

U.S. Department of Energy

Oak Ridge Operations

ORO O 420
Chapter II

DATE: 9-30-96

SUBJECT: SAFETY ANALYSIS AND REVIEW SYSTEM

1. PURPOSE. This Chapter correlates to DOE 5481.1B, SAFETY ANALYSIS AND REVIEW SYSTEM, dated September 23, 1986, by assigning responsibility and accountability and providing administrative guidance to Oak Ridge Operations (ORO) and its contractors for preparation and review of safety analyses. Nothing in this issuance changes any requirements contained in any DOE Order.
2. CANCELLATION. This Chapter cancels and replaces ORIG 5481.1C, SAFETY ANALYSIS AND REVIEW SYSTEM, dated December 16, 1992.
3. APPLICABILITY.
 - a. The provisions of this Chapter apply to ORO Principal Staff, management and operating (M&O) contractors and other covered contractors responsible for the design, operation, decontamination, or decommissioning of ORO nonnuclear facilities.
 - b. The applicability of DOE 5481.1B (and this associated Chapter) was restricted to nonnuclear facilities on issuance of DOE 5480.23, dated April 10, 1992. (However, to date no change or revision to DOE 5481.1B has been issued reflecting the restricted applicability.)
4. RESPONSIBILITIES.
 - a. Manager approves Safety Analysis Reports (SAR) and issues the associated Safety Evaluation Reports (SER) for nonnuclear facilities if so delegated by the cognizant Secretarial Officer (CSO) where redelegation to subordinate levels of ORO is not authorized.
 - b. Assistant Managers approve SAR and issue associated SER for nonnuclear facilities where redelegation to subordinate levels of ORO is authorized and/or approved by the CSO and formally documented by the Manager.
 - c. Director, Project Management Division, or Director, Engineering Services Division.
 - (1) Assists in the review of Preliminary Safety Analysis Reports (PSAR) and Final Safety Analysis Reports (FSAR) for construction projects related to new or modified facilities where documentation is required. Provides recommendations to the COR on engineering aspects of the documents.
 - (2) Maintains the permanent ORO file of pertinent documents related to engineering activities.
 - d. Director, Nuclear Safety Division.
 - (1) Conducts independent reviews of nonnuclear SAR and revisions thereto when requested by the Contracting Officers' Representatives (COR). Prepares SER to document the review and findings/recommendations.

- (2) Assists in oversight of contractor preparation and review of safety analyses, when requested by the COR. Prepares appropriate documentation of the activity and associated findings/recommendations.
- (3) Forwards findings and recommendations to the COR.

e. Contracting Officers' Representatives.

- (1) Approve SAR and issue associated SER for nonnuclear facilities where redelegation to subordinate levels of ORO is authorized and/or approved by the CSO and formally documented by the Manager.
- (2) Ensure that M&O and covered contractors establish programs for the preparation, review, and maintenance of new or upgraded safety documentation for nonnuclear ORO facilities. Such programs shall be consistent with the requirements of DOE 5481.1B.
- (3) Ensure that M&O and covered contractors prepare appropriate safety documentation for new, existing, or significantly modified nonnuclear ORO facilities.
- (4) Inform the Assistant Secretary for Environment, Safety and Health (EH-1) by December 1 of each year of all ORO operations requiring safety analysis which were authorized in the preceding year, including the organizational level at which the authorization was granted. This information should include a 3-year projection of the anticipated completion date for safety analyses, reviews thereof, and the anticipated authorization levels.
- (5) Ensure auditable, independent review of safety documents for existing, new, or modified facilities.
- (6) Forward recommendations to the CSO on safety documentation programs, plans, schedules, and issues.

