

August 2, 2001

Mr. Alan P. Nelson  
Nuclear Energy Institute  
1776 I Street, NW., Suite 400  
Washington, DC 20006-3708

SUBJECT: INSPECTION VERIFICATION ITEMS FOR NEI LICENSE RENEWAL  
DEMONSTRATION PROJECT

Dear Mr. Nelson:

By letter dated May 24, 2001, Nuclear Energy Institute (NEI) submitted sample sections to demonstrate the use of the Generic Aging Lessons Learned (GALL) report in preparing a license renewal application. The NRC staff is reviewing the information contained in these sample sections. The staff is also reviewing the NEI's response to the staff's request for additional information (RAI) submitted on July 11, 2001. As agreed, the staff review does not include Section 2 of the submitted samples because it relates to scoping and the GALL report is not a scoping document.

The staff has identified specific items from the demonstration sections which should be verified by inspection as described in the enclosure. Please arrange to bring the necessary supporting documents which should contain information to respond to the enclosed list of sample inspection verification items to a public meeting at the NRC Headquarters. The exercise of the inspection verification activity as part of the demonstration project should provide the staff with an understanding of the supporting documentation that is normally maintained on site. Please contact S. K. Mitra at (301) 415-2783 to schedule the public meeting for the first week in September.

Sincerely,

*/RA/*

Christopher I Grimes, Chief  
License Renewal and Standardization Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Project No. 690

Enclosure: As stated

cc w/encl: See next page

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**INSPECTION VERIFICATION ITEMS  
PLANT X LICENSE RENEWAL APPLICATION**

**SECTION 3.4: AGING MANAGEMENT OF  
STEAM AND POWER CONVERSION SYSTEM**

1. The applicant indicated that Plant X's Flow-Accelerated Corrosion (FAC) Program was consistent with the aging management program XI.M6, Flow Accelerated Corrosion, specified in Chapter XI of the GALL report.
  - Provide the FAC program description and procedures and the documentation supporting the applicant's determination that the Plant X program is consistent with program XI.M6 as described and evaluated in the GALL report.
  - In an RAI response, the applicant indicated that the main feedwater piping inside the containment as identified in Information Notice 2001-09 was inspected as part of the FAC program at Plant X. Provide the FAC inspection record for such piping.
2. The applicant's justification for not having a one-time inspection with the chemistry program to manage aging was that during routine and corrective maintenance requiring equipment disassembly, internal surfaces of components are visually inspected for loss of material and other aging effects.
  - Provide a routine maintenance program description and procedures showing that the operator visually inspects the internal surfaces of components for loss of material and other aging effects.
  - Provide 3 routine maintenance records of the steam and power conversion system documenting the inspection of aging effects inside the piping. Also, provide the associated corrective action records if corrective action was deemed appropriate.
3. The applicant indicated that Plant X's history had not identified any cases of water contamination of the auxiliary feedwater lube oil. Therefore, the applicant concluded that water contamination was not considered to be applicable to this system. Provide 3 auxiliary feedwater lube oil sample reports or inspection reports to support this conclusion.

**INSPECTION VERIFICATION ITEMS  
PLANT Y LICENSE RENEWAL APPLICATION**

**SECTION 3.4: AGING MANAGEMENT OF  
STEAM AND POWER CONVERSION SYSTEM**

1. In Appendix B of the LRA for the Secondary Chemistry Monitoring program, the applicant stated that operating experience at the plant had not identified any problem that would warrant a one-time inspection to confirm the adequacy of the chemistry program. The applicant further stated that the operating experience included inspections of systems and components during maintenance activities that occurred routinely.
  - Provide a routine maintenance program description and procedures showing that the operator visually inspected the internal surfaces of components for loss of material and other aging effects.
  - Provide 3 routine maintenance records of the steam and power conversion system documenting the inspection of aging effects inside the piping. Also, provide the associated corrective action records if corrective action was deemed appropriate.
  
2. In the response to RAI (#19) for Plant Y (Section 3.4 of the LRA: Steam and Power Conversion System), the applicant stated that no plant specific experience had been identified of field-erected tank in contact with the ground. The applicant further stated that unless these areas were wetted no aging effects are anticipated.
  - Provide plant records to show that these areas were not wetted (including due to ground water or moisture).
  - Provide information on the water table level and the drawing and elevation of the field-erected tank.

