

November 23, 2001

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SUBJECT: PROPOSED STAFF GUIDANCE ON THE POSITION OF THE GALL REPORT
PRESENTING ONE ACCEPTABLE WAY TO MANAGE AGING EFFECTS FOR
LICENSE RENEWAL

Dear Messrs. Nelson and Lochbaum:

The purpose of this letter is to provide you with the opportunity to comment on the enclosed guidance clarifying that NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," presents one acceptable way to manage aging effects for license renewal. This is consistent with our goal to more efficiently resolve license renewal issues identified by stakeholders as outlined in NRR Office Letter No. 805, "License Renewal Application Review Process."

This letter reflects one of the lessons learned from the license renewal demonstration project that is Item No. 2.1 listed in a letter to Alan P. Nelson of Nuclear Energy Institute, from Christopher I. Grimes of NRC, dated October 3, 2001. A statement of the issue and background information is provided in Enclosure 1. We are requesting your comments on the proposed staff guidance (Enclosure 2), and we request that you submit comments within 30 days following the date of this letter to ensure a timely resolution of this issue. The staff plans this addition to NUREG-1800, "Standard Review Plan for License Renewal Applications for Nuclear Power Plants" (SRP-LR) in a future update. Also it is recommended that conforming changes be made to NEI 95-10, Revision 3, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule." If you have any questions regarding this matter, please contact Shoji Takeyama at 301-415-3873.

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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Issue Heading: The GALL report presents one acceptable way to manage aging effects for license renewal

Description:

The following observation and its lesson learned is based on the license renewal demonstration project that demonstrated how an applicant would use the Generic Aging Lessons Learned (GALL) report in preparing its application and how the NRC staff would use the improved license renewal guidance documents to perform its review. This is Item No. 2.1 listed in a letter to Alan P. Nelson of NEI, from Christopher I. Grimes of NRC, dated October 3, 2001.

Observation: The GALL report presents one acceptable way to manage aging. During the preparation of the request for additional information, the GALL report was sometimes treated as the only acceptable way. This is not consistent with the purpose of the GALL report.

Lesson Learned: The GALL report indicates that it contains one acceptable way and not the only way to manage aging. However, this observation indicates that the GALL report or the other license renewal guidance documents should be revisited to see if further enhancement is necessary.

Evaluation:

In NUREG-1801, Vol.1, "Generic Aging Lessons Learned (GALL) Report Summary," on page 3 under "APPLICATION OF THE GALL REPORT," third paragraph, the description of the application of the GALL report is as follows:

The GALL report contains one acceptable way to manage aging effects for license renewal. An applicant may propose alternatives for staff review in its plant-specific license renewal application. Use of the GALL report is not required, but its use should facilitate both preparation of a license renewal application by an applicant and timely, uniform review by the NRC staff.

Thus, it is clear that The GALL report indicates that it contains one acceptable way and not the only way to manage aging for license renewal.

However, in NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants" (SRP-LR), there is not the clear description that the GALL report contains one acceptable way to manage aging effects for license renewal. The SRP-LR contains the following descriptions:

SRP-LR, CHAPTER 3, SECTION 3.X.1, "AREAS OF REVIEW"

The staff has issued a generic aging lessons learned (GALL) report addressing aging management for license renewal (Ref.2). The GALL report documents the staff's basis for determining whether generic existing programs are adequate to

manage aging without change or generic existing programs should be augmented for license renewal. The GALL report may be referenced in a license renewal application and should be treated in the same manner as an approved topical report.

Because a license renewal applicant may or may not be able to reference the GALL report as explained below, the following areas are reviewed.

SRP-LR, CHAPTER 3, SECTION 3.X.1.3, "AGING MANAGEMENT EVALUATIONS THAT ARE DIFFERENT FROM OR NOT ADDRESSED IN THE GALL REPORT"

The GALL report provides a generic staff evaluation of certain aging management programs (AMPs). If the applicant does not rely on a particular program for license renewal, or if the applicant indicates that the generic staff evaluation of the elements of a particular program does not apply to its plant, the staff should review each such AMP to which the GALL report does not apply.

The GALL report provides a generic staff evaluation of programs for certain components and aging effects. If the applicant has identified particular components subject to aging management review (AMR) for its plant that are not addressed in the GALL report, or particular aging effects for a component that are not addressed in the GALL report, the staff should review the applicant's AMPs applicable to these particular components and aging effects.

