

DOSH DIRECTIVE

Department of Labor and Industries
Division of Occupational Safety and Health
Keeping Washington Safe and Working

12.75 Emergency Response To Hazardous Substance Releases

Date: February 1, 2010

I. Purpose

This Directive replaces all prior direction and provides clarification to ensure uniform enforcement of the Emergency Response Standard, Chapter 296-824 WAC, which covers emergency response operations for uncontrolled releases of hazardous substances.

A. Uncontrolled release means a release where significant safety and health risks could be created. Releases of hazardous substances that are either incidental or couldn't create a safety or health hazard (i.e., fire, explosion, or chemical exposure) aren't considered to be uncontrolled releases.

- Examples of conditions that could create a significant safety and health risk:
 - Large-quantity releases.
 - Small releases that could be highly toxic.
 - Potentially contaminated individuals arriving at hospitals.
 - Airborne exposures that could exceed a WISHA permissible exposure limit or a published exposure limit and employees aren't adequately trained or equipped to control the release.

- Example of an uncontrolled release:

A forklift driver knocks over a container of a solvent-based liquid, releasing the contents onto the warehouse floor. The driver has been trained to recognize the vapor is flammable and moderately toxic when inhaled. The driver hasn't been trained or provided appropriate equipment to address this type of spill. In this situation, it isn't safe for the driver to attempt a response. The driver needs to notify someone of the release so an emergency response can be initiated.

B. Hazardous substance means any of the following substances that could adversely affect an exposed employee's health or safety:

- Substances defined under Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or “Superfund” Act (visit: <http://www.epa.gov>).
- Biological or other disease-causing agents released that could reasonably be expected to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in a person or their offspring when the person:
 - Is directly exposed to the agent in the environment
 - Directly ingests, inhales, or assimilates the agent from the environment
 - Indirectly ingests the agent through the food chain
- Substances listed by the United States Department of Transportation as hazardous materials under Title 49 (Transportation) in the Code of Federal Regulations (CFR), Part 172, Section 101 and appendices (visit: <http://www.nara.gov> and search for “List of CFR subjects”)
- Hazardous wastes as defined in Chapter 296-824 WAC.

II. Scope

This directive applies to all DOSH staff and operations statewide. It does not create employer requirements not found in the applicable rules.

Where other standards require an Emergency Response Plan (ERP), the provisions more protective of employee safety and health apply. For example, provisions of the Emergency Response (Chapter 296-824 WAC) and Ethylene Oxide (Chapter 296-855 WAC) standards would apply to uncontrolled releases of ethylene oxide. Although Chapter 296-855 WAC sets forth medical surveillance, handling procedures, and emergency response training, most leaks would probably require an emergency response under Chapter 296-824 WAC due to the hazards that ethylene oxide presents. An employer that has current procedures for handling ethylene oxide leaks under Chapter 296-855 WAC may adapt these procedures to comply with Chapter 296-824 WAC.

- A.** The Emergency Response standard does not apply to hazardous waste sites. See Chapter 296-843 WAC, for emergency response requirements for hazardous waste operations. Whenever there is overlap between the Emergency Response and Hazardous Waste standards, and there is a conflict between the requirements, the provision more protective of employee safety and health shall apply.

Note: Whenever there is overlap with Chapter 296-843 WAC, CSHOs should contact the Central Office Technical Services staff person assigned to Hazardous Waste Operations.

- B.** DOSH does not consider terrorist events to be foreseeable workplace emergencies for purposes of standards requiring employers to anticipate and prepare for such emergencies. The release of chemicals or hazardous substances into a workplace, whether caused by an accidental release or by a terrorist event would, however, be considered a hazardous substance release. All emergency responders and employees performing emergency response efforts for such releases would, therefore, fall under Chapter 296-824 WAC.
- C.** Hospitals or other employers with medical personnel who would be exposed to hazardous substances because they are expected to: respond to external hazardous substance releases; treat contaminated patients at the release area (i.e., ambulance personnel); **or** receive contaminated patients (e.g. hospital emergency room), must provide appropriate training, personal protective equipment, and medical surveillance as required under Chapter 296-824 WAC.

See OSHA's document, *Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances*, for additional guidance.

- D.** The Emergency Response standard does not apply to clandestine drug laboratory law enforcement operations. Law enforcement departments must address the hazards inherent in these operations, along with safety procedures, in their Accident Prevention Program and/or related policies and procedures.

Once the site is secured and designated for clean-up, it becomes a hazardous waste operation and is covered under Chapter 296-843 WAC, Hazardous Waste Operations.

