2. Contractors brought in specifically for clean-up are covered by 29 CFR 1910.120(q)(11)(i).

- J. Emergency Response During a Post-Emergency Response (q)(11). 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.
1. If the emergency is responded to by an outside response team or responders, 29 CFR 1910.120(q) would apply.
 2. 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 at that site.
 3. The contractor hired for the clean-up 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 (I).

Appendix E

APPENDIX E: RELEASES OF HAZARDOUS SUBSTANCES 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).

For example, a tanker truck is receiving a load of hazardous materials at a tanker truck loading station. At the time of an accidental spill, the product **can** be contained by employees in the immediate vicinity and cleaned up utilizing absorbent without posing a threat to the safety and health of employees. As such, the employer may respond to such incidental releases (as permitted by 1910.120 definition: "Emergency Response" or "Responding to Emergencies").

This situation describes an "incidental spill" under the HAZWOPER. An incidental spill poses an insignificant threat to health or safety, and may be safely cleaned up by employees who are familiar with the hazards of the chemicals with which they are working.

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 that 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 that 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, while 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 sufficient 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.

For example, a motor carrier is engaged in the transportation of hazardous materials. At the time of an accidental release, the product **cannot** be contained by employees in the immediate vicinity and cleaned up utilizing absorbent. Because of the larger problem, the motor carrier's employees evacuate the area and call for outside help, as instructed by employer.

In this instance, if in the event of a spill of a hazardous substance an employer instructs all of his/her employees to evacuate the danger area, then the employer may not be required to train those employees under 1910.120. However, the ability to decide whether a spill is an incidental spill or one requiring an emergency response requires training. Also, any employees who are expected to become actively involved in an emergency response due to a release of a hazardous substance are covered by 1910.120 and must be trained accordingly. (Note: OSHA has limited jurisdiction for over-the-road vehicle operation. In the instance of spills occurring while the material is on the vehicle or otherwise "in transportation," OSHA's HAZWOPER standard does not cover the operator per se. It does, however, cover emergency response personnel who respond to the incident. If the operator of the vehicle in transportation becomes actively involved in an emergency response, then he/she becomes an emergency responder and is covered by 1910.120(q).)

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 are 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 hazard communication training.

Other OSHA Standards

Other standards that impact emergency response to fires, chemical releases, or other incidents should be part of an emergency response compliance evaluation. Flammable chemical spills and other small fires are covered by 29 CFR 1910.156 as well as 29 CFR 1910.157. 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 Appendix F, I. of this instruction.)

Appendix F

RELATIONSHIP OF 29 CFR 1910.120(q) WITH OTHER OSHA STANDARDS AND OTHER AGENCY REGULATIONS

The function of this appendix is to explain the HAZWOPER standard's interface with other OSHA standards and Federal agency regulations as well as consensus guideline documents.

I. Relationship of 29 CFR 1910.120 with Other OSHA Standards.

A. Expanded Health Standards. Paragraph 29 CFR 1910.120 (a)(2)(i) states that when there is a conflict or overlap of coverage between standards, the provision that is more protective of employee safety and health shall apply. Employers must comply with all safety and health standards that are applicable to their workplace; however, certain provisions of HAZWOPER may be more protective than the analogous provisions of an expanded health standard. HAZWOPER does not completely supersede any standard; only those provisions of another standard that are addressed by HAZWOPER may be superseded if HAZWOPER is more protective.

1. For example, Compliance Safety and Health Officers (CSHOs) may cite the provisions of one of two standards, the Ethylene Oxide (EtO) standard or HAZWOPER, depending on which provision offers more protection. The EtO standard provides instruction on exposure monitoring that is more protective than HAZWOPER; however, HAZWOPER offers more protection to employees responding to emergencies involving releases of EtO through its incident command system and HAZMAT training requirements.
2. When a hospital uses EtO to sterilize instruments and there is a potential for a release that would cause an emergency, the hospital must establish

an emergency action plan in accordance with 29 CFR 1910.38(a) if it evacuates all employees in the danger area and calls in outside assistance, or an emergency response plan in accordance with 29 CFR 1910.120(q)(1) if it expects its own employees to respond to releases.

