

HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

1.0 SCOPE

This Performance Assessment Guide for Hazardous Waste Operations and Emergency Response (HAZWOPER) will be used to carry out the oversight responsibility of the U.S. Department of Energy (DOE) Brookhaven Group. This guide was prepared to assist in conducting performance-based assessments of DOE prime contractors and their subcontractors to ensure that their HAZWOPER programs identify, disposition, and take corrective action on issues that affect satisfactory facility performance. The goals are to ensure that laboratory employees and the public do not experience injuries and illness as a result of HAZWOPER activities and that there is little or no economic loss to the Government.

HAZWOPER assessments will be directed at all prime contractors and subcontractors working at DOE sites. DOE line management must ensure that these contractors comply with DOE Orders and Federal and State regulations. Information developed from this assessment will determine the degree to which this is being done as well as the effectiveness of the laboratory's program.

2.0 ATTRIBUTES AND LINES OF INQUIRY

This section provides lines of inquiry to help assess whether the laboratory has implemented a program that ensures that HAZWOPER requirements are incorporated into line activities. This section will be used to evaluate the laboratory line organization.

2.1 The laboratory has approved procedures to implement its responsibilities for the HAZWOPER program.

- Do the procedures establish line management and staff responsibility and accountability for implementing the HAZWOPER program?
- Do the procedures include requirements that are specific to the site for the HAZWOPER program?
- Are there provisions in the procedures for audits to evaluate the adequacy of implementation of the HAZWOPER program?

- Do the procedures include provisions to ensure that subcontractors are aware of their responsibilities in the HAZWOPER program?
- Do local procedures and requirements accurately reflect the DOE Orders and the procedural requirements generated by the Cognizant Secretarial Offices (CSOs)?

2.2 Adequate written safety and health programs for HAZWOPER activities are developed and implemented by the laboratory.

- Has a contractual structure for the laboratory performing the task been defined?
- Has a comprehensive work plan for the laboratory performing the task been defined?
- Has a safety and health plan specific to the site been developed? What assurances are in place to measure whether field compliance with the plan is being accomplished?
- Has an adequate employee safety and health training program been developed?
- Has an adequate medical surveillance program been established?
- Have standard operating procedures for safety and health been implemented? Are they being referenced or attached to the field work plans?
- Have interfaces between DOE, the laboratory, and site-specific activities been established?
- How does the safety and health program ensure compliance with 29 CFR 1926, Subpart P, "Excavations," when excavations are created during site preparations or hazardous waste operations?
- How does the safety and health program ensure that the laboratory or any subcontractors retained for hazardous waste operations are informed of the site emergency response procedures and any potential fire, explosion, health, safety, and other hazards of the hazardous waste operations that have been identified?
- How does the laboratory make the written safety and health program available to the employees, subcontractors, OSHA personnel, and to other Federal, State, or local agencies with regulatory authority over the site?

2.3 Hazardous waste site characterization and analysis have been conducted prior to allowing employees to enter the site.

- Has a preliminary evaluation of site characteristics been developed prior to site entry to aid in the selection of appropriate employee protection methods? Have preliminary risk data been gathered prior to the start of the site work? Has adequate reconnaissance taken place for preparation for site activities?
- Have all suspected conditions that may pose inhalation or skin absorption hazards that are immediately dangerous to life and health (IDLH) been identified?
- Does the evaluation include:
 - The location and approximate size of the site?
 - A description of the activity?
 - The duration of the job?
 - Site topography?
 - Site accessibility by air and roads?
 - Safety and health hazards expected at the site?
 - Pathways for hazardous substance dispersion?
 - The status and capabilities of emergency response teams that would assist onsite employees at the time of an emergency?
 - Hazardous substances and health hazards involved or expected at the site and their chemical and physical properties?
 - Selection of personal protective equipment (PPE) based on the hazard identified or expected as the result of initial surveys?
- Have ionizing radiation and/or air monitoring been conducted during the initial site entry?
- Have the presence and concentrations of specific hazardous substances and health hazards been established? Has the risk associated with these substances been identified?

- Have employees had all information concerning the chemical, physical, and toxicologic properties of each substance known or expected to be present at their worksite made available to them prior to commencement of work?