SRP-LR, CHAPTER 4, SECTION 4.3.2.1.1.3, "10 CFR 54.21(c)(1)(iii)"

In Chapter X of the GALL report (Ref.13), the staff has evaluated a program that monitors and tracks the number of critical thermal and pressure transients for the selected reactor coolant system components. The staff has determined that it is an acceptable aging management program to address metal fatigue of the reactor coolant system components according to 10 CFR 54.21(c)(1)(iii). The GALL report may be referenced in a license renewal application and should be treated in the same manner as an approved topical report. In referencing the GALL report, the applicant should indicate that the material referenced is applicable to the specific plant involved and should provide the information necessary to adopt the finding of program acceptability as described and evaluated in the report. The applicant should also verify that the approvals set forth in the GALL report for the generic program apply to the applicant's program.

SRP-LR, CHAPTER 4, SECTION 4.3.3.1.1.3, "10 CFR 54.21(c)(1)(iii)"

The applicant may reference the GALL report in its license renewal application, as appropriate. The review should verify that the applicant has stated that the report is applicable to its plant with respect to its program that monitors and tracks the number of critical thermal and pressure transients for the selected reactor coolant system components. The reviewer verifies that the applicant has identified the appropriate program as described and evaluated in the GALL report. The reviewer

also ensures that the applicant has stated that its program contains the same program elements that the staff evaluated and relied upon in approving the corresponding generic program in the GALL report. No further staff evaluation is necessary.

SRP-LR, CHAPTER 4, SECTION 4.4.2.1.3, “10 CFR 54.21(c)(1)(iii)”

In Chapter X of the GALL report (Ref.14), the staff has evaluated the environmental qualification program (10 CFR 50.49) and determined that it is an acceptable aging management program to address environmental qualification according to 10 CFR 54.21(c)(1)(iii). The GALL report may be referenced in a license renewal application, and should be treated in the same manner as an approved topical report. In referencing the GALL report, the applicant should indicate that the material referenced is applicable to the specific plant involved and should provide the information necessary to adopt the finding of program acceptability as described and evaluated in the report. The applicant should also verify that the approvals set forth in the GALL report for the generic program apply to the applicant’s program.

SRP-LR, CHAPTER 4, SECTION 4.4.3.1.3, “10 CFR 54.21(c)(1)(iii)”

The applicant may reference the GALL report in its license renewal application, as appropriate. The review should verify that the applicant has stated that the report is applicable to its plant with respect to its environmental qualification program. The reviewer verifies that the applicant has identified the appropriate program as described and evaluated in the GALL report. The reviewer also ensures that the applicant has stated that its environmental qualification program contains the same program elements that the staff evaluated and relied upon in approving the corresponding generic program in the GALL report. No further staff evaluation is necessary.

SRP-LR, CHAPTER 4, SECTION 4.5.2.1.3, “10 CFR 54.21(c)(1)(iii)”

In Chapter X of the GALL report (Ref.4), the staff has evaluated a program that assesses the concrete containment tendon prestressing forces, and has determined that it is an acceptable aging management program to address concrete containment tendon prestress according to 10 CFR 54.21(c)(1)(iii), except for operating experience. The GALL report recommends further evaluation of the applicant’s operating experience related to the containment prestress force.

The GALL report may be referenced in a license renewal application, and should be treated in the same manner as an approved topical report. In referencing the GALL report, the applicant should indicate that the material referenced is applicable to the specific plant involved and should provide the information necessary to adopt the finding of program acceptability as described and evaluated in the report. The applicant should also verify that the approvals set forth in the GALL report for the generic program apply to the applicant’s program.

SRP-LR, CHAPTER 4, SECTION 4.5.3.1.3, "10 CFR 54.21(c)(1)(iii)"

An applicant may reference the GALL report in its license renewal application, as appropriate. The review should verify that the applicant has stated that the report is applicable to its plant with respect to its program that assesses the concrete containment tendon prestressing forces. The reviewer verifies that the applicant has identified the appropriate program as described and evaluated in the GALL report. The reviewer also ensures that the applicant has stated that its program contains the same program elements that the staff evaluated and relied upon in approving the corresponding generic program in the GALL report.

The GALL report recommends further evaluation of the applicant's operating experience related to the containment prestress force. The applicant's program should incorporate the relevant operating experience that occurred at the applicant's plant as well as at other plants. The applicant should consider applicable portions of the experience with prestressing systems described in Information Notice 99-10 (Ref.3). Tendon operating experience could vary among plants with prestressed concrete containments. The difference could be due to the prestressing system design (for example, button-heads, wedge or swaged anchorages), environment, or type of reactor (PWR or BWR). The reviewer reviews the applicant's program to verify that the applicant has adequately considered plant-specific operating experience.

