September 21, 2001

ORGANIZATION: Nuclear Energy Institute (NEI)

SUBJECT: SUMMARY OF MEETING WITH THE NUCLEAR ENERGY INSTITUTE (NEI) LICENSE RENEWAL TASK FORCE ON DEMONSTRATION PROJECT USING IMPROVED RENEWAL GUIDANCE DOCUMENTS

On September 5, 2001, the NEI License Renewal Task Force met with the Nuclear Regulatory Commission (NRC) staff in Rockville, Maryland, to discuss the NEI Demonstration Project using the improved license renewal guidance documents. The purpose of this public meeting was to review NEI's Demonstration Project supporting documentation as requested in the staff's August 2, 2001, letter on inspection verification items. The participants also discussed initial feedback from NEI regarding the license renewal demonstration project draft safety evaluation report (SER) and any implementation issues that NEI might identify for NRC management appeal. The improved guidance documents consist of: Generic Aging Lessons Learned (GALL) report, Standard Review Plan for License Renewal (SRP-LR), and Regulatory Guide for License Renewal (endorsing NEI document 95-10, Rev. 2). A list of meeting attendees is Attachment 1, handouts from NRC and NEI are Attachments 2 and 3 respectively, and inspection verification results are in Attachment 4.

During the meeting, NRC staff and NEI License Renewal Task Force discussed the following:

- NEI commented that the Demonstration Project using the improved license renewal guidance documents was a success so far. NEI did not identify any implementation issues for appeal to NRC management at this time.

- NEI indicated that there were several license renewal technical topics that the industry planned to prioritize and consider for future discussion with the staff. Examples of potential topics were: seismic II/I, small bore piping, stress corrosion cracking, environmentally assisted fatigue, design basis event vs. safety related, fire water system program, and reactor vessel integrated surveillance monitoring.

- NRC and NEI would exchange lessons learned reports, including recommendation to enhance guidance documents, by October 5, 2001. There will be a public meeting on October 11, 2001, to discuss lessons learned from the Demonstration Project.

For the inspection verification items, NEI indicated that the inspection verification item 3.4.1 for Plant Y would be covered in discussions on item 3.4.2 for Plant X, and item 3.5.3 for Plant Y would be covered in discussion on item 3.5.3 for Plant X, because they address the same aging management programs in the demonstration project. In addition, NEI indicated that the supporting information for Plant X items 3.6.1 and 3.6.2 was being developed and would not be available for NRC verification at this public meeting. During the inspection verification, the NRC staff observed the following:

- Based on the processes used by the applicants to evaluate consistency with the GALL report, the staff determined that the applicants' processes should provide an adequate basis to conclude their programs are consistent with those in the GALL report.

- The staff could not confirm the assertions made in Plant X's license renewal application regarding the inclusion of electrical components in the boric acid program. The staff considered that one option would be to review records of inspections performed using the applicant's procedure to verify that boric acid deposits were being identified on the electrical equipment.

- The staff's inspection verification Item 2 for Section 3.4 of the Plant X application was not specific enough to request inspection locations for stagnant or low flow areas. The staff should more clearly focus future inspection verification requests.

The staff considered NEI's notes from this meeting in preparing the summary.

/***RA***/

Sikhindra K. Mitra, Project Manager
License Renewal and Standardization Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project No. 690

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R. Zimmerman
C. Julian
R. Gardner
D. Chyu
M. Modes
J. Vora