3. Other hazardous substances used by the hospital must also be addressed in their emergency response plan and/or emergency action plan, if there is a potential for a release that would cause an emergency.
- B. 29 CFR 1910.1200. the Hazard Communication Standard (HCS). The HCS requires that employers train employees who may be exposed or potentially exposed to hazardous chemicals. Employers are to train employees in (1) methods to detect a hazardous chemical, (2) the hazards of chemicals in the work area, (3) measures employees can take to protect themselves, and (4) the details of the hazard communication program (further clarified in 29 CFR 1910.1200(h)). It is important to note the objectives of both HAZWOPER and the HCS, especially where the two standards require training:
1. The HCS is designed to ensure that employees are informed of the hazards associated with hazardous chemicals in the workplace, so that they may make informed judgments to protect themselves from exposure. The HCS does not require the employer to develop emergency procedures although HCS does require training in emergency procedures if the employer has already developed them. For example, when another standard (such as the Formaldehyde standard) requires an employer to develop emergency procedures, the employer would be required to incorporate those procedures into the HCS training program.
 2. Employers who fall under the scope of HAZWOPER must have either a written emergency response plan and/or an emergency action plan in accordance with 1910.38(a). If employers expect their own employees to respond to a potential emergency involving hazardous substances, then the employer must create an emergency response plan and the employees must be trained to perform the duties expected of them. HAZWOPER does not cover responses to incidental spills that do not have the potential for becoming an emergency. In such cases, OSHA enforces other applicable standards such as HCS, 29 CFR 1910.119, 29 CFR 1910.132, 29 CFR 1910.134, and other OSHA standards.
 3. If employees are required to respond to spills that have the potential for becoming an emergency, then all of the provisions of 29 CFR 1910.120(q) are applicable. Therefore, in workplaces where there is a potential for emergencies, the employer's HCS training program would have to address the HAZWOPER emergency response plan and/or emergency action plan. (Note that the HCS training can be adapted easily to encompass all of the required training competencies in 29 CFR 1910.120(q)(6)(i), the first responder awareness level, and that a single training session could satisfy the requirements of both standards.)
- C. 29 CFR 1910.38(a) Employee Emergency Plans and Fire Prevention Plans. Employers who will evacuate all employees from the danger area, and who will not permit any employees to assist in handling the emergency, have the option of creating a written **emergency action plan** in accordance with 29 CFR 1910.38(a) in lieu of an emergency response plan. Employers with 10 or fewer employees can communicate the emergency action plan orally and the employer need not maintain a written plan.

1. When used to meet the requirements of HAZWOPER, 29 CFR 1910.38(a) requires employers to have an effective alarm system to alert employees of an emergency, evacuate all employees, and notify an emergency response team, such as a fire department that is trained in accordance with HAZWOPER.
2. Employers who will train some of their employees to respond to an emergency release must create an emergency response plan. (See Appendix A of this instruction.) An emergency action plan is to be part of the emergency response plan for the evacuation of all employees in the area that are not essential for the response to the emergency.
3. CSHOs shall follow the guidance below when citing an employer who has opted to create an emergency action plan in lieu of an emergency response plan:

(a) The CSHO shall cite 29 CFR 1910.38(a) if an employer with more than 10 employees merely expresses the intent to evacuate all employees from the danger area, and would not allow employees to assist in handling the emergency, but does not have a written emergency action plan. This intent must have been communicated to employees, which the CSHO may verify by employee interviews.

(b) The CSHO shall cite 29 CFR 1910.38(a) and 29 CFR 1910.165, the Employee Alarm Systems standard (referenced in 29 CFR 1910.38(a)), if there are deficiencies found in a written emergency action plan or alarm system.