The GALL report already states that it contains one acceptable way to manage aging effects. Therefore, no changes are needed in the GALL report. However, the SRP-LR should be clarified as attachment to this paper in 3.x.1 Areas of Review, 4.3.2.1.1.3 10CFR54.21(c)(1)(iii), 4.4.2.1.3 10CFR54.21(c)(1)(iii), and 4.5.2.1.3 10CFR54.21(c)(1)(iii) to explicitly indicate that the GALL report presents one acceptable way to manage aging effects for license renewal, and in 4.3.3.1.1.3 10CFR54.21(c)(1)(iii), 4.4.3.1.3 10CFR54.21(c)(1)(iii), and 4.5.3.1.3 10CFR54.21(c)(1)(iii) to capture the thought that additional NRC staff evaluation will be required if a method other than the GALL report is relied on in the application for license renewal. Also, the staff recommends that NEI considers changing NEI 95-10, Revision 3, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," to note that while the GALL report provides one acceptable way to manage aging effects, additional staff evaluation will be required if a method other than the GALL report is relied on in the application for license renewal.

Reference:

NUREG-1801, Vol.1, "Generic Aging Lessons Learned (GALL) Report Summary," U.S. Nuclear Regulatory Commission, July 2001.

NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," U.S. Nuclear Regulatory Commission, July 2001.

NEI 95-10, Revision 3, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," Nuclear Energy Institute, March 2001.

Attachments:

Markups of Chapters 3 and 4 of the SRP-LR are attached.

Attachment The proposed addition to the SRP-LR
(The additional parts are underlined)

Chapter 3 AGING MANAGEMENT REVIEW RESULTS

3.x.1 Areas of Review

The staff has issued a generic aging lessons learned (GALL) report addressing aging management for license renewal (Ref.2). The GALL report documents the staff's basis for determining whether generic existing programs are adequate to manage aging without change or generic existing programs should be augmented for license renewal. The GALL report may be referenced in a license renewal application and should be treated in the same manner as an approved topical report. However, the GALL report contains one acceptable way and not the only way to manage aging for license renewal.

Because a license renewal applicant may or may not be able to reference the GALL report as explained below, the following areas are reviewed.

Chapter 4 TIME-LIMITED AGING ANALYSES

4.3.2.1.1.3 10 CFR 54.21(c)(1)(iii)

In Chapter X of the GALL report (Ref.13), the staff has evaluated a program that monitors and tracks the number of critical thermal and pressure transients for the selected reactor coolant system components. The staff has determined that it is an acceptable aging management program to address metal fatigue of the reactor coolant system components according to 10 CFR 54.21(c)(1)(iii). The GALL report may be referenced in a license renewal application and should be treated in the same manner as an approved topical report. However, the GALL report contains one acceptable way and not the only way to manage aging for license renewal. In referencing the GALL report, the applicant should indicate that the material referenced is applicable to the specific plant involved and should provide the information necessary to adopt the finding of program acceptability as described and evaluated in the report. The applicant should also verify that the approvals set forth in the GALL report for the generic program apply to the applicant's program.

4.3.3.1.1.3 10 CFR 54.21(c)(1)(iii)

The applicant may reference the GALL report in its license renewal application, as appropriate. The review should verify that the applicant has stated that the report is applicable to its plant with respect to its program that monitors and tracks the number of critical thermal and pressure transients for the selected reactor coolant system components. The reviewer verifies that the applicant has identified the appropriate program as described and evaluated in the GALL report. The reviewer also ensures that the applicant has stated that its program contains the same program elements that the staff evaluated and relied upon in approving the

corresponding generic program in the GALL report. No further staff evaluation is necessary. If the applicant does not reference the GALL report in its renewal application, additional staff evaluation is necessary to determine whether the applicant's program is acceptable for this area of review.

4.4.2.1.3 10 CFR 54.21(c)(1)(iii)

In Chapter X of the GALL report (Ref.14), the staff has evaluated the environmental qualification program (10 CFR 50.49) and determined that it is an acceptable aging management program to address environmental qualification according to 10 CFR 54.21(c)(1)(iii). The GALL report may be referenced in a license renewal application, and should be treated in the same manner as an approved topical report. However, the GALL report contains one acceptable way and not the only way to manage aging for license renewal. In referencing the GALL report, the applicant should indicate that the material referenced is applicable to the specific plant involved and should provide the information necessary to adopt the finding of program acceptability as described and evaluated in the report. The applicant should also verify that the approvals set forth in the GALL report for the generic program apply to the applicant's program.

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4.5.2.1.3 10 CFR 54.21(c)(1)(iii)

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