



**Office of Nuclear Engineering  
and Safety Basis Assessments  
Protocol for High-Hazard  
Nuclear Facility Project Oversight**

**PROTOCOL – EA-34-00  
Revision 0**

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Office of Enterprise Assessments  
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**Office of Nuclear Engineering and Safety Basis Assessments  
Protocol for High-Hazard Nuclear Facility Project Oversight**

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Reviewed by:

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Joseph J. Waring  
Director  
Office of Nuclear Engineering and Safety Basis Assessments

Concurred by:

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David A. Young  
Deputy Director  
Office of Environment, Safety and Health Assessments

Approved by:

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Kevin G. Kilp  
Director  
Office of Environment, Safety and Health Assessments

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## **Office of Nuclear Engineering and Safety Basis Assessments Protocol for High-Hazard Nuclear Facility Project Oversight**

### **1.0 PURPOSE**

As part of the U.S. Department of Energy’s (DOE’s) self-regulatory framework for safety and security, DOE Order 227.1, *Independent Oversight Program*, assigns the Office of Enterprise Assessments (EA) the responsibility for implementing an independent oversight program. EA Protocol EA-30-00, *Office of Environment, Safety and Health Assessments Protocol for Oversight Activities*, establishes the roles and responsibilities for conducting and managing oversight activities in accordance with the order. The purpose of this protocol is to establish additional requirements and responsibilities concerning EA independent oversight of high-hazard nuclear facility projects. Specifically, this protocol addresses independent oversight to ensure that projects are in compliance with requirements for integrating safety into the design process. This protocol cancels Protocol EA-31-02, *Office of Environment, Safety and Health Assessments Protocol for High-Hazard Nuclear Facility Project Oversight*.

### **2.0 APPLICABILITY**

This protocol applies to the Office of Nuclear Engineering and Safety Basis Assessments (EA-34) assessments of high-hazard nuclear facility projects. “Nuclear facility project” as used in this protocol refers to any new or major modification to a nuclear facility that is managed as a capital asset project in accordance with DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*. “High-hazard” refers to nuclear facilities that are categorized as Hazard Category 1 or 2. However, this protocol may also be used for oversight of Hazard Category 3 nuclear facility projects conducted at the request of project or line management.

### **3.0 REQUIREMENTS**

#### **General**

Oversight activities for the safety basis and safety design basis of high-hazard nuclear facility projects are conducted in accordance with EA Protocol EA-30-00 and this protocol. Exceptions may be made for unique situations with the approval of the EA-30 Tier-1 Director. Teams should report “best practices” for oversight activities to the appropriate Tier-1 or Tier-2 Director for consideration in updating the applicable protocol. Individuals in “acting” positions may perform the responsibilities for that position identified in this protocol, and responsibilities may be delegated.

- EA-34 assessments involving high-hazard nuclear facility projects must be performed in accordance with DOE Order 227.1, applicable EA protocols, an approved plan, and criteria and review approach documents (CRADs) as identified in the approved plan.
- Assessments must be coordinated with the Federal Project Director or a representative of the Safety Basis Approval Authority. Review activities should be aligned to the extent practical with the established project milestones. For example, reviews of safety design basis documents should be conducted concurrently with the Federal line management reviews of those documents.

- EA independent oversight of the construction, commissioning, and startup of high-hazard nuclear facilities is conducted as part of the EA Site Lead Program (Protocol EA-31-01, *Office of Nuclear Safety and Environmental Assessments Protocol for Site Leads*).