(c) The CSHO shall cite 29 CFR 1910.120(q)(1) if the employer does not have a written emergency action plan, and has not expressed any intention to employees (i.e., the employer has done absolutely nothing in planning for emergencies).

(d) The CSHO shall cite 1910.38(a)(2)(v) if the employer has not established reasonable procedures in the plan for notifying both inside and outside parties of incidents so that employees are not at risk. See Appendices A and B for examples.

- D. 29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories. Spills or releases of hazardous substances, emergency situations, etc., that occur inside a laboratory under the purview of the Laboratory standard, 29 CFR 1910.1450, and require an emergency response are covered by HAZWOPER. Incidental releases that can be safely handled by employees working with a chemical are not considered emergency responses. (For a discussion of the distinction between an incidental release and a release that requires an emergency, see Appendix E of this instruction.)
- E. 29 CFR 1910.119, Process Safety Management for Highly Hazardous Chemicals. The standard for Process Safety Management of Highly Hazardous Chemicals (PSM) covers processes in quantities at or above the threshold quantities specified in 1910.119(a)(1), except as provided by 1910.119(a)(2). The purpose of the standard is to prevent catastrophic releases of highly hazardous chemicals.
 1. Due to the nature of the facilities covered by the scope of the PSM standard, facilities covered by 29 CFR 1910.119 would have the potential

for an emergency release.

2. Facilities that fall under the scope of PSM shall establish and implement an emergency action plan in accordance with 29 CFR 1910.38(a). Paragraph (n) of the PSM standard states that employers covered by PSM "may also be subject" to the hazardous waste and emergency response provisions of 29 CFR 1910.120. If the employer plans to direct its employees to respond to emergency releases, the employer would be subject to 29 CFR 1910.120(q). (For further guidance see Appendix C of 29 CFR 1910.119 and OSHA Instruction CPL 2-2.45A, "Process Safety Management of Highly Hazardous Chemicals -- Compliance Guidelines and Enforcement Procedures.")
 3. The requirements of the PSM standard are geared toward preventing catastrophic releases, but they do not address the specific procedures for responding to such releases. HAZWOPER's emergency response provisions apply to the actual emergency response effort at facilities covered by the PSM standard.
- F. 29 CFR 1910.1030, Occupational Exposure to Bloodborne Pathogens. The definition of "hazardous substance" found in HAZWOPER includes any biological agent or infectious material that may cause disease or death.
1. The following are three scenarios where the Bloodborne Pathogens standard may interface with HAZWOPER:
 - Cleanup of a hazardous waste site containing infectious waste (overlap with 29 CFR 1910.120(b)-(o) for cleanup operations);
 - Operation of a RCRA-permitted incinerator that burns infectious waste (overlap with 29 CFR 1910.120(p) for treatment storage and disposal (TSD) facilities); and
 - Response to an emergency caused by the uncontrolled release of an infectious waste, or where infectious waste is part of the release (overlap with 29 CFR 1910.120(q) for emergency responses not otherwise covered by the standard).
 2. In the past, a medical waste incinerator was defined as a treatment, storage, and disposal (TSD) facility by the Federal Environmental Protection Agency (EPA). However, recently Federal EPA allowed this definition to lapse and left the responsibility of specifying the status of a medical waste incinerator as a TSD facility to the State. Therefore, in States where medical waste incinerators are considered TSD facilities, 29 CFR 1910.120(p) applies.
 3. 29 CFR 1910.120(q) may apply to any other medical waste incinerator. In addition to complying with the Bloodborne Pathogens standard, these employers would be expected to comply with 29 CFR 1910.120 (q), which would require an emergency response plan and/or an emergency action plan. Employers may create one plan that would incorporate all of the applicable components of both standards. (See Appendix F, II.F.)
- G. 29 CFR 1910.146, Permit-Required Confined Spaces. The Permit-Required Confined Spaces (PRCS) standard covers sites or facilities that contain permit-

required confined spaces as defined in 1910.146(b), Definitions. The purpose of the standard is to prevent unauthorized entry into a permit space and to establish adequate precautions and procedures for entry into permit spaces.

