

HAZARD IDENTIFICATION, ANALYSIS, CONTROL, AND ABATEMENT

1.0 SCOPE

This Performance Assessment Guide for Hazard Identification, Analysis, Control, and Abatement 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 both DOE prime contractors and subcontractors to ensure that their hazard identification, analysis, control, and abatement 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 hazard identification, analysis, control, and abatement safety activities and that there is little or no economic loss to the Government.

Hazard identification, analysis, control, and abatement 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 organization has implemented a program that ensures that hazard identification, analysis, control, and abatement requirements are incorporated into line activities. This section will be used to evaluate the laboratory's line organization.

2.1 A documented site inspection program exists.

- Does the program provide an inventory, location, and job status of all ongoing and scheduled site activities for the coming year and identify the appropriate laboratory facility and subcontractor involved in the activity?
- Does the program indicate scheduled inspections of all site operations at intervals based on the severity of the hazards associated with the operation?
- Is the site inspection program effectively implemented?

- Is the schedule of inspections and inventory of operations complete and up-to-date?
- Are inspections of all site facilities conducted according to the schedule?
- Is the frequency of inspections adequate for the size, complexity, and potential hazard of the operations? Is the frequency adjusted according to the operations safety and health performance (i.e., more frequent inspections if multiple or high-gravity hazards are detected)?
- Are the inspections documented in report form, provided to the appropriate manager, prime laboratory facility or subcontractor, and is the report maintained in a master file?
- Are periodic unannounced inspections and followup inspections conducted?
- Does a review of the inspection reports indicate the inspections are of adequate quality? That is, do the inspections appear to be thorough reviews of the operation or do they appear to be just a cursory walkthrough?
- Do walkthroughs of randomly selected operational areas indicate inspections are effective in ensuring compliance with appropriate standards, regulations, and Orders?
- Do walkthroughs of randomly selected operational areas indicate inspections are effective in identifying, eliminating, and controlling hazards?
- Is a closing conference conducted at the conclusion of the inspection? Are appropriate levels of management and employee representatives present at the closing conference? Are unsafe and unhealthful working conditions disclosed by the inspection, discussed with management and employee representatives, and appropriate abatement procedures brought to management's attention at this time?
- Are there safety and health inspections conducted in office areas?

2.2 Preliminary and operating hazard analysis are conducted.

- Is there a site or operation analysis program in place that triggers the performance of preliminary and operating hazard analyses of specific operations based on potential risk, complexity, and cost?
- Are preliminary and/or operating hazard analyses performed on operations involving high risk, complexity, and cost?

- Are prepared hazard analyses thorough in identifying, assessing, and recommending corrective action for current and potential hazards?

2.3 There is employee participation in safety and health hazard identification and abatement.

- Are employees required to identify, abate, and/or report unsafe and unhealthful conditions?
- Are there written procedures in place for reporting unsafe and unhealthful conditions?
- Are workers and supervisors aware of reporting procedures?
- Are workers and supervisors trained in the proper reporting procedures?
- Are reports of unsafe/unhealthful conditions promptly investigated, adequately tracked, and resolved?
- Are workers and supervisors who file unsafe/unhealthful condition reports protected from reprisal?

2.4 A formal system to track and abate identified hazards exists. Does the system include—

- An adequate hazard description?
- Hazard location?
- Hazard risk assessment?
- Proposed interim and final corrective actions?
- Interim and final abatement dates?
- Abatement extensions?
- Final hazard abatement notification?
- Are all identified hazards (hazards identified through inspections, hazard analyses, or employee reports) incorporated into the hazard tracking and abatement system?
- Are identified hazards assessed, prioritized, and abated according to the severity of the hazard and the probability of its occurrence?
- Are identified hazards abated expeditiously?