Attendance List
September 5, 2001
NRC meeting with Nuclear Energy Institute

| Names | Organization |
|---|---|
| 1. Alan Nelson | NEI |
| 2. Jim Knorr | NMC |
| 3. John Rycyna | CNS |
| 4. Michael Henig | Dominion |
| 5. E. A. Thompson | FPL |
| 6. Mavin Bowman | CNS |
| 7. Michael Fallin | CNS |
| 8. George Wrobel | RG&E |
| 9. John Johnson | OPPD |
| 10. Ken Henry | OPPD |
| 11. Wesley Higgins | SCE&G |
| 12. Al Paglia | SCE&G |
| 13. Jim Yerokun | NRC/Region I |
| 14. Shoji Takeyama | NRC/NRR/DRIP/RLSB |
| 15. Eric Blocher | Parsons Power |
| 16. Paul Doverspike | General Electric NE |
| 17. Bob Jackson | GE Nuc. Eng |
| 18. Bob Stachniak | Exelon Nuc |
| 19. Tom Snow | Dominion |
| 20. David C. Jeng | NRC/NRR/DE/EMEB |
| 21. Peter J. Kang | NRC/NRR/DRIP/RLSB |
| 22. Jim Strnisha | NRC/NRR/DRIP/RLSB |
| 23. Jerry Dozier | NRC/NRR/DRIP/RLSB |
| 24. RaJ Auluck | NRC/NRR/DRIP/RLSB |
| 25. Anne Cottinghham | Winston & Strawn |
| 26. Winston Liu | NRC/NRR/DRIP/RLSB |
| 27. Brian A. McIntire | AEP |
| 28. Paul Shemanski | NRC/NRR/DE/EEIB |
| 29. Fred Polaski | Exelon |
| 30. Goutam Bagchi | NRC/NRR/DE |
| 31. Barry Elliot | NRC/NRR/DE/EMCB |
| 32. Hai-Boh Wang | NRC/NRR/DRIP/RLSB |
| 33. John Ma | NRC/NRR/DE/EMEB |
| 34. Sam Lee | NRC/NRR/DRIP/RLSB |
| 35. David L. Solorio | NRC/NRR/DRIP/RLSB |
| 36. S. K. Mitra | NRC/NRR/DRIP/RLSB |
| 37. Christopher Grimes | NRC/NRR/DRIP/RLSB |

Attachment 1

AGENDA FOR NUCLEAR ENERGY INSTITUTE (NEI)
LICENSE RENEWAL DEMONSTRATION PROJECT PUBLIC MEETING

September 5, 2001

Objectives:

- Review NEI's demonstration project supporting documentation as requested in the staff's August 2, 2001, letter on inspection verifications
- Discuss initial feedback from NEI regarding the license renewal demonstration project draft safety evaluation report
- Discuss any implementation issues that NEI may identify for NRC management appeal

Success:

- The inspection verification activity provides the staff with an understanding of the supporting documentation that is normally maintained on site
- Gain insights that will help the staff and NEI to prepare lessons learned reports and recommendation of guidance enhancements, including the basis of enhancements
- Identification of industry implementation issues, if any, for potential appeal to the NRC management

Agenda:

| | | |
|---|---|---|
| 1. | Introduction | 9:00-9:05AM |
| 2. | Initial industry feedback to draft safety evaluation report | 9:05-9:30AM |
| 3. | Potential industry implementation issues for appeal | 9:30-9:50AM |
| | Break | 9.50-10.00AM |
| 4. | Verification of the inspection items in three separate groups, each group will review a section of the demonstration project (that is, Sections 3.4, 3.5, and 3.6) | 10:00-12:30PM |

Attachment 2

# License Renewal Identifying Priority Issues

- Generic Importance to the Industry
- Justify Cost/Benefit of Issue Resolution
- Resolution is so Important Industry is willing to Appeal
- Technical Resources have been Identified and Available to Support Issue Resolution

NEI

Attachment 3

# Potential Industry Issues

- One Time Inspection of Small Bore Piping
- Stress Corrosion Cracking of Bolting
- Seismic II/I
- Environmentally Assisted Fatigue
- Design Basis Events vs. Safety-Related
- RPV Integrated Surveillance Monitoring
- Fire Water System Program

NEI

# Inspection Verification Item Reviews

| Plant X Item | | Plant Y Item | |
|---|---|---|---|
| 3.4.1 | | 3.4.1 | |
| 3.4.2 | Cover by Plant Y 3.4.1 | 3.4.2 | |
| 3.4.3 | | 3.5.1 (4) | |
| 3.5.1 | | 3.5.2 (5) | |
| 3.5.2 | | 3.5.3 (6) | Covered by Plant X 3.5.2a |
| 3.5.2a | | 3.5.4 (7) | |
| 3.5.3 | | | |
| 3.5.4 | | | |
| 3.6.1 | Not available for review | | |
| 3.6.2 | Not available for review | | |
| 3.6.3 | | | |