1. Hazardous materials emergency response may involve permit -required confined spaces. Emergency response personnel and outside response parties may be required to enter permit spaces for rescue operations.
 2. While HAZWOPER addresses response procedures to emergency releases, it does not address response to incidents involving PRCSs with the detail provided in 1910.146. The requirements of the PRCS standard are targeted specifically toward work and emergency rescue as they relate to permit spaces. Employers who decide that their employees will enter PRCSs shall establish a PRCS program in accordance with 1910.146(d).
 3. The PRCS standard details specific requirements applicable to employers who have employees enter permit spaces to perform rescue services. These requirements include employee training, coordination with outside rescue services, and rescue retrieval systems, methods, and annual rehearsals.
- H. 29 CFR 1910.156, Fire brigades. The Fire brigade standard contains requirements for organization, training, selection of PPE, and preplanning during emergencies for private or industrial fire departments.
1. The Fire brigade standard uses broader language than HAZWOPER in 29 CFR 1910.156(c): "The employer shall provide training and education for all fire brigade members commensurate with those duties and functions that members are expected to perform."
 2. The Fire brigade standard addresses the need for industrial fire fighters to be aware of the MSDS, and requires written procedures and training for flammable toxic and radioactive materials; however, the emphasis is on structural fires. Employees within a fire brigade who are expected to respond to incidents involving hazardous substances must also receive HAZWOPER training.

II. Relationship between 29 CFR 1910.120 with Other Agencies' Standards.

- A. Environmental Protection Agency, the Comprehensive Environmental Response Compensation and Recovery Act of 1980 (CERCLA). CERCLA, also known as Superfund, required the President to revise and republish the National Contingency Plan, which was originally published pursuant to the Federal Water Pollution Control Act, "for the removal of oil and hazardous substances." The current National Contingency Plan (NCP) was created out of this mandate.
1. The EPA addresses worker health and safety in their regulations on the NCP, found in 40 CFR Part 300.150. The following is excerpted from these regulations:
 - (a) Response actions under the NCP will comply with the provisions for response action worker safety and health in 29 CFR 1910.120.
 - (b) In a response action taken by a responsible party, the responsible party must assure that an occupational safety and health program consistent with 29 CFR 1910.120 is made available for the protection of

workers the response site.

(c) In a response taken under the NCP by a lead agency, an occupational safety and health program should be made available for the protection of workers at the response site, consistent with and to the extent required by, 29 CFR 1910.120. Contracts relating to a response action under the NCP should contain assurances that the contractor at the response site will comply with this program and with any applicable provisions of the OSH Act and State OSH laws.

(d) When a State, or a political subdivision of a State, without an OSHA approved State plan is the lead agency for response, the State or political subdivision must comply with standards in 40 CFR Part 311, promulgated by EPA pursuant to Section 126(f) of SARA.

(e) Requirements, standards, and regulations of the Occupational Safety and Health Act of 1970 (29 USC 651 et seq.) (OSH Act) and of State laws with plans approved under Section 18 of the OSH Act (State OSH laws), not directly referenced in paragraphs (a) through (d) of this section, must be complied with where applicable. Federal OSH Act requirements include among other things, Construction Standards (29 CFR Part 1926), General Industry Standards (29 CFR Part 1910), and the general duty requirement of section 5(a)(1) of the OSH Act. No action by the lead agency with respect to response activities under the NCP constitutes an exercise of statutory authority within the meaning of Section 4(b)(1) of the OSH Act. All governmental agencies and private employers are directly responsible for the health and safety of their own employees.

