

Activity: Design Change Control

1.0 Purpose: This guideline provides a method to evaluate the control of design changes of nuclear plants.

2.0 Scope: This guideline has been developed for use in conducting quality surveillances of design changes during installation, modification and/or maintenance activities, and includes the following elements of design change control:

 E Design output documents.

 E Control of documents.

 E Identification of inspections and tests and related acceptance criteria.

 E Installation of design changes.

 E Status identification and control system.

3.0 References:

3.1 ANSI N45.2.11, "Quality Assurance Requirements for the Design of Nuclear Power Plants"

3.2 NRC I&E Manual, Chapters 37996B and 37702

3.3 INPO Guideline 85-017, Conduct of Operations

3.4 INPO 85-001, Performance Objectives and Criteria for Operations and Near-Term Operating License Plants

4.0 Guidelines:

4.1 In preparation for and during the conduct of this surveillance:

- E Obtain and review implementing procedures instructions and drawings governing this activity.
- E Prepare a guide or checklist using selected items from this guideline.
- E Review past surveys, audits, surveillances and other evaluation/ assessments.
- E Ensure that checklists include where applicable, actual observations of performance, i.e., general plant conditions, radiological work practices, housekeeping, work document controls and use, and safety practices.

NOTE: Refer to Guideline A.1, "General Quality Surveillance Guidance," for specific details on the attributes listed above.

4.2 Through personnel interviews and review of appropriate documentation, determine that responsible onsite design personnel understand the applicable design control procedures governing their scope of responsibility for design changes including:

- A. Design input.
- B. Design review.
- C. Design approval.
- D. Design interface with external/internal organizations.
- E. Design outputs and design inputs.

4.3 Verify that records are initiated and maintained that substantiate:

- A. Specific identification of the verifier.

- B. The verification method used.
 - C. The verifying or checking process was performed by individuals or groups other than those who performed the original design.
- 4.4 For the design changes selected verify the changes were reviewed and approved subject to control measures commensurate with those applied to the original design.
- 4.5 From the drawing control listing, select examples of the drawing with current revisions which are required to facilitate fabrication or installations related to the selected design changes and evaluate:
- A. Whether the master reproducible drawings include revisions which are consistent with those recorded by a drawing control list.
 - B. Whether timely distribution of the latest revision to authorized personnel and organizations was made.
 - C. Recall and return of outdated or obsolete drawings are adequate to prevent modification to other than the latest design-approved revisions.
- 4.6 From the drawings related to the design changes selected, examine items undergoing fabrication, installation, or modification to determine:
- A. Work instructions and related work control documents contain appropriate technical and QA program requirements necessary to provide the basic information for personnel performing the activity.
 - B. Personnel responsible for the activity are familiar with the requirements required to accomplish the activity.

- 4.7 By observing the work or examination of the objects undergoing installation or modification, determine that selected details of the design requirements associated with the activity are as specified, such as:
- A. Separation criteria.
 - B. Location tolerances.
 - C. Material, parts, equipment.
 - D. Processes and process controls.
 - E. Testing, NDE, and inspection acceptance criteria.
 - F. Handling, cleaning, and storage.
 - G. Welded, mechanical, and electrical joints/ connections.
 - H. Safety, environmental, and other protective measures.
 - I. Fabrication, installation, and test records preparation, approval, and retention.
- 4.8 Verify that the Operator Training Department receives design change information.
- 4.9 Determine by review and evaluation that the status identification and control system and procedures committed to and implemented by the plant ensures that fabrication, installation, and testing activities and related documentation for design changes are identified and tracked to completion.
- 4.10 Verify that any design deviations related to the design changes selected are documented and processed in accordance with the applicable plant procedures and instruction committed to by the QA program.
- 4.11 Verify that the control room drawings have been updated prior to the return to an operable

status.

5.0 Other Guidelines for Consideration:

5.1 A.1, "General Quality Surveillance Guidance"

5.2 F.4, "As-Built Verification"