

April 5, 2000

ORGANIZATION: Nuclear Energy Institute

SUBJECT: SUMMARY OF MEETING WITH THE NUCLEAR ENERGY INSTITUTE (NEI) ON INDUSTRY'S COMMENTS ON THE DRAFT "GENERIC AGING LESSONS LEARNED" (GALL) REPORT- STRUCTURES & COMPONENT SUPPORTS AND AUXILIARY SYSTEMS

On March 30, 2000, representative of NEI met with the Nuclear Regulatory Commission (NRC) staff in Rockville, Maryland, regarding the industry's comments on section A1 of Chapter III "Structures and Component Supports" and sections B1 and B2 of Chapter VII "Auxiliary Systems," of the draft GALL report, dated December 6, 1999. By letter dated March 27, 2000, NEI has provided their written comments for discussion at this meeting. A list of meeting attendees is attached.

The staff asked the industry to clarify certain NEI's comments on the draft GALL report. For those comments we discussed, NEI indicated that the industry would consider revising its comments (identified below by numbers) by taking the following actions:

Section A1 "Class1 Structures," Chapter III (A1) Structures and Component Supports

<u>NEI Comment:</u>	<u>Actions</u>
72:	modify the sentence that states "aging effects" to "aging effects could lead to a loss of intended function(s)" to be more specific on the consequence of aging effects and incorporate the inspection of bolt-tightness checks for concrete expansion anchors in the report.
398:	edit the last sentence of the "Further Evaluation" column to explain why no further evaluation is necessary.
74:	evaluate whether the proposed word change from "... is conducted under..." to "...should be conducted..." is still necessary after our discussion on 10 CFR 50, Appendix B.
226:	review EPRI document whether inserting of a phrase "with oxygen available" is necessary and revise it accordingly.
290:	review NUREG/CP-0100 if the application of pH 11.5 for groundwater is correct and revise it if necessary.
334:	review NUREG-1557 to identify which one (i.e., interior or exterior) is correct for applying below grade surfaces.

- 335: define "for an extended period of time" to clarify its meaning.
- 399: consider including IN 98-26 and IN 97-11 for managing the aging effect in "References" column and also provide an entry for aging mechanism under "Aging Mechanism" column.
- 76: consider putting both references IE Bulletin 80-11 and IN 87-67 back in "References" column because they are being referenced for the purpose of scoping.
- 77: revise items (5) monitoring and trending, (6) acceptance criteria, and (10) operating experience of "Evaluation and Technical Basis" to provide additional information regarding these program elements.

Sections B1 and B2 "Light/Heavy load Handling Systems," Chapter VII Auxiliary Systems

<u>NEI Comment:</u>	<u>Actions</u>
151:	consider using more consistent wording in describing bridge, trolley, and rails as the proposed word "Crane" may be oversimplifying and confusing.
165.:	clarify or revise acceptance Criteria (No. 6) to include specific codes and/or standard.
201:	reconsider a reference to OSHA crane inspection as part of effective crane aging managing programs.
151/177:	consider whether both light (B1) and heavy load (B2) handling systems could be combined together.

The staff indicated it would consider NEI's comments on the draft GALL report. NEI indicated that the industry could be providing the rest of Civil/Structure comments on the draft GALL report by the end of April. Also, attached is a summary of program comments on Civil/Structural Working Group Review that was provided by NEI during the meeting.

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- 335: define "for an extended period of time" to clarify its meaning.
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NEI Comment:            Actions

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NRC MEETING WITH NUCLEAR ENERGY INSTITUTE GALL REPORT  
CHAPTER III AND VII (STRUCTURE DISCIPLINE)  
ATTENDANCE LIST  
MARCH 29, 2000

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Enclosure

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**GALL Report**  
**Civil / Structural Working Group Review**  
**Summary of Program Comments**

The Civil / Structural Working Group review of the GALL report identified over 400 unique comments which have been included in a master markup of the report. This is backed up by a compilation of the individual comments providing justification for the comment and revised wording where it is applicable. Please note that some comments are generic and should be carried throughout the report. In many cases only the first instance of these generic comments has been included. The note 'GENERIC' is printed next to these comments.

To facilitate an overall discussion of the civil / structural sections, 22 sections of the report with full program evaluation discussions are presented below. NOTE: There are more than 22 program evaluations in the civil/structural sections. Many of these are repetitive. An attempt has been made here to only include programs and high level comments that are unique.

