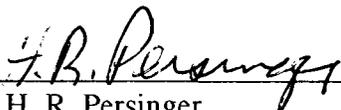


**REVIEW AND APPROVAL OF  
NUCLEAR FACILITY AUTHORIZATION  
BASIS DOCUMENTS**

**Office of the Assistant Manager for Science  
Operational Process (OSOP)**

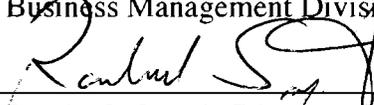
**OSOP 420**

**Revision 3**

Prepared by:  Date: 1/4/2006  
H. R. Persinger

Concurred by:  Date: 1/11/06  
Larry L. Radcliffe, Director (SC-11)  
Programs and Projects Division

Concurred by:  Date: 1/6/06  
George C. Manthey, Director (SC-12)  
Business Management Division

Concurred by:  Date: 1/4/06  
Randy C. Smyth, Director (SC-13)  
Technical Support & Assessment Division

Concurred by:  Date: 1/13/06  
Les Price, Project Manager (SC-14)  
Spallation Neutron Source

Concurred by:  Date: 1/2/06  
Johnny Q. Moore, Director (SC-10)  
Deputy Assistant Manager for Science

Approved by:  Date: 1/20/06  
George J. Malosh (SC-10)  
Assistant Manager for Science

**Review/Revision Log**  
**for**  
**Review and Approval of Nuclear Facility Authorization Basis Documents**  
**OSOP-420**

<b>Revision</b>	<b>Purpose</b>	<b>Date</b>
0	Initial	
1	Changed responsibility for review of documents from Deputy Site Manager for Operations to Deputy Site Manager for Program Coordination.	05/28/98
2	Changed responsibility for review of documents from Deputy Site Manager for Program Coordination to Deputy Site Manger for Operations. Added review and approval of positive Unreviewed Safety Question Determinations (USQD) safety evaluations and Authorization Agreements. Revised to incorporate requirements of 10 CFR 830, Subpart B in review of documents. Reformatted to the requirements of OSOP-01, Revision 1.	01/02/02
3	Revised to incorporate review requirements of ORO O 420, Chapter XIII.	06/01/02
4	Updated to reflect ORO management structure. Updated references. Revised to conform to requirements in ORO directives. Updated Attachment B.	
0	OSOP 240 Revision 4 was renumbered OSOP 420 Revision 0	02/09/04
1	Revised to incorporate ORO O 420 Chapter XIII, Change 2 and changes resulting from ORO reorganization.	
-	Preparer reviewed OSOP. No changes were required/needed	04/27/05
2	Revised to incorporate corrective actions from AMS ISM self-assessment and to correct references	08/24/05
3	Revised to add Russell L. Kelly to Attachment B, "List of Qualified FAB Document Reviewers"	01/20/06

## **1.0 PURPOSE**

To establish the Assistant Manager for Science's (AMS) process for the review and approval of contractor nuclear facility (Hazard Category 1, 2, and 3) authorization basis (FAB) documents including positive Unreviewed Safety Questions Determinations (USQDs) safety evaluations, evaluations of contractor annual USQD reports and Authorization Agreements. The procedure supplements the requirements of ORO O 420, Chapter XIII.

## **2.0 CANCELLATION**

OSOP 420, Revision 1, Review and Approval of Nuclear Facility Authorization Basis Documents.

## **3.0 APPLICABILITY**

This procedure covers the review and approval of the initial submittal or subsequent revisions to nuclear FAB documents (Technical Safety Requirements (TSR), Safety Analysis Reports (SAR), Documented Safety Analysis (DSA) documents, positive USQD safety evaluations, Authorization Agreements and Basis for Interim Operations (BIOs)). The evaluation of USQD annual reports is also included.