III. References

- Chapter 296-824 WAC, Emergency Response
- Chapter 296-842 WAC, Respirators
- Chapter 296-843 WAC, Hazardous Waste Operations
- Chapter 296-855 WAC, Ethylene Oxide
- WAC 296-24-567, Employee Emergency Plans and Fire Prevention Plans
- WAC 296-800-310, Exit Routes and Employee Alarm Systems
- WAC 296-800-140, Accident Prevention Program
- WAC 296-800-160, Personal Protective Equipment
- WAC 296-800-170, Employer Chemical Hazard Communication
- DOSH Compliance Manual
- DOSH Consultation Manual
- OSHA CPL 02-02-073, Inspection Procedures for 29 CFR 1910.120 and 1926.65, paragraph (q): Emergency Response to Hazardous Substance Releases
- OSHA CPL 02-00-094, Response to Significant Events of Potentially Catastrophic Consequences
- OSHA's Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances

IV. **Background**

OSHA's CFRs 1910.120 and 1926.65 cover both hazardous waste operations and emergency response in general industry and construction. DOSH has adopted separate standards addressing hazardous waste sites (see Chapter 296-843 WAC) and emergency response to uncontrolled releases of hazardous substances (see Chapter 296-824 WAC).

This Directive updates WRD 12.75, Emergency Response to Hazardous Substance Releases, and replaces all previous directives, instructions and guidance on this issue, whether formal or informal.

V. **Inspection and Consultation Procedures**

A. **WAC 296-824-200, Planning.**

1. When reviewing an Emergency Response Plan (ERP), CSHOs must evaluate the employer's ability to protect the health and safety of employees (including shelter-in-place procedures), while the employees trained in emergency response procedures contain, control, and clean-up hazardous substances if an emergency release were to occur.
2. If an employer intends to have all employees evacuate immediately in the event of an emergency and not respond to the emergency, apply the requirements under WAC 296-24-567, Employee Emergency Plans and Fire Prevention Plans.

Limited action such as turning off a readily accessible valve during the evacuation process may be considered Emergency Action. Any plan that includes entering a Danger Area is Emergency Response and covered under Chapter 296-824 WAC.

3. Workplaces located in areas recognized as being prone to natural phenomena, such as earthquakes, floods, tornadoes and hurricanes, and potentially subject to a release of hazardous substances are covered under Chapter 296-824 WAC. The ERP must include responses to emergencies caused by such reasonably anticipated natural phenomena.
4. CSHOs must review the employer's list of hazardous chemicals developed in accordance with WAC 296-800-170, Employer Chemical Hazard Communication. The CSHO must also inquire about the hazardous substances on site and the quantities, conditions, and scenarios in which they are stored. Chemical incompatibilities should be considered; for example, if two vessels are stored close to each other, and one contains ammonia and the other chlorine bleach, the two solutions could generate toxic gas if they were accidentally mixed.

Note: The National Oceanic and Atmospheric Administration ([NOAA](#)) provides a "Chemical Reactivity Worksheet" which is a downloadable program including a database of reactivity information for over 6,000 chemicals. This program is one resource that the CSHO can use for chemical compatibility information.

Scenarios or circumstances that trigger activation of the ERP must be described for the various hazardous substances stored on site that have the potential to cause an emergency. The employer must consider reasonably predictable worst-case scenarios in the planning phase.

5. The term "additional responders" as used in WAC 296-824-20005 means 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. As applicable, CSHOs must determine whether the ERP addresses coordination with outside emergency responders. The ERP must prescribe the roles and responsibilities of outside responders (e.g., fire, police, etc.) during a response.
6. The ERP must address how employees will be informed that an emergency exists and how they should respond. The system must inform all affected employees that an emergency exists and what their immediate response should be.
7. Facilities that prepare an ERP must coordinate with hospitals or other medical care providers prior to emergencies in case victims will need to be decontaminated at a hospital. The employer must inform the hospital of its intent to use the hospital's 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 wastewater, etc.). WAC 296-824-20005 shall be cited for lack of coordination with medical care providers and other additional responders.
8. If the employer has an ERP or EAP but elements of it are missing, reference the missing elements in WAC 296-824-20005 or WAC 296-24-567 as appropriate. Incomplete plans are cited as a general violation as long as the plan is otherwise effective in practice. Cite as a serious violation if there are related serious violations.

B. WAC 296-824-300, Training.

1. Personnel roles must be clearly defined and training provided commensurate with assigned duties or roles. Although specific titles as listed in Table 1 of the Emergency Response Standard are not required, employees should be designated to assume parallel duties 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.