2.4 Both the laboratory and contractors working at the hazardous waste sites effectively implement site control programs.

- Was a site control program to prevent contamination of employees developed during the planning stages for the hazardous waste cleanup operation?
- Does the site control program include, at a minimum—
 - A site map?
 - Work zones?
 - Requirements for use of a "buddy system"?
 - Site communications, including alerting means for emergencies?
 - Standard operating procedures or safe work practices?
 - Identification of the nearest medical assistance?
- Are appropriate lessons learned from other hazardous waste site activities factored back into the existing work plans?

2.5 Laboratory personnel who have responsibilities for the HAZWOPER program have been trained and are qualified to perform these responsibilities.

- Does the training/qualification include necessary technical skills or capabilities to satisfactorily perform for the level of responsibility for the HAZWOPER program?
 - Has the Brookhaven Group office provided a clear definition of which jobs, processes, or sites constitute areas where the requirements of 29 CFR 1910.120 apply?
 - Does the training program cover the requirements of 29 CFR 1910.120? NOTE: Training may be on-the-job or in the classroom.
- Is the training appropriate for the level of responsibility of the individual?
 - When training has not yet been received, how is certainty provided that the correct and necessary actions will be carried out by the assigned individual (compensatory measures)? When the level of responsibility changes, is additional training required or provided?

- Are laboratory and contractor personnel who are in a position to detect and control performance in the HAZWOPER program appropriately trained and instructed so that the required level of satisfactory performance will be maintained?

2.6 BNL management personnel performing hazardous waste operations at the site have established and implemented employee training programs.

- Have all employees exposed to hazardous substances, health hazards, or safety hazards been trained in—
 - Names of personnel and alternates responsible for safety and health at the site?
 - Safety, health, and other hazards present at the site?
 - Use of PPE?
 - Work practices to minimize risks from safety and health hazards?
 - Safe use of tools and equipment?
 - Appropriate use of engineering controls?
 - Medical surveillance requirements, including recognizing symptoms and signs that might indicate overexposure to hazards?
 - The site Health and Safety Plan (HASP)?
- Does personnel training include 40 hours of offsite HAZWOPER instruction and a minimum of 3 days of field experience under the direct supervision of a trained, experienced supervisor?
- Are any additional training requirements placed on the laboratory personnel consistent with their job functions and responsibilities?
- Have onsite managers and supervisors received at least 40 hours of offsite HAZWOPER instruction and at least 8 additional hours of specialized training on managing hazardous waste operations? Have responsibilities of managers and supervisors clearly been defined in terms of 29 CFR 1910.120?
- Are employees prohibited from participating in field activities until appropriate training is completed?
- Do certificates of employee training demonstrate adequate completion of training issued to the qualified persons?
- Are personnel responsible for responding to hazardous emergency situations trained in how to respond to expected emergencies?

- Are qualified personnel required to attend an 8-hour refresher training course annually?
- How does the laboratory ensure that the personnel conducting the HAZWOPER training are qualified in the HAZWOPER subject matter?

2.7 Medical surveillance programs are implemented for the following personnel working on hazardous waste sites.

- Personnel who are or may be exposed to hazardous substances at or above the Permissible Exposure Limit (PEL) for site substances, without regard to the use of respirators, for 30 days or more a year.
- Personnel who wear a respirator for 30 days or more a year.
- Personnel who are designated members of a HAZMAT team.
- Are medical examinations provided to employees—
 - Prior to assignment?
 - At least once every 12 months?
 - At termination of employment?
 - On notification of signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or if an unprotected employee was exposed in an emergency situation?
 - More frequently at the discretion of the examining physician?
- Does information provided to the examining physician include—
 - A copy of 29 CFR 1910.120?
 - A description of personnel duties as they relate to the individual's exposures?
 - Personnel exposure levels or anticipated exposure levels?
 - Description of the PPE to be used by personnel?
 - Information from any previous medical examination?
- Implementation of adequate medical recordkeeping requirements?

2.8 Engineering controls, work practice controls, and personal protective equipment for protection of personnel are provided at the hazardous waste site.

