

		Number: EA CRAD 30-12 Revision: Rev. 0 Effective Date: March 4, 2024
<p align="center">Safety Training Assessment Criteria and Review Approach Document</p>		
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1.0 PURPOSE

The mission of the U.S. Department of Energy (DOE) Office of Environment, Safety and Health Assessments (EA-30) is to assess the effectiveness of safety and emergency management systems and practices used by line and contractor organizations and to provide clear, concise, rigorous, and independent evaluation reports of performance in protecting workers, the public, and the environment from the hazards associated with DOE activities.

In addition to the general independent oversight requirements and responsibilities specified in DOE Order 227.1A, *Independent Oversight Program*, this criteria and review approach document (CRAD), in part, fulfills the responsibility assigned to EA in DOE Order 226.1 B, *Implementation of Department of Energy Oversight Policy*, to evaluate contractors and DOE programs for effectiveness.

The CRADs are available to DOE line and contractor assessment personnel to aid them in developing effective DOE oversight, contractor self-assessment, and corrective action processes. The current revision of EA's CRADs are available at <https://www.energy.gov/ea/criteria-and-review-approach-documents>.

2.0 APPLICABILITY

The following CRAD is approved for use by the Office of Environment, Safety and Health Assessments (EA-30).

3.0 FEEDBACK

Comments and suggestions for improvements on this CRAD can be directed to the Director, Office of Environment, Safety and Health Assessments.

4.0 CRITERIA AND REVIEW APPROACH

Comprehensive DOE oversight responsibilities and guidance are provided in DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*, and DOE Guide 226.1-2A, *Federal Line Management Oversight of Department of Energy Nuclear Facilities*. DOE responsibilities for oversight of safety training are provided in section 5.c (2) of DOE Order 426.2, *Personnel Selection, Training, Qualification and Certification Requirements for DOE Nuclear Facilities*. Attachment 1 to DOE Order 426.2 provides the contractor requirements document for personnel selection, qualification, and training for DOE nuclear facilities. The order requires periodic systematic evaluations of contractor training by the DOE field element and contractor using DOE-STD-1070-94, *Guidance for Evaluation of Nuclear Facility Training Programs*. Traditional assessments focus on technical and process issues using established regulations, codes, standards, quality assessment tools, and training as it applies to facility modification and/or operational change. In contrast, this effort is intended to assess the effectiveness of DOE safety and health training, including response to recent workplace dynamics such as increased remote working, an influx of new workers, and the retirement of highly experienced workers that are no longer available to act as coaches/mentors to newer staff. This effort will be conducted through an in-depth examination of current and historical DOE training practices to determine the extent to which they are still protecting all DOE Federal, contractor, and subcontractor workers in a changing work environment. The analysis will include both Federal oversight staff training and that of contractors.

EA Protocol EA-30-01, Revision 4, *Office of Environment, Safety and Health Assessments Protocol for the Development and Maintenance of Criteria and Review Approach Documents*, states that CRADs “are used to establish the depth and detail of an assessment and to provide clarity and consistent guidance to the assessment team, as well as to the organization being assessed.” It is in this sense of clarity and consistency that this CRAD should be understood.

In alignment with DOE G 226.1-2A, EA assessments addressing safety training will evaluate existing mandates and guidelines in place and how they align or need adjustment in response to the changing dynamics of the DOE workforce needed to support safe mission accomplishment.

The guidance in this CRAD is intended to enable assessors to gain insights and will be based on the information gathered to provide a holistic view of the current state of safety and health training within the DOE. These insights will be leveraged to recommend strategies for adapting training programs that remain compliant with regulations but are also responsive to the evolving needs of the workforce. By improving the alignment between training and workforce dynamics, the goal is to enhance safety and health outcomes within the department, thereby mitigating risks and fostering a safer work environment.

The objectives and criteria below are intended to serve as stand-alone sections to be used in any combination based on the need of the specific appraisal; the lines of inquiry may be similarly tailored. An assessment plan will be developed for each such appraisal, or safety training assessment criteria may be included in plans for assessments in which aspects of safety training are deemed to be helpful supplements to the main topic of inquiry.