- Where serious hazards cannot be immediately abated, are appropriate interim control measures instituted?
- In situations of imminent danger, is the hazardous condition abated immediately and, if necessary, is withdrawal made of employees who are not necessary for correcting the condition?
- Has an abatement plan been developed for the correction of unsafe and unhealthful working conditions that cannot be corrected within 30 working days?
- Does the abatement plan explain the circumstances of the delay?
- Does the abatement plan establish a proposed timetable for the abatement?
- Does the abatement plan explain the steps taken to protect the employees in the interim?
- Is the abatement plan provided to the employee representative(s) who participated in the inspection or reported the condition?

2.5 Unsafe or unhealthful working conditions are investigated.

- Is each report recorded in a log by subject matter? Is sufficient descriptive information such as date, time, and location of condition maintained for each condition recorded?
- On receipt of a report, is the reported condition classified as imminent danger, serious or other, and is an inspection made: (1) immediately for imminent-danger conditions, (2) within 3 working days for potentially serious conditions, and (3) within 20 working days for all other working conditions? (An inspection may not be necessary if, through normal management action and with prompt notification to employees, the hazardous condition(s) identified can be abated immediately.)
- Are employee reports made in writing either by the person receiving the report or the employee? Do such written reports include the grounds for the concern, the name of the employee or representative of the employee who filed the report, and, in the case of an oral report, made available for the employee for review?
- Is a written response to the report, including a copy of the inspection findings, if any, provided to the employee or representative of the employee who filed the report within 15 days following the investigation (30 days for items dealing with health issues requiring sampling and laboratory analysis only)? Is a copy of the inspection findings

also provided to the appropriate supervisory personnel in the area affected by the report?

- If an employee filing a report requests anonymity, is his or her identity revealed only to an authorized representative of the Department of Labor or such other persons as authorized by the complainant?

2.6 A system is implemented and maintained for providing appropriate job-related safety and health training.

- Is top management provided orientation training that will enable them to manage their programs safely? Does this orientation training include coverage under the Occupational Safety and Health Act of 1970?
- Are supervisors trained through introductory and specialized courses and materials to recognize and eliminate occupational safety and health hazards in their work units? Does this training include the training and motivation of subordinates in safe and healthful work practices?
- Does occupational safety and health training for employees include specialized job safety and health training appropriate to the work being performed? Does such training include informing employees of their rights and responsibilities under the Occupational Safety and Health Act of 1970?
- Does training for employees who are representatives of employee groups include introductory and specialized courses and materials that will enable such groups to function appropriately in the interest of ensuring safe and healthful working conditions and practices in the workplace and, in particular, to enable them to effectively assist in the conduct of workplace safety and health inspections?
- Are safety and health professionals trained to perform the necessary technical monitoring, consulting, testing, inspecting, designing, and other tasks that will enable them to determine whether applicable standards are being met in the workplace? Is the training designed so as to develop skills in hazard recognition, obtain qualified evaluations, recommend corrective action, and function as consultants to management?
- Is training for collateral duty safety personnel designed to develop skills in hazard recognition, obtain qualified evaluations, recommend corrective action, and function as consultants to management?

2.7 An effective industrial hygiene program is established and implemented. The industrial hygiene program is based on a written systematic plan to recognize, evaluate, control, and document exposure to health hazards in the environment.

- Once a potential health hazard is identified, does the industrial hygienist determine the extent of the hazard through examination of work practices, personal and area exposure measurements, sound professional judgment, or application of established standards or guides?
- Where the potential occupational exposures are determined to be within permissible exposure limits, are the conclusions of the industrial hygienist, together with the supporting data, recorded?
- Does the industrial hygiene staff inform the medical staff of potential and existing health hazards identified, the results of hazard evaluations, and other industrial hygiene information needed for the operation of a medical monitoring program?

2.8 If a respiratory protection program is used, it contains the following elements.

- Written procedures for selection and use.
- Proper selection.
- User training.
- Assignment of respirators to individual workers (where practical).
- Regulator cleaning and disinfecting (at least after each use).
- Storage in a clean, sanitary location.
- Inspection and maintenance (during cleaning for routinely used equipment and monthly for emergency equipment).
- Surveillance of work area conditions.
- Inspection and evaluation of program effectiveness.
- Medical screening of users (initial and periodic).
- Use of approved respirators.