- Are engineering and work practice controls implemented when feasible? In lieu of these controls, is appropriate PPE selected and used?
- Is PPE selected and used to protect employees from identified site safety and health hazards, addressing the following elements:
 - site safety and health hazards?
 - PPE selection?
 - PPE use?
 - Work mission duration?
 - PPE maintenance and storage?
 - PPE decontamination?
 - PPE training and proper fitting?
 - PPE donning and doffing procedures?
 - PPE inspection?
 - PPE in-use monitoring?
 - Evaluation of the effectiveness of the PPE program?
 - Limitations during temperature extremes?

2.9 Plans and procedures are in place for appropriate monitoring practices to be conducted at the work location.

- Is routine sampling required and conducted, including sampling for airborne contaminants, IDLH atmospheres, and flammable atmospheres?
- Is sampling conducted as the scope of the work changes or when new areas are entered at the site?

2.10 The site's HASPs for each phase of an operation are developed and implemented.

- Are plans required that include, as a minimum—
 - Names of key personnel and alternates responsible for site safety and health and appointment of a site safety and health officer?

- A safety and health risk analysis for each site task and operation?
- Employee training assignments?
- PPE to be used by personnel for each of the site tasks and operations?
- Medical surveillance requirements?
- Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used?
- Methods of maintenance and calibration of monitoring and sampling equipment to be used?
- Site control measures?
- Decontamination procedures?
- The site standard operating procedures?
- A contingency plan for emergency response activities, including PPE and other equipment?
- Confined-space-entry procedures?
- Are pre-entry briefings conducted prior to initiating any activity and at such other times as necessary to ensure personnel are apprised of the site HASP and that it is being followed? Are changing conditions and any changes to the technical approach to conducting characterization or remediation discussed with all personnel at the appropriate briefings?
- Are inspections conducted by the site safety and health officer or alternate concerning the effectiveness of the HASP, with identified deficiencies corrected by the contractor?

2.11 Procedures and protocols are developed for handling drums and containers at a hazardous waste site.

- Do drums and containers used during cleanup meet DOT, OSHA, and EPA regulations for the wastes they contain?
- Is a routine drum and container inspection program conducted prior to container movement? Are procedures and protocols in place for spill control, spill containment, and employee notification prior to drum movement?
- Are procedures in place to address handling and movement of radioactive, shock sensitive, and laboratory wastes?

- Is a detection system used to estimate the location and depth of drums or containers or both? Have procedures for excavating around buried drums and containers been developed and implemented?
 - Is fire extinguishing equipment on hand and available for use? Are non-sparking tools used when flammable atmospheres are anticipated?
 - Have appropriate procedures been developed and implemented for opening drums and containers?
 - Does the site's area HASP include a procedure for the sampling of containers and drums? Is the procedure available at the work location for review by personnel?
- 2.12** Does the laboratory develop and implement procedures for all phases of decontamination?
- Do these procedures meet the requirements of 29 CFR 1910.120 paragraph (k)?
- 2.13** Does the laboratory develop and implement emergency response procedures that meet the requirements of 29 CFR 1910.120 paragraphs (l) and (q)?
- 2.14** How does the laboratory ensure that any hazardous waste operations areas meet the minimum illumination requirements?
- 2.15** How does the laboratory ensure that safe sanitation practices are implemented at temporary workplaces?
- 2.16** What methods are in place to update current HAZWOPER operations and procedures to introduce new technologies and equipment developed for improved employee protection?

3.0 STANDARDS AND REQUIREMENTS

3.1 Specific DOE and Standards.

- DOE O 151.1, "Comprehensive Emergency Management System."
- DOE O 440.1A, "Worker Protection Management for DOE Federal and Contractor Employees."
- DOE 5480.4, "Environmental Protection, Safety and Health Protection Standards."

3.2 OSHA, EPA, and NFPA Requirements.

- 29 CFR 1910, "Occupational Safety and Health Standards."
- 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response."

4.0 GUIDANCE TO ASSESSOR

This assessment guide is intended to assist in conducting a performance assessment of HAZWOPER safety. It is not to be considered as all-inclusive, inflexible, or limiting reasonable assessment concentration when lines-of- inquiry responses dictate that an area must be more thoroughly probed.