2. The NCP also States in 40 CFR Part 300.175(11) that ". . . on request, OSHA will provide advice and assistance to EPA and other NRT/RRT agencies as well as to the OSC/RPM [On-Scene Coordinator/ Remedial Project Manager] regarding hazards to persons engaged in response activities. Technical assistance may include review of site safety plans and work practices, assistance with exposure monitoring, and help with other compliance questions." This advice and assistance will not take the place of OSHA's enforcement activities, but will be done in conjunction with OSHA's regular duties. (See XI.I. of this instruction.)
3. Facilities must submit an EPA Tier I or Tier II inventory form to their SERC, LEPC and fire department with jurisdiction over the facility. Material safety data sheets (MSDS) must also be submitted. (See Appendix F, II.B.3. of this instruction for more detail.) The MSDSs are available to the public, and Tier I and Tier II forms are available to State or local officials acting in an official capacity, by requesting the information from their local emergency planning committee.

B. Superfund Amendments and Reauthorization Act, title III.

1. SARA title III, also referred to as the "Emergency Planning and Community Right-to-Know Act of 1986," required 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.
2. 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. Facilities must submit an EPA Tier I or Tier II inventory form to their SERC, LEPC and local fire department. A material safety data sheet (MSDS), or alternative, must also be submitted in accordance with the following (defined in 40 CFR Part 370.20(b)):

- (a) When hazardous chemicals (as defined in 29 CFR 1910.1200) are kept in amounts equal to or greater than 10,000 pounds;

- (b) When "extremely hazardous substances" (a list is provided in Federal EPA's regulation, 40 CFR Part 355 - Appendix A) are present in amounts greater than or equal to 500 pounds, or greater than or equal to the "threshold planning quantity," whichever is lower;

- (c) When facilities are requested to submit an MSDS or Tier II form by the SERC, LEPC or fire department (the minimum "threshold" for reporting in response to requests is zero; i.e., anytime the SERC or LEPC or fire department makes a request).

NOTE: The facility's responsibility is further explained in 40 CFR Part 355 - Emergency Planning and Notification.

4. Section 303 of SARA gives LEPCs minimum requirements which they are to include in their emergency response plan as follows:

- (a) Identification of facilities with reportable quantities, routes likely to be used for the transportation of extremely hazardous substances, and facilities contributing or subjected to additional risk due to their proximity.

- (b) Emergency response methods and procedures to be followed by facility owners, local emergency responders, and emergency medical personnel.

- (c) Designation of a community emergency coordinator and facility emergency coordinators, who shall make determinations necessary to implement the plan.

- (d) Emergency notification procedures for the facility and community emergency coordinators.

- (e) Methods for determining the occurrence of a release, and the population likely to be affected.

- (f) A description and location of emergency equipment and facilities in the community, and identification of personnel responsible for equipment and facilities.

- (g) Evacuation plans.

(h) training programs and their schedules for emergency responders.

(i) Methods and schedules for exercising the emergency plan.

NOTE: The provisions of the community emergency response plan are significant because 29 CFR 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. Environmental Protection Agency, Clean Air Act Amendments of 1990 (CAA).

1. Section 112(r) of the amended Clean Air Act (CAA), signed into law on 15 November 1990, mandates a new federal focus on the prevention of chemical accidents. The objective of section 112(r) is to prevent serious chemical accidents that have the potential to affect public health and the environment. The risk management planning requirements of CAA 112(r) complement and support the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), also known as title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA).
2. EPA's risk management planning requirements build on OSHA's Process Safety Management standard, 29 CFR 1910.119. CAA 112(r) mandates that EPA publish rules and guidance for chemical accident prevention and that these rules include requirements for facilities to develop risk management programs. The risk management program must incorporate a hazard assessment, a prevention program, and an emergency response program, summarized in a risk management plan or RMP. The RMP must be made available to state and local government agencies and to the public.

(a) On June 20, 1996, EPA published the Risk Management Plan final rule (40 CFR 68). The RMP rule applies to all stationary sources with more than a threshold quantity of regulated substances in process on August 19, 1996. The list of regulated substances, promulgated separately, was published on January 31, 1994, amended on April 16, 1996, and is found in 40 CFR 68.130.