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

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

**Plant:** X
**Section:** 3.4
**Inspection Verification Item No.:** 1

**Scope:**

In the license renewal application, the applicant stated that its flow-accelerated corrosion program was consistent with aging management program XI.M6, "Flow Accelerated Corrosion," specified in Chapter XI of the Generic Aging Lessons Learned (GALL) report. The applicant provided its flow-accelerated corrosion program description, procedures, and documentation to support the claim that its program was consistent with program XI.M6 as described and evaluated in the GALL report. Also, in a Request for Additional Information (RAI) response, the applicant stated that the main feedwater piping inside the containment as identified in Information Notice 2001-09 was inspected as part of its flow-accelerated corrosion program. The applicant provided the flow-accelerated corrosion inspection record for the piping.

**Observations:**

The NRC staff reviewed a sample of the applicant's flow-accelerated corrosion program contained in EA-FC-00-89, "Plant X Compliance to GALL Section XI.M6 Flow Accelerated Corrosion," for consistency with the 10-element program in the GALL report. EA-FC-00-89 provided a comparison of the GALL report flow-accelerated corrosion program against the applicant's program.

The staff reviewed specific sections of the program basis document, PBD-3, to verify that details of the applicant's flow-accelerated corrosion program were consistent with the flow-accelerated corrosion program in Section XI.M6 of the GALL report. The program basis document provided a consolidation of approximately 25 procedures and work orders that encompass the applicants flow-accelerated corrosion program. The following sections were reviewed: 4.1 Introduction; 4.2 References; 4.2.5 NSAC-202L-R2; 4.3 Scope; 4.4.1 Identification of Susceptible Programs; 4.4.2 Susceptibility of Non-Modeled Programs; 4.4.3 CHECWORKS Model; 4.4.4 Selection of Examination Areas; and 4.4.5 Examination Components. The staff verified the following attributes of the applicant's flow-accelerated corrosion program are consistent with the GALL report:

- Reference to NSAC-202L-R2 (scope)
- Performance of non-destructive testing or visual examination to detect flow accelerated corrosion (detection of aging effects)
- Program can predict, detect, and monitor flow-accelerated corrosion in plant piping and components (monitoring and trending)

The staff also reviewed the program basis document and ultrasonic testing analysis report, S-4-E, to verify that feedwater piping inside containment identified in Information Notice 2001-09 was inspected as part of the flow-accelerated corrosion program. The applicant's records indicated that piping F-26 was inspected as part of the flow-accelerated corrosion program, but the staff could not verify that F-26 was the feedwater piping inside containment. The applicant stated that the drawing verifying that F-26 was the feedwater piping inside containment was available at the plant.

**Conclusions:**

Based on reviewing 3 of the 10 elements of the applicant's flow-accelerated corrosion program, the staff determined that there was reasonable assurance that the applicant's program was consistent with the GALL report. The staff also determined that the applicant had a process in place to review its programs for consistency with those in the GALL report. However, the staff could not independently verify that piping F-26 was the feedwater piping inside containment with the documentation that was brought to the table top inspection.

**Plant:** X
**Section:** 3.4
**Inspection Verification Item No.:** 2

**Scope:**

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. The applicant provided the following documents:

- Work Order for SGFP Discharge Check Valve Inspection and Overhaul.
- Work Order for Copes-Vulcan Main Feedwater Bypass Air Operated Control Valve Maintenance.
- Control of Plant Work Activities.

**Observations:**

The staff reviewed the applicant's work process documents to verify that internal surfaces of components are inspected for loss of material and other aging effects during routine corrective maintenance requiring equipment disassembly.

The staff found that the work orders provided specific direction to inspect for aging effects when the system internal were open for maintenance. The procedure "Control of Work on Plant Activities" indicated that any degradation (i.e. corrosion, pitting) of the system internal would be documented and resolved using its corrective action program.