2. CSHOs shall evaluate the adequacy of initial and refresher emergency responder training required in WAC 296-824-30005 by interviewing 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.
3. An employer with a limited range of hazardous substances on site may opt to supply their personnel with one type of PPE that would be required to be worn for any response. This strategy would relieve that particular employer of the requirement of training technicians to be able to "select appropriate PPE," if employees are trained in the PPE that they are required to wear and the employer has determined that the PPE is sufficient to provide protection under any foreseeable circumstance.
4. Contractor employees must receive Emergency Response training if their activities fall within the scope of the standard. Contractors who have employees that will be called in as specialists or skilled support personnel must act in accordance with the Emergency Response standard. See DOSH Directive 1.15, *Dual Employers and DOSH Enforcement*, for direction on contractor and host employer responsibilities.
5. Hospitals that receive contaminated victims must comply with WAC 296-824-300. These hospitals must stress decontamination and PPE in the training for personnel designated to operate decontamination facilities. For medical personnel (first receivers) who will receive and decontaminate accident victims, first responder operations level training is required. This level of training is appropriate for anyone with a designated role in the Hospital Decontamination Zone. Employers may develop an in-house training course that would focus on decontamination and PPE or provide site-specific training in decontamination and PPE after sending personnel to a standard "first responder operations level" course. OSHA's non-mandatory [First Receivers Document](#) provides practical information to assist hospitals in developing and implementing emergency management plans.

Note: The hospital decontamination zone includes any areas where the type and quantity of hazardous substance is unknown and where contaminated victims, contaminated equipment, or contaminated waste may be present. It is reasonably anticipated that employees in this zone might have exposure to contaminated victims, their belongings, equipment, or waste. This zone includes but is not limited to initial triage areas, victim staging areas, and pre- and post-decontamination areas.

6. CSHOs should verify that on-site drills are conducted at least once a year. Drills should include all emergency response elements (include fire departments, law enforcement agencies, emergency medical services, etc.) who will be involved in a response.

7. CSHOs should verify that employee training is based on the assigned duties to be performed by an employee during an emergency. Employees must not perform any emergency response operations unless they have been trained to the level required by their job function and responsibility, and have been certified by their employer as having completed the necessary training. Employee training requirements are further defined by the nature of the work (e.g., temporary emergency response personnel, firefighters, safety officers, HAZMAT personnel, and incident commanders).
8. Law enforcement personnel entering drug labs to arrest, and secure the premises must attend a 40-hour training course presented by the Criminal Justice Training Commission or equivalent.

All other requirements of the Emergency Response standard apply.

C. WAC 296-824-400, Medical Surveillance.

1. WAC 296-824-40005 requires employers to make medical surveillance available to specific employees without cost to the employees. CSHOs must determine those employees entitled to medical surveillance and consultation, and evaluate whether those employees were offered such services.
2. The standard does not require an employee to take the medical examination. In the event that an employee chooses not to have a medical exam or participate in a medical surveillance program, the employer should document the refusal.
3. A medical evaluation for respirator use is required by Chapter 296-842 WAC, Respirators, for those employees who have not been cleared for respirator use during medical surveillance activities.

D. WAC 296-824-500, Incident Requirements.

1. All activity at a site must be coordinated through the Incident Command System (ICS), which specifies that one individual be in charge of coordinating and supervising emergency response efforts. The ICS is to include a pre-established chain of command, in which control of the incident is passed up the chain of command as more senior officials arrive. For example, in the event it is necessary to call in an outside Emergency Response team, the senior official would turn over control of the incident to the head of the outside team (Note: It is *not* acceptable for the employer to designate and train an individual (e.g., plant manager, supervisor, etc.) who must be called in from off-site as the initial senior official). The employer must specify in advance whether the on-site senior official will turn over control of the incident to an individual arriving from off-site. Whoever serves in the role of senior official must have full authority to coordinate and supervise emergency response activities. The senior official must be trained based on the duties and function to be performed.

2. An inspection of an actual emergency response should focus on the appropriate implementation of the ERP and compliance with the requirements of WAC 296-824-50010.

Upon arriving at an emergency response incident, the CSHO should immediately seek out the Incident Commander (IC), or the appropriate official within the ICS, such as the safety and health official (safety officer). The purpose of this meeting is to inform the IC/safety officer of your presence and the purpose of the visit. The CSHO may find it necessary to hold an abbreviated opening conference, during which the CSHO should obtain a copy of the ERP.

CSHOs will not be a first responder nor directly involved with the incident response as part of their normal operations. The CSHO may provide technical assistance, within the limits of his/her expertise, at the request of the IC, however the CSHO must not interfere with the incident response or attempt to supersede the IC's authority.

Note: CSHOs must not enter contamination zones unless it is determined that entry is necessary to determine compliance. Prior to entry, CSHOs must discuss the need to enter with their supervisor. All applicable elements of Chapter 296-824 WAC will apply to entry (e.g. training, personal protective equipment, use of the buddy system) along with any restrictions imposed by the IC.