## **4.0 RESPONSIBILITIES**

### **4.1 Assistant Manager for Science**

**4.1.1 ENSURES** contractors develop DSAs, TSRs, SARs, BIOs, and positive USQD safety evaluations in accordance with 10 CFR 830 and contract requirements. Ensures contractors develop Authorization Agreements for Hazard Category 1 and 2 nuclear facilities. Ensures contractors provide annual USQD reports in accordance with 10 CFR 830 requirements. Provides guidance to contractors concerning safety basis issues, when necessary.

**4.1.2 ENSURES** FAB documents are properly reviewed for technical accuracy and compliance with DOE and contract requirements where approval authority has been delegated to the Oak Ridge Operations (ORO) Manager or AMS. Ensures that Safety Evaluation Reports (SERs) are properly developed, reviewed and approved for DSAs, TSRs, SARs, BIOs, and USQD safety evaluations where the approval authority has been delegated to the ORO Manager or the AMS. Resolves issues and comments generated by DOE reviews.

- 4.1.3 **RECEIVES** FAB document(s) formally submitted by contractor. Ensures FAB documents are entered into the AMS Corrective Action Tracking System (CATS) upon receipt and tracked throughout the review and approval process. Obtain ORO Manager's approval for changes to due dates beyond 90 days from receipt of FAB documents. The 90 day limitation on review and approval of FAB documents is not applicable to FAB documents submitted for initial 10 CFR 830, Subpart B compliance. Transmits FAB documents to appropriate approval authority when the approval authority has not been delegated to the ORO Manager or the AMS.
- 4.1.4 **FORWARDS** FAB document(s) to the Technical Support and Assessment Division Director.
- 4.1.5 **DIRECTS** the contractor, upon notification that an USQ for nuclear facilities has been discovered as a result of review of a FAB document, to take appropriate action to place or maintain appropriate facility in a safe condition. (See Reference 3)
- 4.1.6 **TRANSMITS** FAB document comments/questions to contractor. Requests resolution of comments/questions and formal re-submittal of FAB document(s).
- 4.1.7 **APPROVES** Hazard Category 3 Office of Science (SC) and Hazard Category 2 and 3 Office of Nuclear Energy, Science and Technology (NE) facilities nuclear FAB document(s).
- 4.1.8 **FORWARDS** NE Hazard Category 1 facilities FAB documents to the Associate Director, Office of Nuclear Facilities Management, Office of Nuclear Energy, Science and Technology (NE).
- 4.1.9 **APPROVES** SER for SC Hazard Category 3, NE Hazard Category 2, and 3 facilities. Obtains ORO Manager approval of SERs and FAB documents for SC Hazard Category 2 facilities.
- 4.1.10 **OBTAINS** and maintains Senior Technical Safety Manager qualification under the DOE Technical Qualification Program.
- 4.1.11 **TRANSMITS** approved FAB document(s) to contractor. Note that the AMS is the Contracting Officer's Representative for Oak Ridge National Laboratory (ORNL).

- 4.1.12 **MAINTAINS** a sufficient number of qualified staff to review FAB documents and prepare SERs, as appropriate.
- 4.1.13 **ENSURES** the contractor maintains a list of Hazard Category 1, 2, and 3 nuclear facilities and their corresponding safety basis documents. Note: A document control station with the appropriate safety basis documents, maintained by facility, is considered acceptable to fulfill this requirement.
- 4.1.14 **PROVIDES** updates to DOE-HQ Offices for safety basis list required by 10 CFR 830. Subpart B, Appendix A, I.2, as requested.
- 4.1.15 **ENSURES** performance of an evaluation of the contractor's annual summary report of all USQ determinations that were performed since the prior submission to assess the continued adequacy of the contractor's implementation of its USQ process. ORNL submits its annual summary report of USQ determinations with the annual updates of the safety basis for each facility. An evaluation of the report will be included in the review of the annual update and any trends, anomalies or deficiencies identified will be denoted in the SER for the annual update. If no trends, anomalies or deficiencies are determined, no discussion of the report is required to be added to the SER.