**Conclusions:**

The applicant provided documentation that system internal are inspected for loss of material and other aging effects during routine corrective maintenance requiring equipment disassembly, but based on the material provided, the staff could not conclude that these inspections were consistent with GALL report regarding stagnant or low flow areas. The GALL report indicates that internal inspections should be performed at low flow or stagnant flow areas, which are locations where the water chemistry program may not be effective. The staff found that the inspection locations did not explicitly include low flow or stagnant flow areas, although interviews with the applicant revealed that information on components in stagnant and low flow areas was available on site. The applicant stated that the inspection verification item as presented to the applicant in the August 2, 2001 letter did not specifically request inspection locations for stagnant or low flow areas.

**Plant:** X
**Section:** 3.4
**Inspection Verification Item No.:** 3

**Scope:**

The applicant stated that plant history had not identified any cases of water contamination of the auxiliary feedwater lube oil. Therefore, the applicant concluded that loss of material due water contamination in lube oil was not a aging effect applicable to this system. The applicant provided three auxiliary feedwater lube oil sample reports to support this conclusion.

**Observations:**

The staff reviewed the applicant's work process document, "Auxiliary Feedwater Pump, FW-10, Lube Oil Change Prevention Maintenance Task and Oil Sample Results," which recorded the dates and results of lube oil samples taken from the auxiliary feedwater pump. Oil samples were taken on a refueling outage frequency. There was only one indiction of water being present. This occurred on 10/8/93 and was found to be only 1/10 of 1%.

**Conclusions:**

The staff concluded that the loss of material due to water contamination in the auxiliary feedwater lube oil was being monitored and adequately managed.

Clarification: The intent of this inspection item was to verify that the loss of material due to water contamination was adequately managed. The applicant supplied lube oil analysis reports that provided evidence that water contamination was being monitored and adequately managed. The staff concluded that the water contamination was not significant in the auxiliary feedwater lube oil. This met the intent of this inspection item. After this inspection, the staff identified that the Plant X license renewal application did not indicate that there were no cases of water contamination in the auxiliary feedwater lube oil.

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

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

**Plant:** Y
**Section:** 3.4
**Inspection Verification Item No.:** 2

**Scope:**

In the response to RAI #3.4-19, the applicant stated that no plant-specific experience had been identified for the field-erected tanks in contact with the ground. The applicant further stated that unless these areas were wetted, no aging effects were anticipated. The applicant provided plant records to show that these areas were not wetted (including due to groundwater or moisture). Also, the applicant provided information on the water table level and the drawing and elevation of the field-erected tank.

**Observations:**

The staff reviewed drawing No. M-249 Rev. 1, "Demineralized Water Storage & Deaeration System," and verified that the demineralized water storage tank was located above ground level. The bottom of the tank was verified to be located one foot above ground elevation.

The staff reviewed the plant's Final Safety Analysis Report to verify that the groundwater table was below the bottom of the demineralized water storage tank. The water table was 18 feet below the bottom of the tank.

**Conclusions:**

On the basis of the drawings provided by the applicant, the staff concluded that the demineralized water tank was not in a wetted environment. The bottom of the tank was verified to be one foot above ground elevation. The water table was 18 feet below the bottom of the tank.

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

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

**Plant:** X
**Section:** 3.5
**Inspection Verification Item No.:** 1

**Scope:**

Section 3.5.1.1 of the license renewal application stated that carbon steel bellows were utilized and therefore, the containment penetrations contain no stainless steel or dissimilar metal welds. The inspection staff requested the applicant to provide the plant documents to verify the following:

- 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.

The applicant stated that the license renewal application sample was developed using the results of a partially completed integrated plant assessment. After submitting the license renewal application, the applicant determined that there were stainless steel elements and dissimilar metal welds in the component group for penetration sleeves and penetration bellows.

**Observations:**

The applicant provided drawing No. 11405-M-70, "Piping Penetration List for Shutdown Cooling (Penetration No. M-16) and LPCI (Penetration No. M-17) Systems," which showed there are stainless steel penetration sleeves and bellows and there are dissimilar metal welds. The applicant also provided drawing No. E-23866-220-010 for the fuel transfer tube assembly which showed that stainless steel was used in the fuel transfer tube.