(b) EPA attempted to minimize inconsistencies between its RMP requirements and the chemical risk management requirements published by OSHA and DOT. The RMP's emergency response program requirements closely parallel the requirements of OSHA's PSM standard and contain many of the requirements of an emergency response plan under 29 CFR 1910.120(q). Nevertheless, the focus of the RMP rule is primarily on the safety and health of the public and the surrounding environment, versus HAZWOPER's emphasis on worker health and safety. Because an RMP must be provided to EPA, state and local government agencies, and to the public, outside responders should be familiar with emergency response plans for facilities with an RMP. Facilities who must comply with both EPA's RMP rule and OSHA's emergency response requirements under HAZWOPER may prepare an Integrated Contingency Plan (ICP) according to guidance published by the National Response Team in order to comply with both regulations (see paragraph II.G. of this appendix).

- D. The National Fire Protection Association NFPA Standards. The NFPA is a non-profit organization that publishes, among other documents, the "National Fire Codes" and "A Guide to OSHA Fire Protection Regulations." The NFPA is recognized as a national voluntary consensus standards development organization, comparable to the American National Standards Institute.
1. OSHA modeled the emergency response provisions in HAZWOPER after certain parts of the NFPA standards. CSHOs may review NFPA 472, "Standard for Professional Competence of Responders to Hazardous Material Incidents," and NFPA 471, "Recommended Practice for Responding to Hazardous Material Incidents." These guidelines may be used as supplementary material in understanding and complying with the emergency response provisions of HAZWOPER. NFPA 472 is referenced repeatedly in HAZWOPER's non-mandatory Appendix E, training Curriculum Guidelines.
 2. In general, employers of emergency response organizations who follow the NFPA standards should be in compliance with 29 CFR 1910.120(q). However, the current NFPA 471 (1997) deleted what it had previously called the "Safety Officer" (i.e., the individual designated by the IC to evaluate hazards). A designated "Safety Official" is mandatory in HAZWOPER, and the absence of a "Safety Official" in a HAZMAT team shall be cited as a failure to comply with 29 CFR 1910.120(q)(3)(vii).
 3. Additional NFPA standards that address more narrow aspects of emergency response, but may provide useful reference material include NFPA 473, addressing professional competencies for emergency medical service (EMS) personnel; NFPA 600, addressing industrial fire brigades; and NFPA 1500, addressing occupational safety and health programs for fire departments.
- E. Department of transportation (DOT), Hazardous Material transportation Uniform Safety Act of 1990 (HMTUSA). The handling of hazardous materials in the transportation industry is regulated by HMTUSA. training for the safe handling and safe transportation of hazardous materials is required by Section 7, which states that for purposes of Section 4(b)(1) of the OSH Act, no action taken by the Secretary of transportation pursuant to HMTUSA shall be deemed to be an exercise of statutory authority to prescribe or enforce standards or regulations affecting occupational safety and health.
1. On May 15, 1992, DOT published the final rule "Hazardous Materials; training for Safe transportation" (49 CFR 171-177, predominantly 172 Subpart H) to enhance training requirements for persons involved in the transportation of hazardous materials. The rule requires employers to train their employees in the safe loading, unloading, handling, storing, and transportation of hazardous materials. Such employees are primarily in the private sector but the DOT rule may apply to public sector employees if commerce is involved. The rule is also designed to improve emergency preparedness for responding to accidents or incidents involving the transportation of hazardous materials.
 2. The DOT rule does not preempt OSHA from enforcing occupational safety and health regulations, such as 29 CFR 1910.120, when employers fall under the scope of HMTUSA. For example, HAZWOPER applies if transporters are handling hazardous waste that is on the way to a hazardous waste site or to a TSD facility, or when transporters become involved in emergency responses to the release of hazardous substances.