#### 4.2 Technical Support and Assessment Division Director

- 4.2.1 **FORWARDS** FAB document(s) to FAB Document Lead Reviewer to coordinate review.
- 4.2.2 **NOTIFIES** the AMS of all situations involving an USQ discovered during review of FAB documents.
- 4.2.3 **CONCURS** in approval of FAB document(s).
- 4.2.4 **PERFORMS** peer review of FAB documents and associated SERs or assigns a technically qualified reviewer to perform a peer review where a review team has not been utilized. The purpose of the peer review, if required, is to verify the FAB documents and associated SERs are comprehensive and technically adequate. Generally the peer review is expected to be performed by a qualified Senior Technical Safety Manager.
- 4.2.5 **OBTAINS** and maintains Senior Technical Safety Manager qualification under the DOE Technical Qualification Program.

- 4.2.6 **MAINTAINS** a list of qualified FAB document reviewers (See Attachment B). Principal Secretarial Officer (PSO) staff are invited to participate on review teams for reviews of FAB documents. As such they may provide comments and participate in SER preparation. PSO Staff are not included in the list of qualified FAB Document Reviewers (Attachment B) as the qualification requirements are for ORO personnel only.
- 4.2.7 **MAY** interim qualify ORO individuals for FAB document review when individuals have not completed full ORO TQP qualification. Interim qualification may be based on experience, education, and any other factors deemed appropriate. Interim qualification must be documented.
- 4.2.8 **QUALIFIES** contractor personnel used in support of the review of FAB documents. Qualification must be documented.
- 4.3 SC Facility Program Coordinator
  - 4.3.1 **SERVES** as a SC facility FAB document review team member.
  - 4.3.2 **REVIEWS** SC facilities FAB document(s) and provide comments/questions to FAB Document Lead Reviewer.
- 4.4 NE Facility Program Coordinator
  - 4.4.1 **SERVES** as a NE facility FAB document review team member for NE Hazard Category 2 and 3 facilities and on Hazard Category 1 if requested by NE.
  - 4.4.2 **REVIEWS** NE facility FAB documents and provides comments/questions to FAB Document Lead Reviewer.
- 4.5 SC Facility Representative
  - 4.5.1 **SERVES** as a SC facility FAB document review team member.
  - 4.5.2 **REVIEWS** SC FAB document(s) and provides comments/questions to FAB Document Lead Reviewer.

#### 4.6 NE Facility Representatives

4.6.1 **SERVES** as a NE facility FAB document review team member for NE Hazard Category 2 and 3 facilities and on Hazard Category 1 facilities if requested by NE.

4.6.2 **REVIEWS** NE facility FAB documents and provides comments/questions to FAB Document Lead Reviewer.

#### 4.7 FAB Document Lead Reviewer

4.7.1 **PREPARES** a review plan for initial submittal or substantial revision of SC and NE Hazard Category 2 and 3 FAB document(s), forms a review team and serves as review team lead. No review plan is required for Authorization Agreements and positive USQD safety evaluations. See Attachment A for review plan format and content. See references 1 and 9 for process for reviewing positive USQD safety evaluations and Authorization Agreements. Determines scope of review effort and obtains ORO Subject Matter Experts (SMEs) review of FAB document(s) if necessary. SMEs serve as review team members.

4.7.2 **REVIEWS** FAB documents for technical adequacy. Ensures requirements of References 6 and 9, as appropriate, are addressed. A graded approach per References 5, 6 and 10 should be used in the review of Hazard Category 2 and Hazard Category 3 SARs or DSA documents. Reference 3 may be used as a guide in reviewing SARs, DSAs, and TSRs. References 1 and 7 should be used for guidance in reviewing USQD safety evaluations and TSRs. Reference 7 provides a description of what TSRs should contain and how they should be developed and maintained. Reference 9 should be used in the review of Authorization Agreements.