1. Section II.A.1.1.1 - PWR Concrete Containments (Concrete Elements)

Comments – The referenced program is IWL. This has been accepted with comments as follows:

- Inaccessible areas should not be inspected beyond the requirements of 10CFR50.55a.
- The use of the Maintenance Rule Structural Monitoring Program may also be used.
- Indicated references should not be imposed and have been deleted.
- Other specific comments on the program definition and evaluation and technical basis have been included.

2. Section II.A.1.2.1 – PWR Concrete Containments (Steel Elements)

Comments - Three programs are referenced. They are IWE, App. J and Coatings. The discussion on App. J and Coatings should be deleted. The discussion on IWE has been accepted with comments as follows:

- Inaccessible areas should not be inspected beyond the requirements of 10CFR50.55a.
- Numerous detailed text changes and deletions are included throughout the references, aging management program, evaluation and technical basis and further evaluation columns for IWE.
- The **need** to evaluate any relief from the requirements of IWE has been deleted.

3. Section II.A.1.3.1- PWR Concrete Containments (Prestressing Systems)

Comments Two programs are identified. IWL is referenced. This has been accepted as amended in item 1 above. A TLAA for containment prestressing systems is also identified. The discussion on a TLAA has been accepted with comments as follows:

- The discussion is overly prescriptive and does not recognize other methods for calculating tendon prestressing.
- The discussion does not recognize grouted tendons.
- Detailed comments are included to revise specific text sections. However, specific revisions for the first two bullets above have not been included.

4. Section II.B.1.1.1 – BWR Mark I Steel Containments (Steel Elements)

Comments – The comments from item 2 above are applicable to this section. In general, IWE is accepted as amended above and Appendix J and Coatings should be deleted

5. Section II.B.1.2.1 – BWR Mark I Concrete Containments (Concrete Elements)

Comments – IWL is referenced for this section. This should be replaced with a discussion of the Maintenance Rule Structural Monitoring Program (MR SMP). Also, because the interface between concrete elements and steel elements is managed by the requirements of IWE, IWE needs to be included here. NOTE: Only the Brunswick Station uses IWL for its concrete lined torus. Since this is unique to the industry, a site-specific evaluation should be performed for Brunswick.

6. Section II.B.2.2.3 – BWR Mark II Concrete Containments (Prestressing System)

Comments – Delete this entire section. Add a new section for grout / tendon interaction and disbonding. There is no suggestion on what program to reference.

7. Section III.A.1.1 - Structures and Component Supports (Group 1)(Concrete)

Comments The Maintenance Rule Structural Monitoring Program is referenced in this section. This has been accepted with comments as follows:

- No preventive actions or monitoring/trending actions have been specified and the staff has found this acceptable.
- Justification for non-significant aging effects has been deleted from the further evaluation.
- The NEI white paper (Mar 1999) should be dispositioned as part of the final resolution of GALL.
- Numerous detailed text changes have been identified for the aging management program, evaluation and technical basis and further evaluation columns.

8. Section III.A.1.3 Structures and Component Supports (Group 1 – BWR Reactor Building, PWR Shield Building, Control Room/Building)(Masonry Walls)

Comments – IE Bulletin 80-11 and IN 87-67 are referenced. The entire text for the program and the evaluation and technical basis should be deleted. IE Bulletin and IN 87-67 do not require a monitoring program. The licensee's 'Masonry Wall Inspection' may be implemented as part of the MR SMP and use IE Bulletin and IN 87-67 as guidance. Proposed language is included in the comments.

9. Section III.A.6.1 – Structures and Component Supports (Group 6 – Water Control Structures)(Concrete)

Comments – Reg. Guide 1.127 is referenced. This has been accepted with comments. However, two additional programs should be included here. First, the FERC dam program has been found to be an acceptable program and should be referenced. Secondly, for those utilities that are not committed to Reg. Guide 1.127, the MR SMP should be identified here. Specific comments on the Reg. Guide 1.127 are as follows:

- The evaluation section should be revamped to include acceptance criteria similar to those specified for the MR SMP.
- Appendix B should only be referenced for attributes 7-9 of the evaluation.
- Other detailed text changes are recommended in the comments for the evaluation section.