3. training that is performed to satisfy OSHA, EPA, or DOT training requirements may be used to satisfy the training requirements of the other agency's rule. Duplicative training is not necessary.
 4. In addition, DOT administers a training grant program under HMTUSA to help public emergency responders meet the HAZWOPER and NFPA (471 and 472) standards. DOT issued its grant regulations September 17, 1992, and will be using a national curriculum guide to evaluate training programs that will be eligible for funding.
- F. United States Coast Guard (USCG), Oil Pollution Act of 1990 (OPA 90). The removal of an "oil discharge" according to Subtitle B of OPA 90, must be performed in accordance with the NCP and any appropriate Area Contingency Plan. (See II.A. of Appendix F.) The OPA 90 further states that "the President shall prepare and publish a NCP," specifically for the removal of oil and hazardous substances on and near navigable waters.
1. The role of OSHA in responding to an oil spill, in accordance with OPA 90, is similar to the function it plays in the NCP. The NCP designates OSHA as the agency responsible for ensuring that employees are protected, and to determine if the site is in compliance with HAZWOPER. (See XI.I of this instruction.) The lead agency for the NCP (EPA or USCG) may request OSHA's assistance, but OSHA is not preempted from its regular enforcement duties.
 2. USCG also enforces the following rules:
 - (a) DOT-Research and Special Programs Administration, 49 CFR Part 194, "Response Plans for Onshore Oil Pipelines."
 - (b) DOT-Research and Special Programs Administration, 49 CFR Part 130, "Oil Spill Prevention and Response Plans."
 - (c) DOT-USCG, 33 CFR Part 154, Subpart D and Part 155 , Subpart F, which address emergency response plan requirements for facilities and vessels.
- G. National Response Team (NRT) Integrated Contingency Plan ("One-Plan"). The National Response Team's membership consists of 16 federal agencies with responsibilities, interests, and expertise in various aspects of emergency response to pollution incidents including chemical releases and oil spills. The Environmental Protection Agency (EPA) serves as chair and the Coast Guard serves as vice-chair of the NRT. The NRT is primarily a national planning, policy, and coordinating body and does not respond directly to incidents. NRT assistance usually takes the form of technical advice, access to additional resources and equipment, or coordination with Regional Response Teams.
1. The NRT published "The National Response Team's Integrated Contingency Plan Guidance" in the Federal Register on June 5, 1997 (61 FR 28641). Five agencies signed the Integrated Contingency Plan (ICP) Guidance: EPA, the Coast Guard, OSHA, the Office of Pipeline Safety of DOT, and Minerals Management Services in the Department of the Interior. The ICP or one-plan is intended to assist employers in preparing integrated emergency response plans that meet the requirements of multiple federal agency regulations with a single plan.

2. The OSHA regulations addressed by the one-plan guidance include 29 CFR 1910.38(a), 1910.119, and 1910.120; EPA and US Coast Guard regulations are also covered under the plan. The NRT Integrated Contingency Plan Guidance is guidance only and does not relieve employers from their obligations under existing federal emergency response planning requirements. An ICP is designed to assist employers in simplifying emergency response plan development and maintenance and to improve coordination of response activities while demonstrating full compliance with applicable federal emergency response regulations. The one-plan does not specifically address state and local requirements to which employers may be subject.

Appendix G

LIST OF ACRONYMS IN THIS DOCUMENT

CERCLA:	Comprehensive Environmental Response Compensation and Recovery Act of 1980 (also, Superfund)
CFR:	Code of Federal Regulations
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
FIRM:	Field Inspection Reference Manual
HAZCOM:	Hazard Communication standard, 29 CFR 1910.1200 (also, HCS)
HAZMAT:	Hazardous materials
HAZWOPER:	Hazards Waste Operations and Emergency Response standard, 29 CFR 1910.120
HCS:	Hazard Communication standard, 29 CFR 1910.1200 (also, HAZCOM)

HMTUSA:	Hazardous Material 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
PRCS	Permit-required confined space
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

Emergency Response Guidebook, U.S. Department of transportation, Washington, DC, 1996.

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.

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)

"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

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

OSHA Instruction TED 1.15, September 22, 1995, "OSHA Technical Manual."

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

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.

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

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