

HOISTING AND RIGGING

1.0 SCOPE

This Performance Assessment Guide for Hoisting and Rigging safety at DOE Facilities 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 hoisting and rigging safety 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 hoisting and rigging activities and that there is little or no economic loss to the Government.

Hoisting and rigging safety 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 hoisting and rigging safety requirements are incorporated into line activities. This section will be used to evaluate the laboratory's line organization.

2.1 The laboratory's general construction safety program provides for a complete written hoisting and rigging safety program.

- Have the laboratory and contractors submitted a descriptive outline of their safety program in accordance with DOE 5480.4?
- Does the program meet or exceed all criteria in the DOE *Hoisting and Rigging Manual* and OSHA 29 CFR 1926?

- Do the written safety programs encompass construction safety, health protection, fire prevention, adverse weather, and compliance with OSHA regulations and DOE Orders?
- Does the program include provisions that hold workers and supervisors accountable for safety (i.e., is there an established penalty policy for safety violations)?
- Does a review of randomly selected laboratory programs indicate that the programs and equipment selection are adequate for the size of the respective jobs and for their associated hazards?
- Do the safety programs adequately address site-specific hazard control measures and requirements?
- Are the programs submitted to and approved by the contracting officer prior to commencing work?
- Are markings/labeling based on applicable standards and specifications?

2.2 The laboratory has a program to evaluate effective contract management.

- Do the award fee criteria specifically address hoisting and rigging safety? If so, how elaborate are the criteria? How are the criteria evaluated for the award fee process?
- Does the contractor bidding process include any prequalifying criteria based on safety programs? Is past experience with an individual contractor's safety program and accident experience considered in the bidding process? If so, how?
- Do construction contracts contain adequate safety requirements and the tools to enforce the safety requirements related to hoisting and rigging on construction sites? Does the language include job-specific and site-specific safety concerns and requirements where appropriate?
- Do safety personnel, contracting officers, and other appropriate personnel have authority to stop hoisting and rigging operations in situations of imminent danger?
- Are laboratory and contractor written safety programs submitted to and approved by the contracting officer prior to commencement of work? Do qualified safety personnel participate in the review and approval of the program?

- Is there effective coordination between contracting and safety personnel to ensure enforcement of safety requirements (i.e., are safety personnel aware of contract management tools that will allow them to enforce contract safety requirements)?
- Is equipment properly matched to rigging requirements?
- Is there an effective inspection and maintenance schedule for equipment?

2.3 The laboratory's training programs ensure that individuals working around hoisting and rigging equipment know where hazards are and how to work safely around them.

- Are the applicable governing regulations and standards addressed or described in the training programs?
- Does the training include the philosophy of hoisting and rigging safety?
- Does the training program address hoisting and rigging safety concerns, requirements, and practices to be followed at the site?
- Has the training clearly identified who has responsibility for implementing the hoisting and rigging safety program?
- Are personnel who are in a position to detect and control performance of work when hoisting or rigging appropriately trained and instructed so that the required level of performance is maintained?
- Is the training of hoisting and rigging safety provided on a periodic basis?
- Does a review of the training documentation show that the course content is comprehensive?
- 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)?
- Has training been provided to all who are required to work on, with, or around hoisting and rigging equipment?
- When the level of responsibility changes, is additional training required and provided?

- Do interviews with workers show that they understand the importance and application of hoisting and rigging safety at the site?
- Are there special training or certification requirements for individuals who work on hoisting and rigging equipment?

2.4 Hoisting and rigging safety personnel are properly trained in hoisting and rigging safety.

- Are laboratory safety personnel who are trained and experienced in hoisting and rigging safety assigned to oversee the safety of hoisting and rigging activities? Is the number of laboratory hoisting and rigging safety specialists sufficient to provide oversight for the size and complexity of the rigging operations?
- Are hoisting and rigging safety specialists who are trained and experienced in safety assigned to enforce/ensure the safety of hoisting and rigging activities? Is the laboratory sufficiently staffed to fulfill its hoisting and rigging safety mission?
- Is the number of designated onsite safety personnel adequate for the size, complexity, and hazard level of the operation? Where the onsite safety person is in a collateral duty position, is a sufficient amount of time devoted to safety responsibilities?

2.5 Laboratory and contractor construction supervisors and workers are properly trained in hoisting and rigging safety.

- Are employees licensed and qualified or trained adequately for their required tasks? Is training current? Are operators and riggers State licensed?
- Are the laboratory's hoisting and rigging workers and supervisors physically capable of the work required of them?
- Are workers and supervisors aware of the hazards associated with their specific jobs and with the related safety procedures, control measures, and regulations? Is there a continuing safety program?
- Are all workers and supervisors provided safety training prior to their entry onto the worksite? Does the safety orientation adequately address site-specific and job-specific hazards and control measures? Is local safety information, including emergency response procedures (encompassing site and plant evacuation procedures), accident reporting procedures, and procedures for reporting unsafe conditions, included in the safety training?

- At the jobsite, do interviews with workers and supervisors demonstrate awareness of this training?
- Do workers and supervisors demonstrate a knowledge of the information presented in the safety orientation?
- Are all jobsite hazards and activities communicated and coordinated among all laboratory workers and contractors working on the same jobsite to ensure each worker is aware of the hazards they face and of the appropriate control measures? NOTE: Jobsite hazards include hazards resulting from ongoing construction activities and those already present onsite (i.e., hazardous material storage areas, high forklift and truck traffic areas, industrial operations, gas stations, etc.).
- Are all workers and contractors aware of their safety program requirements and responsibilities on each particular site? (Such communication and coordination could be achieved through orientation, an onsite safety board, and regular "tool-box" safety meetings.)