**Conclusions:**

During the inspection, the applicant provided the staff with drawings that showed there are stainless steel penetration sleeves and bellows and there are dissimilar metal welds. The applicant stated that if it determined that there were aging effects applicable to the penetration sleeves and penetration bellows, an aging management review and an appropriate aging management programs would be developed. The staff considered that the applicant's proposed approach for evaluating these stainless steel components and dissimilar welds was appropriate.

**Plant:** X
**Section:** 3.5
**Inspection Verification Item No.:** 2

**Scope:**

In response to RAI #3.5-3, the applicant stated that its concrete was not exposed to aggressive riverwater or groundwater and provided documentation, such as groundwater pH values to support its determination. In the same RAI response, the applicant stated that the concrete had a pH greater than or equal to 12.5 per American Concrete Institute (ACI) 201.2R. The applicant provided documentation that stated the concrete was fabricated in accordance with ACI 201.2R which required the pH to be greater than or equal to 12.5. Supporting documents were provided for staff review.

**Observations:**

To support the applicant's statement that the environment surrounding the concrete is not aggressive, the applicant presented an excerpt from report Aging Effect Topical Report (AETR)-06, "FCS Groundwater and Riverwater Chemistry," where it stated that "Riverwater was tested periodically between 1973-81. The results showed average pH of 8.16, chloride of 12.7 ppm and sulfates of 200.6 ppm. The groundwater was tested in August 1966 and average results showed pH of 7.3, chloride of 24.4 ppm and sulfates of 156.3 ppm." The staff found that those values are within the limits described in the GALL report (i.e., pH>5.5, chlorides< 500 ppm and sulfates<1500 ppm.) This information supports the applicant's claim that the environment surrounding the concrete is not aggressive. Also, to support that the riverwater and groundwater chemistry have not significantly changed over 20-30 years, the applicant provided their latest test results which indicated that riverwater pH was 8.39, chlorides were 14.0 ppm and sulfates were 229 ppm, while groundwater pH was 7.48, chlorides were 8.0 ppm and sulfates were 70.0 ppm.

To demonstrate that the concrete maintained a pH greater than or equal to 12.5 per ACI 201.2R, the applicant provided; (1) AETR-04, "Contract Specification Reconciliation," where it indicated that concrete complies with pH requirement (i.e., pH greater than or equal to 12.5) per ACI 201.2R during initial construction, and (2) the applicant's latest chemistry test results of riverwater and groundwater which verified that the chemistry had not change significantly over the years.

**Conclusions:**

The staff concluded that the applicant had provided sufficient documentation to support its claim that concrete was not exposed to an aggressive riverwater or groundwater environment and that the concrete had been fabricated and maintained a pH greater than or equal to 12.5 per ACI 201.2R.

**Plant:** X
**Section:** 3.5
**Inspection Verification Item No.:** 3

**Scope:**

Appendix B of the license renewal application stated that the structures monitoring program, with identified enhancements, was consistent with program XI.S6, "Structures Monitoring Program," in the GALL report. The applicant provided the program description and procedures and the documentation supporting the applicant's determination that the structures monitoring program, with enhancements that had been identified, was consistent with program XI.S6 as described and evaluated in the GALL report. The applicant provided the inspection staff with a draft document EA-FC-00-84, "Structures Monitoring Program."

**Observations:**

The staff reviewed the applicant's structures monitoring program, EA-FC-00-84, to verify its consistency with the structures monitoring program in Chapter XI.S6 of the GALL report. The staff noted that for any attributes that were different than those in the GALL report, basis for the differences were addressed in EA-FC-00-84. It was also clear that where there were differences, the applicant's evaluation provided a basis for why the differences were acceptable. The structures monitoring program was credited for auxiliary building, containment, intake structure and turbine building. The staff reviewed in detail how the applicant addressed the "detection" attribute in its structures monitoring program to determine its consistency with the GALL report. The staff determined that the applicant's program adequately addressed the "detection".

**Conclusions:**

Based on the process used by the applicant to evaluate consistency with the GALL report, the staff determined that the applicant's process should provide an adequate basis to conclude its structures monitoring program is consistent with the Chapter XI.S6 program in the GALL report.