4.7.3 **COORDINATES** FAB document(s) questions and comments. Formally transmits FAB document(s) questions and comments to contractor requesting resolution.

4.7.4 **PREPARES** a SER for Hazard Category 2 and 3 nuclear FAB documents documenting DOE's basis for approving the FAB document (does not apply to Authorization Agreements). The SER shall include all technical questions/comments requiring resolution. Editorial comments do not have to be included in the SER. For revisions, a Supplement to the existing SER may be used. SER format and content must be based on the guidance provided in Reference 8. No specific guidance has been given for a

Supplement to an existing SER. However, the basis for approving the revision must be included in the Supplement.

- 4.7.5 **ENSURES** that conditions for approval in the SER constitute an appropriate and minimal essential set of conditions that is clearly stated to facilitate its implementation.
- 4.7.6 **INFORMS** Technical Support and Assessment Division Director if an USQ is discovered during review.
- 4.7.7 **COORDINATES** resolution of questions and comments on FAB document(s) with contractor. Elevates areas where agreement cannot be reached through the chain of command for resolution.
- 4.7.8 **RECOMMENDS** disapproval of FAB document if there are substantial clarifications and/or numerous conditions for approval. The basis for disapproval is to be included in the transmittal letter to the contractor. Note that this step may be skipped if the contractor voluntarily submits a modified document based on DOE's comments prior to receiving an official rejection letter.
- 4.7.10 **PREPARES** transmittal letters and memos regarding nuclear FAB document(s) for the Technical Support and Assessment Division Director or the Assistant Manager for Science. This includes memorandum requesting ORO Manager approval, NE review and approval, and letters to the contractor transmitting all FAB document approvals and all comments. The transmittal letter is to contain any expectations regarding implementation issues, as appropriate.
- 4.7.11 **ENSURES** required approval signatures and SER/SER Supplement are included in letter to contractor approving FAB document(s). For Authorization Agreements, ensures distribution of the approval letter is consistent with the requirements of Reference 9.
- 4.7.12 **OBTAINS** and maintains qualification under the DOE Technical Qualification Program.
- 4.7.13 **CLOSES** out AMS CATS action item assigned (see step 4.8.2) for nuclear FAB document review when nuclear FAB document(s) approval is transmitted to contractor.

#### 4.8 Administrative Support Services Contractor

4.8.1 **ENTERS** all correspondence regarding FAB documents into the OSO Electronic Document Management System.

4.8.2 **ENTERS** an action, a due date 90 days from date of receipt, and the responsible person into the OSO CATS upon receipt of a FAB document(s) from the contractor.

### 5.0 **INSTRUCTIONS**

All necessary instructions are provided in Section 4.0.

### 6.0 **REFERENCES**

1. DOE Guide G 424.1-1, A Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements.
2. Oak Ridge Directive ORO O 420, Chapter XIII, "Safety Basis Documents Review System."
3. ORO G 420.13, "Safety Basis Document Review Guide."
4. Deleted.
5. DOE-STD-3009, A Preparation Guide for U. S. Department of Energy Non-Reactor Nuclear Facility Safety Analysis Reports.
6. 10 CFR 830, Subpart B.
7. DOE Guide G 423.1-1, "Implementation Guide for Use in Developing Technical Safety Requirements."
8. DOE-STD-1104-96, A Review and Approval of Non-Reactor Nuclear Facility Safety Analysis Reports."
9. Oak Ridge Directive ORO O 420, Chapter XI, "Authorization Agreements."
10. DOE Guide G 421.1-2, A Implementation Guide for Use in Developing Documented Safety Analyses to Meet Subpart B of 10 CFR 830".
11. Deleted.

12. Deleted.

## **7.0 DEFINITIONS/ABBREVIATIONS/ACRONYMS**

Authorization Agreement - A documented agreement between DOE and the contractor that defines the authorization basis for a defined scope of work. The authorization agreement contains key terms and conditions (controls and commitments) under which the contractor is authorized to perform the work.