5. REQUIREMENTS AND PROCEDURES. None.

6. REFERENCES.

- a. ORO O 420, CHAPTER V, DELEGATION OF APPROVAL AUTHORITY FOR DOE 5480.21, 5480.22, 5480.23, AND 5481.1B.
- b. DOE-EM-STD-5502-94, HAZARD BASELINE DOCUMENTATION, dated August 1994.
- c. DOE/OR-901, GUIDANCE FOR PREPARATION OF SAFETY ANALYSIS REPORTS FOR NONREACTOR FACILITIES AND OPERATIONS, Revision 2, dated November 1992.

7. DEFINITIONS. None.

8. CONTRACTOR REQUIREMENTS DOCUMENT. See Contractor Requirements Document, Attachment 1 of this Chapter.
9. ATTACHMENTS.

Attachment 1 - Contractor Requirements Document.

CONTRACTOR REQUIREMENTS DOCUMENT

Contractors that are identified in paragraph 3 of this Chapter shall accomplish the following:

1. Establish and maintain programs and management systems for the preparation, review, and maintenance of new or upgraded safety documentation for nonnuclear ORO facilities. Such programs shall be consistent with the requirements of DOE 5481.1B, DOE 5480.21, and DOE 5480.22 or the requirements from these Orders as contained in the Work Smart Standards documents (WSS documents). Although DOE 5480.23 is applicable only to nuclear facilities, that Order should also be used as guidance for nonnuclear facilities.
 - a. Prepare appropriate safety analyses and documents for new and significantly modified facilities and provide for independent internal review of the documents.
 - b. Submit to the COR for approval:
 - (1) PSAR. DOE approval is required before undertaking procurement of materials and components, construction, and preoperational testing.
 - (2) FSAR, Technical Safety Requirements (TSR), and Operational Safety Requirements (OSR). DOE approval is required before facility operation.
 - (3) All changes to DOE-approved TSR and OSR. DOE approval is required before implementation of the changes.
 - (4) Other safety documents (e.g., safety assessments, hazard screenings, system safety analyses) as determined by the COR.
 - c. Determine if an USQ exist for proposed facility, system, or procedural changes, tests, or experiments. If an USQ exists, prepare appropriate safety analysis and proposed safety documentation revisions and ensure these are approved before implementing the change. If the facility affected by the change has DOE-approved safety documentation, DOE approval of the change and the proposed safety documentation revision is required before implementing the change. Update the FSAR at least annually to incorporate all revisions.
 - d. Maintain records of safety documentation preparation and review, as well as facility changes and their evaluation/disposition.
 - e. Conduct reviews, at least annually, of all facility safety documentation to ensure that existing safety analyses and their conclusions accurately reflect current facility configuration and operations. For all facilities with DOE-approved safety documentation, certify annually to the COR that the TSR/OSR accurately reflects the current facility configuration and operation.

2. Establish a program to systematically review and upgrade existing safety documentation with the overall objective of bringing the safety analyses and their documentation into compliance with current DOE requirements or the requirements in the WSS documents. As a minimum, the program shall include:
 - a. A plan identifying the overall approach along with key program elements and/or phases. Base prioritization on facility hazard and complexity.
 - b. Major program elements and/or phases are to provide increasingly refined analyses and documentation consistent with facility hazards/risk, complexity, and current knowledge base. Place emphasis on keeping the TSR/OSR up-to-date, consistent with the current facility knowledge base.
 - c. Specific plans and guidance documents defining key elements and/or phases of the program are to include as minimum objectives the organizations and responsibilities, approach/methodologies, and documentation of results.
3. Report all deficiencies in safety documentation that involve USQ in accordance with the requirements of DOE O 232.1 and DOE M 232.1-1 or the requirements in the WSS documents. In addition, notify the cognizant COR. Take action(s) to place the facility in a safe condition until a safety evaluation is completed. Submit the completed safety evaluation to the COR for approval prior to removal of the operating restrictions arising from the deficiency.
4. See ORO O 420, Chapter V, Attachment 1, for additional responsibilities delegated to contractors.
5. Complete all internal review and approval steps (including approval signatures) before submitting safety documentation to DOE.