

ANALYSIS OF PROCEDURE 71111.08

Inservice Inspections

1. Executive Summary

The procedure and the level detail provided for ISI in general are appropriate. Procedure guidance is broad and general, which allows for flexibility in application by a knowledgeable and experienced ISI inspector. The central requirement of assuring an adequate ISI program can be met using this procedure while also allowing for flexibility to factor into inspection plans emergent NDE issues such as IP2 and V.C. Summer.

Region I management has endorsed the "Conclusions and Recommendations." For general information, a summary of the Region I feedback comments is provided in "Feedback." Region I management does not necessarily endorse all of the feedback comments; however, these comments were factored in the management endorsed conclusions and recommendations.

Our sponsor is Michael Modes and the cognizant Region I manager is David Lew.

2. Feedback

- a. A separate procedure should be developed on reviewing steam generator issues.
- b. Some of the procedure elements, such as radiographic review, are very difficult to implement on risk significant systems. Some of the elements, such as non-code repairs, cannot be implemented at a number of licensees because non-code repairs are against the licensee's policy.

3. Data Analysis

- a. Overall it takes approximately 15 inspection hours per sample. If there is no ISI being performed when the inspection is scheduled, the review of ISI documents takes less time.
- b. This rate is consistent with the other regions and the estimate.

4. Inspection Results

- a. There were no significant inservice inspection findings. There was a single green finding at Oyster Creek, unrelated to ISI, that was discovered as a consequence of this inspection procedure.

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5. Conclusions and Recommendations

- a. The procedure, including the scope and the level detail provided, is appropriate. The number of inspection hours, number of samples, rate of completion of samples are sufficient.
- b. While the procedure is sufficient for review of ISI in general, the review of steam generators can be separated from this procedure and more detailed guidance can be provided. The program office has a separate action plan to develop inspection guidance for steam generators.
- c. This procedure should only be implemented by an individual trained and experience at ISI.

NO COMMENT

ATTACHMENT 71111.08

INSPECTABLE AREA: Inservice Inspection Activities

CORNERSTONES: Initiating Events (30%)
Mitigating Systems (40%)
Barrier Integrity (30%)

INSPECTION BASES: Inservice inspection (ISI) activities can detect precursors to reactor coolant system (RCS), emergency core cooling systems (ECCS), risk-significant piping and component pressure boundary, and containment system boundary failures. Degradation of the reactor coolant system, steam generator tubes, emergency feedwater system, essential service water system, and containment would result in a significant increase in risk. This inspection is intended to verify that the licensee has an effective program for monitoring degradation of vital system boundaries. This inspectable area verifies aspects of the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones for which there are no indicators to measure performance.

LEVEL OF EFFORT: Samples selected as described in Section 02.02 are to be previewed once every two years during a refueling outage.

71111.08-01 INSPECTION OBJECTIVE

01.01 To verify that the program for monitoring degradation of the reactor coolant system boundary, risk-significant piping system boundaries, and the containment boundary are effective.

71111.08-02 INSPECTION REQUIREMENTS

02.01 Scope. The scope of this inspectable area is limited to the following structures, systems, and components (SSCs):

- a. Reactor coolant system pressure boundary.
- b. Piping connected to the RCS, failure of which could result in an interfacing system loss of coolant accident.
- c. Reactor vessel internals.

- d. Risk-significant piping system boundaries.
- e. Containment system boundaries (including coatings and post-tensioning systems, where applicable).

02.02 Inspection Activities

- a. Review a sample of nondestructive examination (NDE) activities. The review sample should consist of:
 - 1. Two or three types of NDE activities
 - 2. Order of preference for reviewed NDE activities:
 - (a) Volumetric Examinations
 - (b) Surface Examinations
 - (c) Visual Examinations
- b. For each NDE activity reviewed, perform the following through either direct observation (preferred method) or record review:
 - 1. Verify that the activities are performed in accordance with ASME Boiler and Pressure Vessel Code requirements.
 - 2. Verify that indications and defects, if present, are appropriately dispositioned.
- c. Review a sample of rejectable indications/defects which have been accepted by the licensee for continued service. Verify that the licensee's acceptance for continued service was appropriate.
- d. Review radiographs for three or four welding activities. Verify that the welding and acceptance were performed in accordance with Code requirements.
- e. Review a sample of ASME Section XI Code repairs and replacements. Verify repairs and replacements meet Code requirements.
- f. As required, review non-Code repairs. Verify that the non-Code repairs are performed in accordance with licensee commitments concerning the repairs.

02.03 Identification and Resolution of Problems. Verify that the licensee is identifying ISI problems at an appropriate threshold and entering them in the corrective action program. For a selected sample of problems associated with inservice inspection documented by the licensee, verify the appropriateness of the corrective actions. See Inspection Procedure 71152, "Identification and Resolution of Problems," for additional guidance.

| Cornerstones | Inspection Objective | Risk Priority | Examples |
|--|---|--|---|
| Initiating Events Mitigating Systems Barrier Integrity | Verify the effectiveness of programs for monitoring the conditions of: 1) the RCS pressure boundary and containment barriers, 2) the boundaries of risk-significant components in auxiliary and ECCS piping systems | Reactor vessel Steam generator tubes Recirculation piping ECCS connections to the RCS Auxiliary feedwater system piping Essential service water system piping Other risk-significant piping components Steel containment vessel Post-tensioning systems and steel liner for Concrete containment Shutdown and spent fuel cooling system pressure boundaries | Reactor vessel ultrasonic examination Steam generator tube eddy current testing Volumetric or surface examinations of risk-significant piping components Inspection and testing of containment post-tensioning systems |

71111.08-04

RESOURCE ESTIMATE

This inspection procedure is estimated to take, on average, 32 hours biennially at a site regardless of the number of reactor units.

This inspection should be performed by an inservice inspection specialist.

ASME Boiler and Pressure Vessel Code Sections III, V, IX, and XI.

Plant-specific ISI program.

Inspection Procedure 71152, "Identification and Resolution of Problems,"

END