2.6 There is a laboratory hazard identification, assessment, tracking, and abatement program.

- Is there a documented site inspection program that provides an inventory, location, and job status of all ongoing and scheduled hoisting and rigging activities and identifies the appropriate laboratory workers and subcontractors?
- Does this program indicate scheduled inspections of all hoisting and rigging sites (including construction) at intervals based on the severity of the hazards of the operation?
- Is the hoisting and rigging site inspection program effectively implemented?
- Is the schedule of inspections and inventory of operations complete and up-to-date?
- Are inspections of all hoisting and rigging sites (including construction) conducted according to the schedule?
- Is the frequency of inspection adequate for the size, complexity, and potential hazard(s) of operations? Is the frequency adjusted according to the laboratory's safety performance (i.e., more frequent inspections if multiple violations are found)? Are equipment, maintenance, and operations checked?

- Are the inspections documented in report form, provided to the appropriate laboratory personnel and contractors, and maintained in a master file?
- Does a review of the inspection reports indicate the inspections are of adequate quality (i.e., do the inspections appear to be thorough reviews of the jobsite or just cursory walkthroughs)?
- Do walkthroughs of randomly selected hoisting and rigging sites indicate inspections are effective in ensuring compliance with appropriate standards and DOE Orders, and in identifying and eliminating or controlling hazards?
- Is there a hazard tracking and abatement system and an inspection followup program to ensure that identified hazards are effectively eliminated or controlled?

2.7 Preliminary and operating hazard analyses are performed.

- Is there a jobsite hazard analysis program in place that triggers the performance of preliminary or operating hazard analysis (or both) of specific operations based on the project's potential risk, complexity, and cost?
- Are preliminary or operating hazard analyses (or both) performed on operations involving high risk, complexity, or cost? Are prepared hazard analyses thorough in identifying, assessing, and recommending controls for potential hazards? Are engineering studies for "critical issues" performed?

2.8 Laboratory employee participation in safety hazard identification and abatement is encouraged.

- Are employees required to identify and abate and/or report unsafe conditions?
- Are there written procedures in place for reporting unsafe/unhealthful conditions? Are workers and supervisors aware of these procedures?
- Are reports of unsafe/unhealthful conditions promptly investigated and adequately tracked and resolved?
- Are workers and supervisors who report unsafe/unhealthful conditions protected from reprisal (whistleblower protection)?

2.9 Hazard tracking and abatement are performed.

- Is there a formal system to track and abate identified hazards? Does the system include an adequate hazard description, location, and risk assessment, along with proposed final and interim corrective actions with respective milestone dates to completion, and actual abatement dates?
- 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 control measures and warning signs in place?

2.10 The laboratory has a program for hoisting and rigging accident, incident or occurrence or deficiency investigating, reporting, and recording.

- Is there a written accident/incident/occurrence/deficiency reporting procedure? Is it provided and communicated to construction contractors and laboratory workers?
- Are accidents, incidents, and occurrences promptly reported through appropriate channels and recorded in accordance with the written procedures, DOE O 232.1A, and OSHA requirements?
- Is there an accident investigation protocol describing the level of investigation required for accidents of varying degrees of severity (i.e., would an amputation or fatality be more thoroughly investigated than a minor cut or scrape)?
- Are accidents, incidents, and occurrences promptly responded to and investigated to identify root causes and correct deficiencies?
- Are accidents recorded and accident records maintained in accordance with appropriate standards and DOE Orders?
- Are accident data analyzed periodically (quarterly) to identify accident trends and to develop corrective action programs?

- Are accident data analyzed by the laboratory across all its sites to locate sitewide trends?

2.11 The laboratory has established an emergency preparedness/emergency response plan.

- Is there a written emergency response plan for medical, fire, dropped critical load, overturned or collapsed equipment, and other emergencies, which outlines responsibilities and required actions for DOE, the laboratory, and construction contractors?
- Is adequate emergency response equipment available onsite or within a reasonable distance of the site? Equipment may include ambulances, fire extinguishers, fire trucks, first-aid kits, and emergency response, self contained breathing apparatus (SCBA).
- Are personnel trained in the use of emergency response equipment?
- Are qualified personnel available in the event of emergency? Personnel required depend on the severity of hazards present and may include doctors, nurses, paramedics, firemen, or ambulance drivers.

3.0 STANDARDS AND REQUIREMENTS

3.1 Specific DOE Orders and Standards.

- 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 5480.4, "Environmental, Safety and Health Protection Standards."
- DOE/EH-0135, "Performance Objectives and Criteria for Technical Safety Appraisals at DOE Facilities and Sites," Sections WS.1 to WS.6.
- DOE *Hoisting and Rigging Manual*.
- DOE *Hoisting and Rigging Safety Manual*.
- Memorandum from EH-1, May 22, 1991, "Survey of DOE and Contractor Line Programs to Administer and Oversee Workplace Safety."

3.2 OSHA Title 29 CFR Requirements.

- Title 29 CFR 1910 Subpart N. (1910.176-1910.190) - "Materials Handling and Storage."
- Title 29 CFR 1910 Subpart F. (1910.66-1910.67) - "Powered Platforms, Manlifts, and Vehicle-Mounted Platforms."
- Title 29 CFR 1926 Subpart N. (1926.550-1926.556) - "Cranes, Derricks, Hoists, Elevators, and Conveyers."

4.0 GUIDANCE TO ASSESSOR

This assessment guide is intended to assist in conducting a performance assessment of hoisting and rigging 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.