2.9 There is a hearing conservation program established for all employees whose exposure to noise equals or exceeds an 8-hour time-weighted average (TWA) of 85 decibels (dB).

- Does the hearing conservation program include—
 - Identification of work areas and specific noise sources?
 - Monitoring of work areas and identification of employees exposed at or above 85 dB?
 - Conducting baseline, annual, and exit audiograms for persons exposed at or above the TWA of 85 dB?
 - An effective personnel protection program, which includes providing a variety of hearing protection devices for persons exposed to potentially hazardous noise levels?
 - Conducting training at least annually to discuss the requirements for the hearing conservation program?
 - Maintenance of noise exposure records for a minimum of 2 years and audiometric test results for the duration of employment of the affected employee?

2.10 Exposure to carcinogens in the workplace is maintained as low as feasible.

- Is adherence to requirements of existing applicable standards strictly enforced?

2.11 Periodic monitoring of occupational health hazards is conducted and documented to ensure maintenance of satisfactory conditions.

- Does the industrial hygienist determine the type and frequency of periodic monitoring and report to management regarding the continuing adequacy of controls, the need for additional measures, or recommendations for maintenance or reemphasis of administrative controls?

2.12 Employee industrial hygiene exposure monitoring and medical recordkeeping requirements are met.

- Are area walkthrough surveys that result in noted deficiencies in control of hazards, procedures, and violations documented as to what was observed and what action was taken?
- Are the results of personal air samples taken in the breathing zones of employees or other environmental monitoring documented in a manner that can be audited, that is directly comparable to the applicable standards, and that can reasonably be associated with an individual, a particular job station, or a job description?
- Is the industrial hygiene staff's evaluation as to compliance or noncompliance with the standard applicable to a particular situation clearly evident in the record? Are actions taken in the event of noncompliance included?

2.13 A laboratory occupational medical program is established. Are the following mandatory components of an occupational medical program included in the program?

- Prior to employment, where a hazard is associated with job performance, does each employee have a complete health evaluation, with special emphasis on the health and physical factors that relate to the hazards of the position?
- Do employees who change or transfer job functions with associated hazards have their health status and physical fitness reviewed with emphasis on the effects of the position vacated and the health and physical factors that relate to the new job tasks and demands at no cost to the employee?
- Is the health status of an employee who is retiring or separating from a position where there is an associated hazard determined by a health evaluation with emphasis on the health and physical factors of that position?

- Are medical response capabilities tests and exercises conducted periodically for the identified potential emergencies? When practicable, are the tests and exercises conducted under simulated emergency conditions?
 - Do occupational medical physicians perform periodic visits to worksites and facilities to become familiar with employee job tasks, worksite environments, and related health hazards or potential health hazards?
 - Does the plant manager provide an effective management mechanism to furnish the occupational medical director with full and timely information on all new physical, chemical, and biological agents and new processes introduced onto worksites?

3.0 STANDARDS AND REQUIREMENTS

3.1 Specific DOE Orders and Standards.

- DOE O 200.1, "Information Management Program."
- DOE O 232.1A, "Occurrence Reporting and Processing of Operations Information."
- DOE O 440.1A, "Worker Protection Management for DOE Federal and Contractor Employees."
- DOE 2300.1B, "Audit Resolution and Followup."
- DOE 2321.1B, "Auditing of Programs and Operations."
- DOE 5700.6C, "Quality Assurance."
- The Occupational Safety and Health Act of 1970.

3.2 Title 10 CFR Requirements.

- 10 CFR 830.120, "Quality Assurance requirements for DOE Nuclear Facilities."

3.3 OSHA Title 29 CFR Requirements.

- 29 CFR 1910.20, "Access to Employee Exposure and Medical Records."

4.0 GUIDANCE TO ASSESSOR

This assessment guide is intended to assist in conducting a performance assessment of hazard identification, analysis, control, and abatement. 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.