OBJECTIVES

TE.1: DOE and Contractor Management demonstrate safety leadership in assessing whether employees are receiving all necessary safety training through periodic training program evaluations. (DOE O 226.1B and DOE O 426.2)

Criteria:

1. Leaders ensure that training program evaluations are conducted at least every three years.
2. Managers and supervisors exhibit commitment to maintaining a training program that ensures all necessary safety training is provided.
3. Personnel are not allowed to perform work until all required safety training is satisfactorily completed.
 - How are leaders involved in overseeing and ensuring that training program evaluations are conducted every three years?
 - What specific actions do managers and supervisors take to demonstrate their commitment to maintaining the training program?
 - How is compliance ensured with the requirement for personnel to complete all necessary safety training before performing work?
 - What mitigating strategies are utilized when it is identified that personnel attempt to conduct work without completing required safety training?
 - How are managers and supervisors held accountable for ensuring that all necessary safety training is provided within the organization?
 - What measures are in place to track and monitor the completion of required safety training by personnel?
 - How are leaders and management teams informed about the effectiveness of the training program through evaluation results?
 - What strategies are employed to address any shortcomings or areas for improvement identified in training program evaluations?
 - How do leaders communicate the importance of safety training to all levels of personnel within the organization?
 - How are resources allocated to support the ongoing maintenance and improvement of the training program?

TE.2: General and specific safety training provided to supervisors and employees together with organization safety performance demonstrate sufficient hazard recognition skills. (DOE O 226.1B, DOE G 226.1-2A, DOE O 426.2, and DOE STD 1070-94)

Criteria:

1. Event causal analyses, issues management databases (including corrective actions and effectiveness reviews), and lessons learned together with employee course evaluations are analyzed to determine adequacy of hazard recognition skills.
2. Training programs at other organizations and sites are benchmarked including training techniques to improve hazard recognition.

3. Surveys, interviews and focus groups are used to collect information on potential improvements to safety training including hazard recognition.
 - How are event causal analyses, issues management databases, and lessons learned integrated into the training evaluation process for hazard recognition skills?
 - What specific metrics or criteria are used to assess the adequacy of hazard recognition skills based on the analysis of these sources?
 - Can examples be provided of corrective actions or improvements implemented as a result of analyzing event causal analyses and issues management databases?
 - How frequently are employee course evaluations conducted, and how are they incorporated into the analysis of hazard recognition skills?
 - What methods are used to benchmark training programs at other organizations and sites for hazard recognition?
 - How are the findings from benchmarking exercises applied to enhance hazard recognition training within the organization?
 - Are there any notable trends or best practices identified from benchmarking activities that have been successfully implemented?
 - How are surveys, interviews, and focus groups utilized to gather information on potential improvements to safety training, particularly in the context of hazard recognition?
 - What steps are taken to ensure the feedback collected from these methods is effectively analyzed and acted upon?
 - Can examples be provided of specific improvements made to safety training based on feedback gathered from surveys, interviews, or focus groups?

TE.3: Training needs assessments performed by line management and the training organization include appropriate review by safety subject matter experts prior to implementation. (DOE O 426.2)

Criteria:

1. Appropriate safety subject matter experts are reviewers or team members on teams created to perform training needs assessments.
2. Initial and periodic training needs assessments are performed to initiate or revise training in response to changing workplace dynamics such as increased remote working, influx of new workers, and retirement of highly experienced workers no longer available to act as coaches/mentors to newer staff.
3. Training programs at other organizations and sites are benchmarked to identify modifications to training methods needed to accommodate changing workplace dynamics such as increased remote working, influx of new workers, and retirement of highly experienced workers no longer available to act as coaches/mentors to newer staff.
 - How are safety subject matter experts identified and selected to participate in training needs assessment teams?
 - Can you provide insights into the process for conducting initial training needs assessments within the organization?
 - What specific methodologies or tools are utilized to identify training gaps and needs?
 - How frequently are periodic training needs assessments conducted, and what triggers the need for these assessments?

