# APPENDIX B, TABLE B.2.8

# DISPOSITION OF NEI COMMENTS ON CHAPTER X OF GALL REPORT

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**Table B.2.8: Disposition of NEI Comments on Chapter X of GALL Report**

| Comment Number | Item Number | Comment/Proposed Change | Basis For Comment | NRC Disposition |
|---|---|---|---|---|
| G X-1 | B.3.6<br>GALL X | Revise the title of the Chapter to be "Chapter X Programs that Support TLAAs." | The programs identified in this section are not necessarily in support of Option (iii). Cycle counting and EQ are programs that can also be used to confirm design basis assumptions in support of Options (i and ii). | See NRC disposition of NEI comment S 4.3-9 in this Appendix B, Table B.2.13.<br><br>Options (i) and (ii) calculations are performed prior to the period of extended operation to verify that the fatigue analysis remains valid. The intent of cycle counting in option (iii) is to monitor the usage during the extended period of operation to assure that the CUF does not exceed its allowable limit.<br><br>The GALL report was not revised to address this comment. |
| G X.M1-1 | B.3.6<br>GALL X.M1 | GALL X.M1 Metal Fatigue of Reactor Coolant Pressure boundary intermingles thermal cycle counting with the addressing of reactor water effects. Delete the information in X.M1 associated with reactor water effects. Specifically: Program Description: Delete the second paragraph and the reference in the third paragraph to environmental effects.<br>Evaluation and Technical basis: Adjust the numbered topics as follows:<br>(2) Preventive Actions: Delete the phrase "and considering the effect of the reactor water environment, as described under program description above." | The thermal cycle count method of managing the existing fatigue design basis has been found acceptable for renewal and can be used by the majority of the industry. When reworded, the attributes in X.M1 can clearly be referenced by renewal applicants beginning near-tem.<br><br>Addressing reactor water effects is less clear and has been done differently by the initial applicants. Additionally, it is the subject of ongoing industry and NRC efforts (Reference Christopher I. Grimes July 18, 2000 letter, *Summary of Meeting with the Nuclear Energy Institute (NEI) to Discuss Fatigue of Metal Components for 60-year Plant* | The reference to Appendix L in the AMP is as a consequence of outstanding technical issues regarding Appendix L that require resolution. This is one area where further staff review will be required if an applicant proposes the use of Appendix L. The acceptable way to evaluate environmental effects of fatigue is by calculation of CUF.<br><br>The GALL report was not revised to address this comment. |

**Table B.2.8: Disposition of NEI Comments on Chapter X of GALL Report (continued)**

| Comment Number | Item Number | Comment/Proposed Change | Basis For Comment | NRC Disposition |
|---|---|---|---|---|
| G X.M1-1 (cont.) | | (3) In the third sentence, delete "local," revise "of the plant transient" to "of plant transients" and delete "for each transient." (4) Detection of Aging Effects: Reword to "not applicable for a preventive management program." (5) Monitoring and Trending: Reword to "The program should be provided for periodic assessment of actual accumulated cycles versus the design calculation values." (6) Acceptance Criteria: Delete the phrase "considering environmental fatigue effects." (7) Corrective Actions: Replace the second sentence with the following, "Acceptable corrective actions may include a more rigorous analysis of the component to demonstrate that the design code limit will not be exceeded, inspection coupled with appropriate flaw tolerance assessment, repair, or replacement of the component. ASME Section XI Appendix L provides methods and criteria for performing these activities." Delete the last sentence. Operating Experience: In the last sentence, replace the phrase "in selecting the monitored locations" with "by the program." 3. References: Delete the three references. Add a reference to NUREG-1723, Safety Evaluation Report Related to the License | *Life*, Adams Accession No. ML003733789). Given the current state of awareness on the ways to address reactor water effects, the near-term applicants can not use X.M1 the way it is currently structured. Since the GALL report was designed to create materials that can be referenced by renewal applicants, removing the information associated with reactor water effects from the GALL and maintaining them only in the SRP-LR until a future time better satisfies this objective.<br>Item (3): For fatigue monitoring programs, the actual transient history may be evaluated, not each specific transient.<br>Item (7): Appendix L permits a licensee to demonstrate that a component is acceptable with regard to cumulative fatigue effects by performing a flaw tolerance evaluation of the component as an alternative to meeting the fatigue requirements of ASME Section III. The NRC has reviewed Appendix L and determined that its use is generally acceptable. Licensees should be aware that the ASME Code is considering revisions to Appendix L concerned with flaw aspect ratio and the influence of reactor water environmental effects on both fatigue usage and crack | |

**Table B.2.8: Disposition of NEI Comments on Chapter X of GALL Report (continued)**

| Comment Number | Item Number | Comment/Proposed Change | Basis For Comment | NRC Disposition |
|---|---|---|---|---|
| G X.M1-1 (Cont.) | | Renewal of Oconee Nuclear Station Units 1, 2 and 3 where the thermal cycle count method of fatigue management was accepted by the NRC. | growth evaluations. | |
| G X.S1-1 | B.3.6<br>GALL X.S1 | Move this program description to Chapter XI. | The activities described in X.S1 constitute an aging management program and do not address a TLAA. | See NRC disposition of NEI comment S 4.5-1 in this Appendix B, Table B.2.13.<br><br>This merely provides one way that an applicant can choose to perform its TLAA in accordance with 10 CFR 54.21(c)(1)(iii). The attributes addressed in X.S1 are related to the time-dependent characteristics of the pre-stressing forces in pre-stressed concrete containments as applicable to the extended period of operation.<br><br>The GALL report was not revised to address this comment. |

**Table B.2.8: Disposition of NEI Comments on Chapter X of GALL Report (continued)**

| Comment Number | Item Number | Comment/Proposed Change | Basis For Comment | NRC Disposition |
|---|---|---|---|---|
| G X.S1-2 | B.3.6<br>GALL X.S1 | Clarify regulatory meaning of the "trend line." | Under Program Description, last sentence in second paragraph begins "The goal would be to keep the trend line above the PLL," because "if the trend line crosses the PLL, the existing prestress in the containment could go below the MRV soon after the inspection." If the extension of the trend line crosses the PLL at some point in the future, then the second part of the sentence about not meeting the criteria "soon after the inspection" would not necessarily be true. Therefore, "trend line" needs to be clarified in this case as to whether it means the trend line only including the last data point, or the extension of the existing data trend line. | Depending upon the angle between the trend line and the PLL line, the trend line could go below MRV in 2 to 10 years. That is when the use of auxiliary verb "could" has some merits. The trend line in context of SRP, GALL and 10 CFR 50.55a(b)(2)(ix)(B) or 10 CFR 50.55a(b)(2)(viii)(B), means the regression line (i.e., extrapolated line) reflecting the actual measured lift-off data. The NEI commenter is partially correct in pointing out that in all cases the statement, "if the trend line crosses the PLL, the existing pre-stress in the containment could go below the MRV soon after the inspection, which will not meet the requirement of 10 CFR 50.55a(b)(2)(ix)(B) or 10 CFR 50.55a(b)(2)(viii)(B)."<br><br>The GALL report was not revised to address this comment |