3. 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.
 - (a) Were responders receiving direction from more than one source?
 - (b) Was there more than one command post?
 - (c) Did any of the employer's employees refuse to take direction from the IC?
 - (d) Were the responders aware of the existence of any pre-emergency planning procedures or agreements between the facility and their organization?
 - (e) Were they aware of their roles once response operations were initiated?
4. 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 WAC 296-824-50020.

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 danger area (entry by at least two persons) and at least two additional personnel must stand by outside the hazardous area. Each entrant requires a team of four personnel. If the CSHO determines that the buddy system was not used in danger areas, or that the buddy system used was ineffective, the employer shall be cited under WAC 296-824-50025.

Skilled Support Personnel (SSP) are those employees who are needed temporarily to perform immediate emergency support work due to imminent danger, such as those who may occasionally and temporarily assist the Incident Commander (IC) by operating cranes, backhoes, or trucks. When adequately trained and equipped, including PPE, they may perform limited and discrete tasks for limited time at the scene. This category of employee was specifically included in WAC 296-824-500 to recognize the need at times for fast-response assistance by individuals who possess needed skills and equipment at an emergency scene during (at) times of imminent danger, when the risk of allowing the situation to remain would create a greater hazard. The SSP may not be substituted for other higher trained emergency response positions.

Since many of these employees do not expect to help in emergency response incidents and do not have even minimal awareness training, attention must be given to their proper safety and health protection at the scene before they participate in the incident. This can be accomplished by an on-site briefing that includes a discussion of the hazards present, the personal protective clothing and equipment to be used, how the equipment is used, the exact tasks they are expected to perform, and any other safety and health precautions (including hazard awareness, personal protective equipment use, and decontamination). In cases where the SSP is the only person who can perform the emergency procedure (e.g., tow truck drivers and heavy equipment operators), on-the-spot instruction in the proper use of the specific respirator chosen for them would be sufficient.

If the SSP are not provided an appropriate initial briefing at the site prior to their participation in an emergency response, or are not provided other appropriate safety and health precautions, the CSHO shall cite WAC 296-824-50015.

5. If the employer fails to follow his/her emergency plan and also responds inappropriately, the CSHO should separately cite 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 shall be cited under WAC 296-824-200 **and** WAC 296-824-500.

E. WAC 296-824-600, Personal Protective Equipment.

1. Personal Protective Equipment (PPE) shall be selected and used to protect employees from exposure to hazards, including potential hazards. Chemical protective clothing and equipment used by Emergency Response team members and specialists must meet the requirements contained in WAC 296-824-60005, *Table 9, Selecting PPE for Specific Hazards*.
2. CSHOs shall evaluate the employer's PPE program for compliance with WAC 296-824-600. If the employer utilizes totally-encapsulating chemical protective

suits for emergency response, the CSHO shall determine whether these suits are capable of maintaining positive air pressure.

F. WAC 296-824-700, Post-emergency Response.

1. Post-emergency clean-up begins when the Incident Commander (IC) in charge of the initial emergency response declares the site to be under control and ready for clean-up. As long as an emergency response team is still in control of the site and a safety or health hazard exists, an emergency classification 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.

Note: Contract personnel assigned full-time at a plant facility are considered "plant or workplace employees" for the purposes of Chapter 296-824 WAC.

2. The CSHO should determine, through observation and information from the IC, the status of operations. It is important to know whether the Incident Commander is continuing emergency response operations or if the IC has declared emergency response activities completed and shifted to post-emergency response clean-up. The CSHO should also determine, depending on site conditions, whether there are areas of the site still under emergency response operations.

For response actions at a fixed facility, the CSHO shall also determine whether post-emergency response operations are being performed by site employees or by outside responders (e.g., fire department, contracted services). Outside responders must follow all provisions of the Standard.

3. Individuals who will assist the responders as they leave the danger area must be trained in decontamination procedures. These individuals must wear PPE at the same level or one level below that worn by the emergency responders they are supporting, as appropriate to the hazards. The ERP must 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.

Decontamination of response equipment left in the danger area may be handled in the post-emergency response and, therefore, decontamination procedures for these areas and equipment do not necessarily need to be part of the ERP. However, the responsible employer must have procedures in place to decontaminate and maintain PPE under WAC 296-800-16045.

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.

VI. Technical Assistance

For further technical information or assistance with the Emergency Response standard or with this directive, please contact the assigned DOSH Technical Services staff person at (360) 902-5436.

Policy and helpful outreach information is located on the DOSH website (<http://www.lni.wa.gov/Safety/>).

Approved:



Michael Silverstein, MD, Assistant Director
Department of Labor and Industries
Division of Occupational Safety and Health

For further information about this or other DOSH Directives, you may contact the Division of Occupational Safety & Health at P.O. Box 44600, Olympia, WA 98504-4600; or by telephone at (360) 902-5495. You may also review policy information on the DOSH website (<http://www.lni.wa.gov/Safety/>).