- How are changing workplace dynamics, such as increased remote working or turnover of experienced workers, considered during training needs assessments?
- Can examples be provided of adjustments made to training programs in response to changing workplace dynamics identified during needs assessments?
- How are training programs at other organizations and sites identified for benchmarking purposes?
- What criteria are used to assess the effectiveness of training programs at other organizations?
- How are findings from benchmarking exercises applied to inform modifications to training methods within the organization?
- What success stories or lessons learned from benchmarking initiatives have led to improvements in training programs?

TE.4: Safety performance data, employee input and risks identified by the organization are used to monitor safety training effectiveness and determine needed modifications. (DOE O 226.1B and DOE O 426.2)

Criteria:

1. Surveys, interviews and focus groups are used to collect information on potential improvements to safety training and hazard recognition.
2. Risks identified by the organization (e.g., by the enterprise risk organization) are considered when monitoring safety training effectiveness and determining needed modifications.
 - How are surveys, interviews, and focus groups structured to gather information on potential improvements to safety training and hazard recognition?
 - What specific questions or topics are covered during these data collection methods?
 - How is the data collected from surveys, interviews, and focus groups analyzed to identify key insights and areas for improvement?
 - Can examples be provided of specific improvements made to safety training based on feedback gathered from these methods?
 - How frequently are surveys, interviews, and focus groups conducted to ensure ongoing feedback and improvement?
 - What mechanisms are in place to ensure that feedback from surveys, interviews, and focus groups is effectively communicated to relevant stakeholders?
 - How are risks identified by the organization incorporated into the monitoring of safety training effectiveness?
 - What types of risks are typically considered, and how are they assessed in relation to training programs?
 - Can examples be provided of modifications made to safety training based on identified risks?
 - How does the organization ensure that safety training remains adaptable and responsive to evolving risks and challenges?

TE.5: A systematic evaluation of training effectiveness and its relation to on-the-job performance is used to ensure that the training program conveys all required skills and knowledge. (DOE STD 1070-94)

Criteria:

1. A comprehensive evaluation of individual training programs is conducted by qualified individuals on a periodic basis (at least every three years) to identify program strengths and weaknesses.
 - How often are individual training programs evaluated according to the established criteria?
 - What policy or procedure outlines the requirements for conducting program evaluations and who is responsible for performing them?
 - Who evaluates the instructional skills and technical competencies of instructors, and against what criteria?
 - How is feedback from trainee performance during training utilized to refine the training program?
 - What actions are taken to monitor and evaluate changes (e.g., procedure changes, equipment changes) for their impact on initial and continuing training programs?
 - How are improvements and changes to initial and continuing training systematically initiated, evaluated, tracked, and incorporated to correct deficiencies and performance problems?
 - What procedure or policy governs the revision and documentation of training material updates based on training program evaluation results?
 - How are training facilities evaluated to ensure they are conducive to the learning process, and what criteria are used in this evaluation process?

TE.6: The selection, training, and qualification for management, operations, maintenance, operations support (e.g. radiation technicians, IH technicians, safety technicians), and technical staff (including researchers, guest workers, students, etc. as well as, applicable subcontractor personnel) required for operational activities have been established, documented, and implemented to meet the following criteria: (DOE G 226.1-2 Appendix C, DOE O 226.1B and DOE O 426.2)

Criteria:

1. The training and qualification program encompasses the range of duties and activities required to be performed. Prime contractor and subcontractor personnel have been trained on the safety requirements for the activity and qualifications for the activity. These safety requirements include the response to abnormal and emergency conditions.
2. Job categories and resources required for the activity performance have been identified. The training needs assessment was adequate to identify required classroom or on-the-job (OJT) training.
3. Personnel have completed training on the latest revision of procedures required to perform the activity.
4. The level of knowledge of managers, operations, operations support personnel and technical staff is adequate based on examinations, simulations, evaluations, drills, and selected interviews, as applicable.
5. Potential and anticipated activities, including safety abnormalities (e.g. radiological, industrial hygiene and/or industrial safety), have been addressed using simulation, walk-throughs, tabletop analysis, or similar methods.
6. Modifications from facility changes, operational activities or staffing changes have been reviewed for potential impacts on training. Training has been performed to incorporate all aspects of these changes.
7. The selection process and applicable position-specific training for project managers ensures competence commensurate with responsibilities.