10. Section III.B.1.1.1 – Structures and Component Supports (Supports for ASME Class I Piping and Components)(Class I Piping and Component Supports)(Environmental Corrosion)

Comments – Subsection IWF is referenced. This has been accepted with minor text changes as noted in the comments.

11. Section III.B.1.1.1 – Same as above except (Boric Acid Corrosion)

Comments – Generic Letter 88-05 is referenced. This has been accepted with comments as follows:

- Text has been revised to reflect the program as accepted for Oconee.
- The discussion for attributes 7-9 should reference Appendix B.

12. Section III.B.1.1.1 – Same as above except (Fatigue)

Comments – Section IWF is referenced. This section references back to the discussion noted in item 10 above with some of the attributes clarified for fatigue. This has been accepted with comments as follows:

- Attributes 3 and 5 of the evaluation section go beyond the requirements of IWF.
- Revised text for sections 1.5-7 has been proposed.

13. Section III.B.1.1.2 – Same as above except (Low alloy steel, stress corrosion cracking)

Comments – Generic Letter 91-17 is referenced. All reference to GL 91-17 should be deleted. This section should reference back to Section B.1.1.1 for IWF as discussed in item 10 above.

14. Section V.C.1.1 thru 1.3 Engineered Safety Features (Containment Isolation Components)(Personnel Hatch)

Comments – Delete this entire section. These items should be covered in Sections II.A. And II B.

15. Section VII.A.1.1.1 – Auxiliary Systems (New Fuel Storage)(New Fuel Racks)

Comments – A general program is discussed without references. This should be deleted and replaced with a reference to the Maintenance Rule Structural Monitoring Program.

16. Section VII.A.2.1.1 - Auxiliary Systems (Spent Fuel Storage)(Spent Fuel Racks)

Comments - The Boraflex program is referenced. The program as written is too prescriptive for a site-specific evaluation. The wording of the entire section needs to be revised to accommodate a wider range of programs.

17. Sections VII.B.1 and B.2 – Auxiliary Systems (Light and Heavy Load Handling Systems)

Comments – CMAA Specification #70 is referenced for the TLAA elements. The text has been revised to reflect that this only needs to be evaluated if a TLAA already exists.

Comments - For general corrosion, ASME B30.2 is referenced. This has been accepted with comments as follows:

- A reference to OSHA 29CFR 17, 1910.179 should be included.
- The MR SMP should be included as an acceptable alternative.
- Revised text is proposed for the existing aging management program and evaluation and technical basis sections.
- Based on that revised text, the further evaluation column should be changed from a Yes to a No.

18. Section VII.C.3.1.1 – Auxiliary Systems (Ultimate Heat Sink)(Cooling Tower)(Foundation)

Comments – NUREG-1557 is referenced. This should be deleted. The Maintenance Rule Structural Monitoring Program should be identified in this section. Proposed wording is identified in the comments based on revisions proposed in Item 7 above.

19. Section VII.C.3.1.1 thru C.3.1.4 Same as above except (Foundation Exterior above Grade, etc.) ALSO, (Corrosion of Embedded Steel and Rebar). ALSO, (Leaching)

Comments – These sections should be deleted since the elements are not subject to the freeze / thaw mechanism. Further, the construction techniques make the corrosion of embedded steel and rebar not plausible. Construction techniques also make leaching not plausible.

20. Section VII.C.3.1.1 thru C.3.1.3 – Auxiliary Systems (Ultimate Heat Sink)(Cooling Tower)(Aggressive Chemical Attack)

Comments – Reg. Guide 1.127 is referenced. This Reg. Guide is not applicable to the aging effects. This should be deleted. The Maintenance Rule as discussed in Item 7 should be referenced.

21. Section VII.C.3.1.5 Auxiliary Systems (Ultimate Heat Sink)(Cooling Tower)(Masonry Block Walls)

Comments – JE Bulletin 80-11 and IN 87-67 are referenced. These should be deleted as written. Revised text has been proposed as noted in Item 8 above.

22. Section VII.G 1.1 thru G.1.3 – Auxiliary Systems (Fire Protection)(Fire Barrier Components)

Comments – Appendix R is referenced. This is acceptable; however, all of the text has been revised as noted in the comments. Additionally, the entire section should be reorganized by fire element components and not by various structures. A proposal for reorganizing the sections has been included in the comments.

NUCLEAR ENERGY INSTITUTE  
(License Renewal Steering Committee)

Project No. 690

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