**Plant:** X
**Section:** 3.5
**Inspection Verification Item No.:** 4

**Scope:**

In response to RAI #3.5-8, the applicant stated that the reactor vessel annulus outlet temperature was limited to ensure that concrete temperature did not exceed 150°F. The applicant provided documentation that supports this determination. The applicant stated that the reactor vessel annulus outlet temperature is monitored daily in accordance with technical specification requirements. The applicant provided the surveillance procedure document titled, "Nuclear Detector Well Cooling (NDWC) Exit Air Temperature Data," which was used to monitor temperatures to satisfy the technical specification requirements.

**Observations:**

The staff reviewed the applicant's document titled "Nuclear Detector Well Cooling (NDWC) Exit Air Temperature Data" which demonstrated the reactor vessel annulus outlet temperature was limited to ensure that concrete temperature did not exceed 150°F. The above data was recorded in plant log OP-ST-SHIFT-0001 during the weekend of August 11, 2001. The staff verified that all recorded (equivalent concrete) temperatures were below 150°F.

**Conclusions:**

The staff determined that the applicant provided sufficient documentation to conclude that the reactor vessel annulus outlet temperature did not exceed 150°F concrete temperature.

**Plant:** X
**Section:** 3.5
**Inspection Verification Item No.:** 5

**Scope:**

Appendix B of the license renewal application stated that the containment inservice inspection program was consistent with programs XI.S1, "ASME Section XI, Subsection IWE," and XI.S2, "ASME Section XI, Subsection IWL," in the GALL report. The applicant provided the program description and procedures and the documentation supporting the applicant's determination that the programs were consistent with programs XI.S1 and XI.S2 as described and evaluated in the GALL report.

**Observations:**

The staff reviewed the applicant's aging management program titled "FCS Containment Inservice Inspection Program, ASME Section XI, Subsection IWE/IWL" to verify consistency with the Chapter XI.S1 and XI.S2 programs in the GALL report. The staff noted that for any attributes that were different than those found the GALL report, the basis for the differences was addressed in the applicant's aging management program. In several instances when the applicant determined that elements of its program were not consistent with the GALL program elements, the staff noted that the applicant was working to augment its program. Since the applicant is still developing its containment inservice inspection program to address necessary enhancements as identified when comparing its program to the program in the GALL report, the staff could not evaluate the adequacy of enhancements.

**Conclusions:**

Based on the process used by the applicant to evaluate consistency with the GALL report, the staff determined that the applicant's process should provide adequate basis to conclude its program is consistent with the Chapter XI.S1 and XI.S2 programs in the GALL report.

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

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

**Plant:** Y
**Section:** 3.5
**Inspection Verification Item No.:** 1

**Scope:**

In response to RAI #3.5-4, the applicant stated that the following codes and standards apply to the structural components as listed in the GALL report:

| Codes and Standards | 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 |

The applicant provided information for the structural components to show it met the specified codes and standards. The applicant provided an excerpt from its aging management review document titled, "Design and Construction Consideration," and a Final Safety Analysis Report statement that explained how it met these ACI and ASTM codes and standards.

**Observations:**

The applicant's aging management review document titled, "Design and Construction Consideration," stated: "Concrete structures are designed in accordance with ACI 318-63/301-66. Although Plant Y was built prior to the issuance of ACI 201.2R-77, the design and construction of Plant Y is consistent with ACI 201.2R-77." The applicant also presented several pages from its Final Safety Analysis Report which referenced the above ACI and ASTM codes and standards. The GALL report indicates that ACI 201.2R-77 is an alternative to ASTM C295-54 for GALL item number IIA1.1-d.

**Conclusions:**

The staff concluded that the applicant had provided sufficient documentation to prove that the above ACI and ASTM codes and standards as approved in the GALL report are applicable to its structural components.

**Plant:** Y
**Section:** 3.5
**Inspection Verification Item No.:** 2

**Scope:**

In the applicant's license renewal application, subsection 3.5.1.1.2, the aging effect of loss of strength and modulus due to elevated temperatures was eliminated 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 license renewal application, subsection 3.5.1.1.2, 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." Rather than providing available plant records that verify these temperature limits, the applicant referenced its current technical specification requirement as the basis for maintaining temperature below the ACI standard.