8. Facility personnel exhibit an awareness of public and worker safety, health, and environmental protection requirements and, through their actions, demonstrate a high priority commitment to comply with these requirements.

- How often are training program evaluations conducted to ensure effectiveness?
- How do managers and supervisors demonstrate commitment to maintaining safety training programs?
- What measures are in place to ensure personnel complete required safety training before performing work?
- How are event causal analyses and issues management databases utilized to assess hazard recognition skills?
- What methods are used to benchmark training programs against those of other organizations?
- How is feedback collected from employees regarding potential improvements to safety training?
- What role do safety subject matter experts play in training needs assessments?
- How are training programs modified to accommodate changing workplace dynamics?
- How is information collected to identify potential improvements in safety training and hazard recognition?
- How are risks identified by the organization considered in monitoring safety training effectiveness?
- What elements are included in the training and qualification program?
- How are job categories and required resources identified for activity performance?
- What methods are used to ensure personnel are trained on the latest revision of procedures?
- How is the level of knowledge of personnel assessed?
- How are potential safety abnormalities addressed in training?
- What is the process for reviewing and incorporating changes into training due to facility, operational, or staffing changes?
- How is competence ensured for project managers through selection processes and training?
- How do facility personnel demonstrate awareness and commitment to safety, health, and environmental protection requirements?

REVIEW APPROACH

Records Review:

- Review training program documentation to determine whether the training program encompasses the range of duties and activities being performed.
- Review training records to determine whether the prime contractor and subcontractor(s) have been trained on safety requirements for facility activities and whether they are properly qualified.
- Review training plans for the facility to determine whether they include all job categories and resources required for the facility and activity.
- Review training records to determine whether personnel have completed training on the latest revisions of facility and activity procedures.
- Review the activity training plans for incorporation of safety requirements, technical safety requirements, operational safety requirements, and procedure compliance.
- Review test examinations to determine if they adequately test the operators and support personnel's understanding of technical fundamentals, facility systems, and operating procedures.

- Review the training program plan and practical factors to verify its adequacy to support safe operations.
- Review training plans and related materials for the facility to determine whether potential and anticipated activities, including radiological abnormalities have been addressed using simulation, walk-throughs, table top analyses or similar methods for the facility and activity.
- Review documentation of training requirements (training plan) for facility modifications or changes that impact assigned tasks and job functions.
- Review position descriptions, resumes and training records for project managers and workers to determine whether they have competence commensurate with responsibilities.

Interviews:

- Interview operations and support personnel to evaluate appropriate implementation of the training plan.
- Interview operators and their supervisors associated with the activity operations to assess their understanding of facility processes, procedures, and fundamentals for operation.
- Interview operations and support personnel to evaluate implementation of the training plan, training requirements, and knowledge of facility modifications.
- Interview training personnel and individuals providing on-the-job training (OJT) and evaluate personnel to determine if they have sufficient experience and qualifications for the training tasks assigned.

Observations:

- Observe operational drills, routine evolutions/demonstrations and normal operations (as possible) to assess technical understanding and ability of the operators, supervisors, and subcontractor personnel to conduct their duties and to safely operate systems and components in accordance with approved procedures.
- Verify that personnel demonstrate knowledge of activities and evolutions that were included in their training plan, and that facility personnel exhibit an awareness of public and worker safety, health, and environmental protection requirements and, through their actions, demonstrate a high priority commitment to comply with these requirements.