### **Oversight Activities**

- Assessments of high-hazard nuclear facility projects are compliance-based assessments as described in appendix C of Protocol EA-30-00 focusing on evaluating the process of integrating nuclear safety into the facility design from the conceptual stage through the final design stage.
- Assessments do not need to thoroughly review all design aspects of the project. Rather, assessment activities should be strategically selected to focus on aspects of the design and safety basis that are particularly essential to ensuring adequate protection of workers and the public. A sampling strategy that considers the nuclear facility hazard category; the complexity of the project; past performance issues of the program, contractor, or site office; and the status of site design and construction activities enables EA to focus on the processes and items that are most important to safety.
- Assessments are typically conducted over a months-long period and involve evaluating the principal products of the design process, such as specifications, design calculations, drawings, and components of the safety design basis, such as the consolidated hazards analysis and preliminary fire hazard analysis. Assessments are geared toward a particular design stage and culminate in the evaluation of the safety design basis document of that stage (e.g., the conceptual safety design report at completion of the first critical decision, CD-1).
- The nature of nuclear facility projects often results in the need to provide assessment feedback before an assessment report can be issued. When this occurs, comments will be documented using a comment review form that articulates the technical basis and recommended action for each identified issue. Because document reviews are conducted in parallel with Federal line management reviews, comments must be treated as EA independent oversight comments even when they are combined with other review comments during comment resolution. The EA-34 Director must be copied on all emails that transmit comments.
- For most nuclear facility projects, review of preliminary project and safety design basis documentation, such as the safety design strategy, informs the type and level of oversight activity that should be applied to the project. In some cases, feedback may be provided to the DOE field office to identify potential issues that should be taken into consideration early in the design process before principal design products are prepared. The feedback must be provided formally (e.g., in a comment form or directly in an email). The EA-34 Director must be copied on all emails that provide feedback.
- For some nuclear facility projects, continued review of safety basis development beyond the final design stage may be necessary to follow up on issues identified during earlier stages of the project or to ensure the final safety basis documents (the documented safety analysis and technical safety requirements) are technically adequate. The need for additional review will be evaluated and factored into the EA oversight planning process (Protocol EA-30-02, *Office of Environment, Safety and Health Assessments Protocol for Oversight Planning*).
- Assessments of high-hazard nuclear facility projects must include an evaluation of the Federal line management oversight of the project. For safety design basis and safety basis development, this evaluation is generally limited to the review process and products (i.e., safety review letter or safety evaluation report).

## 4.0 RESPONSIBILITIES

### **Director, Office of Environment, Safety and Health Assessments (EA-30)**

- Approves plans for independent oversight assessments of high-hazard nuclear facility projects.
- Approves exceptions to this protocol and deviations from oversight strategies developed for high-hazard nuclear facility projects.
- Resolves issues associated with the oversight of high-hazard nuclear facility projects that cannot be resolved at a lower level and, when appropriate, engage senior management within EA or other DOE organizations to seek resolution.

### **Director, Office of Nuclear Engineering and Safety Basis Assessments (EA-34)**

- Proposes assessment activities for high-hazard nuclear facility projects as part of the EA-30 assessment planning process.
- Resolves or consults with EA-30 directors to resolve scheduling and resource conflicts involving the oversight of high-hazard nuclear facility projects.
- Assigns qualified technical staff to lead EA assessments of high-hazard nuclear facility projects and, as needed, assigns technical staff to conduct other independent oversight activities of these projects.
- Ensures that plans and CRADs are developed and used for assessments of high-hazard nuclear facility projects.
- Works with line management to resolve issues arising during the conduct of assessments. When differences cannot be resolved, raises them to the Director and Deputy Director of the Office of Environment, Safety and Health Assessments.
- Ensures the quality of assessment products.

### **EA-34 Assessment Team Lead**

- Coordinates with the Federal point of contact (i.e., Federal Project Director, Safety Basis Approval Authority, or their designate) to ensure that EA independent oversight activities are factored into schedules for high-hazard nuclear facility projects at points that are most beneficial to safety design basis development.
- Ensures that assessment team members possess technical expertise and experience commensurate with their assignments and are free of any potential conflicts of interest.
- Consults with EA-31 Site Leads to facilitate communications and meetings with site personnel, obtaining site documentation, scheduling site visits, and reporting the status of oversight activities in the periodic EA site briefings.
- Maintains situational awareness of high-hazard nuclear facility projects and recommends additional independent oversight activities to determine whether project design is in accordance with applicable nuclear safety requirements.

## 5.0 REFERENCES

- DOE Order 227.1, *Independent Oversight Program*
- DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*
- Protocol EA-30-00, *Office of Environment, Safety and Health Assessments Protocol for Oversight Activities*
- Protocol EA-30-02, *Office of Environment, Safety and Health Assessments Protocol for Oversight Planning*
- Protocol EA-31-01, *Office of Nuclear Safety and Environmental Assessments Protocol for Site Leads*