Category 1 Hazard Facility - Hazards Analysis of the nuclear Facility shows the potential for significant offsite consequences.

Category 2 Hazard Facility - Hazards Analysis of the nuclear Facility shows the potential for significant onsite consequences.

Category 3 Hazard Facility - Hazards Analysis of the nuclear Facility shows the potential for only significant localized consequences.

AMS - Assistant Manager for Science

BIO - Basis for Interim Operations

CATS - Corrective Action Tracking System

DSA - Documented Safety Analysis

FAB - Facility Authorization Basis

DOE-HQ - Headquarters

NE - Office of Nuclear Facilities Management, Office of Nuclear Energy, Science and Technology

ORNL - Oak Ridge National Laboratory

ORO - Oak Ridge Operations

PSO - Principal Secretarial Officer

SAR - Safety Analysis Report

SC - Office of Science

SER - Safety Evaluation Report

SME - Subject Matter Expert

TSADD – Technical Support and Assessment Division Director

TSR - Technical Safety Requirements

USQ - Unreviewed Safety Question

USQD - Unreviewed Safety Question Determination

## **8.0 ATTACHMENTS**

A. Format and Content for a Review Plan

B. List of Qualified Reviewers

## Attachment A

### Format and Content for a Review Plan

- A. The team leader will coordinate the appropriate specific or technical support SMEs for assisting in the review. Examples of additional Technical support are as follows:
- (i) fire protection,
  - (ii) radiation protection,
  - (iii) criticality safety,
  - (iv) industrial safety,
  - (v) natural phenomena.
- B. Prepare a review plan containing as a minimum the following information:
1. *Cover Page*, indicating a review plan, title of document being reviewed and associated revision number, and date of review plan.
  2. *Signature Page*, with signature blanks for Review Team Leader, concurrence by Operations Division Manager, and approval by Assistant Manager for Laboratories or designee.
  3. *Table of Contents* (as required based on the complexity of review plan)
  4. *Introduction*
  5. *Objectives*
  6. *List of Review Team Members and supporting technical assistance from SME=s*
  7. *Review Team Responsibility and Authority*
    - (i) Review Team Leader
    - (ii) Reviewers
    - (iii) Assistant Manager for Line Manager or designee
  8. *Review Process and Methodology*
    - (i) Review Schedule
    - (ii) Review Criteria
    - (iii) Comment Preparation Guidance

9. *Safety Evaluation Report Format and Content*

- C. Issue the review plan and provide a copy to the review team members and the Technical Support and Assessment Division Director.

**Attachment B**

**List of Qualified FAB Document Reviewers**

Lead Reviewers

H. Randall Persinger          Dana M. Willaford

Russell L. Kelly

Senior Technical Safety Managers

George J. Malosh          George C. Manthey          Johnny O. Moore

Randall C. Smyth

Program Coordinators, Facility Representatives and Subject Matter Experts (SMEs)

Larry W. Boyd	Regina T. Chung	Mark Belvin
Harold E. Clark	Gary K. Clifton	Rick E. Daniels
Bobby Joe Davis	H. Randall Fair	Lester Ginn
Michael D. Henderson	Sherman R. Martin, Jr.	Robert C. McBroom
Douglas E. Paul	John D. Pearson	Douglas R. Reed
David B. Rosine	Cathy G. Stachowiak	L. C. M. Roddye
Michael R. Woods		

Basis of Qualification – The reviewers listed above have completed the appropriate ORO Technical Qualification Program (TQP) training including Office/Facility Specific Safety Basis Training or have been interim qualified by the TSADD pending completion of the ORO TQP training.

ORO TQP training is not applicable to any contractor personnel utilized in the review of FAB documents. The TSADD will document qualification of any contractor personnel utilized in the review of FAB documents.