

May 1, 2013

Document Control Desk (Attn: Sheldon Stuchell)
U. S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Subject: NRC Review of *"Topical Report for Primary Water Stress Corrosion Cracking Mitigation by Surface Stress Improvement (MRP-335, Revision 1)"*

The purpose of this letter is to provide copies of the, *"Topical Report for Primary Water Stress Corrosion Cracking Mitigation by Surface Stress Improvement (MRP-335, Revision 1,"* and its reference the, *"Technical Basis for Primary Water Stress Corrosion Cracking Mitigation by Surface Stress Improvement (MRP-267, Revision 1)."*

In February 2013 we submitted the reports and a request for an NRC safety evaluation and a fee exemption for that review. A copy of the cover letter for that submission is attached to this letter. Last month, April 2013, the NRC OCFO granted the safety evaluation fee exemption so the acceptance review and other steps in the SE process may proceed. Additional copies of MRP-335, Revision 1, and MRP-267, Revision 1, are provided to support those efforts.

MRP looks forward to working with the NRC on this review. Please contact me if you need additional information or would like to discuss this matter further. Thank you for your consideration in this matter.

Very truly yours,

Paul Crooker
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Palo Alto, CA 94304

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MRP Materials Reliability Program _____ MRP 2013-004

May 1, 2013

Chief Financial Officer
U. S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Subject: Request for Exemption of NRC Review Fees for *"Topical Report for Primary Water Stress Corrosion Cracking Mitigation by Surface Stress Improvement (MRP-335, Revision 1)"*

The purpose of this letter is to request that the document entitled, *"Topical Report for Primary Water Stress Corrosion Cracking Mitigation by Surface Stress Improvement (MRP-335, Revision 1)"*, be exempt from NRC review fees in accordance with 10CFR170.11(a)(1)(iii).

Enclosed are paper copies of the *"Topical Report for Primary Water Stress Corrosion Cracking Mitigation by Surface Stress Improvement (MRP-335, Revision 1)"*, and the *"Technical Basis for Primary Water Stress Corrosion Cracking Mitigation by Surface Stress Improvement (MRP-267, Revision 1)"*, EPRI Products, 3002000073 and 1025839, respectively. These reports are being transmitted to the NRC to facilitate a fee exemption determination. MRP-335, Revision 1, provides a means of exchanging information with the NRC for the purpose of supporting generic regulatory improvements related to the mitigation of Primary Water Stress Corrosion Cracking (PWSCC) by surface stress mitigation. Additional copies of the reports may be obtained by free download from the EPRI website or by contacting EPRI directly.

The Materials Reliability Program (MRP) requests that the NRC review of MRP-335, Revision 1, be performed on a fee exempt basis. MRP-267, Revision 1, is provided only as a reference to facilitate review of MRP-335, Revision 1.

This request for exemption from fees for a Safety Evaluation (SE) of MRP-335, Revision 1, meets the requirements of 10CFR170.11(a)(1)(iii) based on the following.

10 CFR 170.11 (a) No application fees, license fees, renewal fee, inspection fees, or special project fees shall be required for: (1) A special project that is a request/report submitted to the NRC—(iii) As a means of exchanging information between industry organizations and the NRC. In order for the fee waiver to be granted under this paragraph it must meet three criteria:

(A) The report should be submitted for the specific purpose of supporting ongoing NRC generic regulatory improvements or efforts (e.g., rules,

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regulations, regulatory guides, and policy statements), and the agency, at the time the document is submitted, plans to use it for that purpose. The exemption applies even if ultimately the NRC does not use the document as planned.

The guidelines in MRP-335, Revision 1, serve as an effective means to define the requirements for peening mitigation of PWSCC in Alloy 600/82/182, whereas such guidelines are not addressed by the ASME Code or by NRC regulations. A onetime generic NRC review and acceptance of MRP-335, Revision 1, is the most efficient use of industry and NRC resources for establishing a regulatory premise on peening and its associated inspections in order to ensure protection of the health and safety of the public. MRP-335, Revision 1, establishes a standard technical basis for peening mitigation effectiveness that will greatly simplify future individual NRC reviews of utility requested changes to inspection intervals for components mitigated by peening. By reviewing MRP-335, Revision 1, the NRC will establish generic regulatory guidance for an effective mitigation technique that is not addressed by current NRC regulations or ASME Code.