**Observations:**

The applicant's technical specification limiting condition of operation (LCO) 3.6.1.5 ensures the applicant monitors and limits the primary containment average air temperature, by requiring that it shall not exceed 125°F and shall not exceed 120°F by more than 336 equivalent hours during a calendar year while the plant is in operation.

**Conclusions:**

The staff concluded that no containment structure concrete components would be exposed to elevated temperatures since the primary containment average air temperature is monitored by the applicant's technical specification daily and the technical specification limits plant operation when the primary containment average air temperature limits are exceeded.

**Plant:** Y
**Section:** 3.5
**Inspection Verification Item No.:** 4

**Scope:**

Appendix B of the License renewal application stated that inspections had been performed in the auxiliary building, containment, intake structure, and turbine building in 1996/1997 and 1999/2000. The applicant was requested to provide one inspection record for each of the above structures/buildings to support its determination that no significant deterioration had been identified in the inspections performed. Rather than providing the requested inspection record, the applicant provided findings from their maintenance rule inspection in order to demonstrate that no significant deterioration had been identified.

**Observations:**

The applicant provided an inspection report dated January 19, 2001, from their most recent maintenance rule inspection performed on the auxiliary building, containment, intake structure, and turbine building. The report categorized its findings of each inspection attribute as "acceptable, acceptable with deficiencies, and unacceptable." The inspection report indicated that most of items were marked as "acceptable."

**Conclusions:**

Based on the staff's inspection of the record for each of the above structures/buildings, the staff concluded that the applicant's finding during the maintenance rule inspection supports its determination that no significant deterioration had been identified.

**INSPECTION VERIFICATION ITEMS**
**LICENSE RENEWAL APPLICATION**

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

**Plant:** X
**Section:** 3.6
**Inspection Verification Item No.:** 3

**Scope:**

Section 3.6.2.2.2 of the license renewal application states: "The inspection of electrical components at Plant X is included in the boric acid corrosion program." Based on this statement the staff wrote Section 3.6.3.3.1.2 of the draft Safety Evaluation Report which states: "Visual inspections are performed each refueling outage of electrical connector and enclosure external surfaces for evidence of borated water leakage such as discoloration or accumulated boric acid residue. Boric acid residue is removed and a determination is made as to possible intrusion of the borated water into the electrical connector or enclosure. For the non-EQ electrical connectors exposed to borated water leakage, the inspection of electrical components at Plant X is included in the boric acid corrosion program. A separate boric acid inspection program for electrical connectors as described in the SRP-LR is not warranted. The staff finds this acceptable because the applicant is simply combining two boric acid corrosion programs described in the SRP-LR into one plant program." The applicant was requested to provide the program description and procedures for the Plant X boric acid program to verify that it specifically included electrical components.

**Observations:**

The applicant provided procedure SE-EQT-MX-002, "Carbon Steel Fasteners Inservice Testing Refueling Inspection." When the staff examined SE-EQT-MX-002, they found no mention of looking at electrical equipment for boric acid exposure. The applicant indicated that SE-EQT-MX-002 references 16 sub tier procedures and they were not brought to the meeting. As a result, the staff could not determine if the applicant directed plant personnel to examine electrical equipment or not. However, the applicant indicated that these sub tier documents did not explicitly mention looking at electrical equipment.

**Conclusions:**

The staff could not confirm the assertions made in Plant X's license renewal application regarding the inclusion of electrical components in the boric acid program. The applicant indicated that the procedure provides direction to the quality control inspectors that would identify boric acid leakage onto all components including electrical. It is the current practice at Plant X for the quality control inspectors to look for, document, and resolve all boric acid leaks. However, the staff did not find any direction in the procedure to perform such a practice for electrical equipment. The staff considered that one option would be to review records of inspections performed using SE-EQT-MX-002 and its 16 sub tier procedures to verify that boric acid deposits were being identified on electrical equipment.
Nuclear energy institute

Project No. 690

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