**INSPECTION VERIFICATION ITEMS**

## PLANT X LICENSE RENEWAL APPLICATION

### SECTION 3.5: CONTAINMENT, STRUCTURES, AND COMPONENT SUPPORTS

1. Section 3.5.1.1 of the LRA stated that Plant X utilizes carbon steel bellows and therefore there were no dissimilar metal welds. Provide the plant documents (such as design drawings or materials specification) to show:
  - There were no stainless steel elements included in the component group penetration sleeves, bellows, and dissimilar welds.
  - There were no stainless steel elements in the pressure boundary portion of the fuel transfer tube containment penetration.
2. In response to RAI (#3.5-3), the applicant indicated that the concrete at Plant X was not exposed to aggressive river water or groundwater. Provide the documentation supporting the applicant's determination, such as groundwater pH values. In the same RAI response, the applicant indicated that the concrete had a pH greater than or equal to 12.5 per ACI 201.2R. Provide documentation (such as fabrication or test records) to show that the concrete had a pH greater than or equal to 12.5.
3. Appendix B of the LRA indicated that Plant X's Structures Monitoring Program, with identified enhancements, was consistent with program XI.S6 in the GALL report. Provide the program description and procedures and the documentation supporting the applicant's determination that the Plant X program was consistent with program XI.S6 as described and evaluated in the GALL report, and enhancements that had been identified.
4. In response to RAI (#3.5-8), the applicant indicated that the reactor vessel annulus outlet temperature at Plant X did not exceed 150 degrees F concrete temperature. Provide documentation supporting this determination, such as measured temperature data and/or analysis.
5. Appendix B of the LRA indicates that Plant X's Containment Inservice Inspection Program was consistent with programs XI.S1 and XI.S2 in the GALL report. Provide the program description and procedures and the documentation supporting the applicant's determination that the Plant X program was consistent with programs XI.S1 and XI.S2 as described and evaluated in the GALL report.

### INSPECTION VERIFICATION ITEMS

## PLANT Y LICENSE RENEWAL APPLICATION

### SECTION 3.5: STRUCTURES AND STRUCTURAL COMPONENTS (CONTAINMENT STRUCTURE CONCRETE COMPONENTS)

1. In response to RAI (#3.5-4), the applicant indicated that the following codes and standards apply to Plant Y's structural components as listed in the GALL report:

Codes and Standards	Plant Y's structural component according to GALL Item Number
ACI 201.2R-77	IIA1.1-b
ASTM C295-54	IIA1.1-d
ACI 349-85 or ACI 318-63	IIA1.1-e

Provide documentation (such as fabrication records) for the Plant Y structural components to show that they met these specified codes and standards.

2. LRA subsection 3.5.1.1.2 eliminated the aging effect of loss of strength and modulus due to elevated temperatures on the basis that the hot piping penetrations were designed and constructed to maintain concrete components below the degradation threshold and localized temperature limits of the ACI standards without forced ventilation. The LRA also indicated that no other containment structure concrete components were exposed to elevated temperature. In response to a staff RAI, the applicant stated that "Containment temperatures were limited by Technical Specifications to 120° F and local temperatures were limited by design." Provide available plant records that verify non-exceedence of these temperature limits.
3. Appendix B of the LRA indicated that Plant Y's Structures Monitoring Program, with identified enhancements, was consistent with program XI.S6 in the GALL report. Provide the program description and procedures and the documentation supporting the applicant's determination that the Plant Y program was consistent with program XI.S6 as described and evaluated in the GALL report, and enhancements that had been identified.
4. Appendix B of the LRA indicated that inspections had been performed in the auxiliary building, containment, intake structure, and turbine building in 1996/1997 and 1999/2000. Provide 1 inspection record for each of the above structures/buildings to support the applicant's determination that no significant deterioration had been identified in the inspections performed.

**INSPECTION VERIFICATION ITEMS  
LICENSE RENEWAL APPLICATION**

**SECTION 3.6: AGING MANAGEMENT OF  
ELECTRICAL AND INSTRUMENTATION AND CONTROLS**

1. In Section 3.6.1 of the LRA the applicant identified the Aging Management Program for Non-EQ Electrical Cables and Connectors evaluated in Chapter XI.E1 of GALL for managing aging of these components. The applicant stated that the information in the GALL report bounds Plant X. Provide the program description and procedures and the documentation supporting the applicant's determination that the Plant X program was consistent with program XI.E1 as described and evaluated in the GALL report.
2. In Appendix B of the LRA, the applicant stated that the non-EQ inaccessible medium-voltage (2 kV to 15 kV) cables were designed such that moisture and voltage exposures were not significant at Plant X and the design criteria for cables assured the cables would continue to perform their intended function. Therefore, periodic testing was not required. Provide the plant electrical design drawings and cable specifications to verify this conclusion.
3. In Section 3.6.1.2.2 of the LRA, the applicant stated that aging management of the electrical components at Plant X was included in the Boric Acid Corrosion Program. Therefore, a separate program for electrical components was not warranted. Provide the program description and procedures for the Plant X Boric Acid Corrosion Program to verify that it specifically included electrical components.

NUCLEAR ENERGY INSTITUTE

Project No. 690

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