MRP-335, Revision 1, will be implemented over the course of the next several years to support asset management and license renewals. A one-time generic review of the technology is more effective and efficient for the NRC than multiple plant-specific reviews. This becomes apparent when reviewing the plants that have not yet mitigated or announced mitigation or replacement plans that may consider the additional mitigation options included in MRP-335, Revision 1. There are 24 plants with Reactor Vessel Closure Heads with nozzle penetrations susceptible to PWSCC (total of 1840 nozzle penetrations) that have not yet announced mitigation or replacement plans; there are 16 Westinghouse plants with Reactor Vessel Outlet nozzle locations (total of 59) susceptible to PWSCC that have not yet mitigated or announced plans for mitigation before the end of 2014; and there are 22 Westinghouse plants with Reactor Vessel Inlet nozzle locations (total of 81) susceptible to PWSCC that have not yet mitigated or announced plans for mitigation before the end of 2014. Two of these plants, Ameren Missouri's Callaway Energy Center and Wolf Creek Nuclear Operating Corporation's Wolf Creek Generating Station, are planning to implement peening for mitigation of multiple locations in their Reactor Vessels. To allow final decisions and plans to be made for other plants that are considering peening mitigation, the final SE is requested by December 31, 2013.

In addition, aging management processes for Alloy 600/82/182 materials are identified in NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," Revision 2. PWR licensees are required to implement the appropriate processes when their plants are in the period of extended operation. Mitigation of PWSCC in Alloy 600/82/182 materials is a preventative action licensees can take prior to the period of extended operation. The staff has previously reviewed stress improvement mitigation measures, e.g. optimized weld overlay and mechanical stress improvement, for generic application by the industry. Review of MRP-335, Revision 1, will add inside diameter mitigation measures to these previously reviewed outside diameter mitigation options. The NRC staff will then be able to reference MRP-335, Revision 1, as an additional preventative action when updating NUREG-1801 and other associated NRC

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documents such as NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants" and NUREG-1833, "Technical Basis for Revision to the License Renewal Guidance Documents.

On this basis we conclude that requirement (A) of the regulation is met.

(B) The NRC must be the primary beneficiary of the NRC's review and approval of these documents. This exemption does not apply to a topical report submitted for the purpose of obtaining NRC approval for future use of the report by the industry to address licensing or safety issues, even though the NRC may realize some benefits from its review and approval of the document.

The NRC is the primary beneficiary of the NRC's review as it will serve as an initial and comprehensive review of PWSCC surface stress mitigation techniques such as peening. Industry has performed significant research and development efforts to understand the efficacy and technical basis of peening as a mitigating technology for PWSCC. Additionally, it has performed deterministic and probabilistic analyses to establish the in-service inspection intervals for peened components. This research, analysis and engineering are summarized in MRP-267 Revision 1, and MRP-335, Revision 1, the technical basis and topical reports on peening, respectively. A onetime NRC review will eliminate the need to reapply valuable resources to perform numerous NRC technical reviews in the future. These limited resources include availability of the NRC's subject matter experts to perform timely reviews, funding, availability of research facilities and time. The NRC will also benefit from a detailed review by developing and implementing the technical requirements and methodologies that are needed to incorporate peening and other similar mitigation technologies into NRC aging management processes (as discussed above) and into xLPR, the NRC's software analysis tool for probability-based fracture mechanics regulations. For these reasons we conclude that the NRC is the primary beneficiary of the review, so requirement (B) of the regulation is met.

(C) The fee exemption is requested in writing to the Chief Financial Officer in accordance with 10 CFR 170.5, and the Chief Financial Officer grants this request in writing. The 10 CFR 170.5 states, "All communications concerning the regulations in this part should be addressed to the NRC's Chief Financial Officer, either by mail to the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; hand delivery to the NRC's offices at 11555 Rockville Pike, Rockville, Maryland; or, where practical, by electronic submission, for example, via Electronic Information Exchange, or CD-ROM.

By this letter addressed to the Chief Financial Officer, the fee exemption for MRP-335, Revision 1, is requested in writing; therefore, requirement (C) of the regulation is met.

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In summary, NRC review and acceptance of MRP-335, Revision 1, would provide for a generic regulatory improvement since there are no current regulatory or ASME Code requirements for implementing peening for mitigation of Alloy 600/82/182 PWSCC for either the original license term or an extended license term. We believe our request for exemption from review fees for a Safety Evaluation of MRP-335, Revision 1, meets all of the requirements of 10CFR170.11(a)(1)(iii), and should be granted by the NRC.

If you have any questions on this subject please call Tim Wells, Southern Nuclear, MRP Integration Committee Chairman at 205-992-7460 or by email at TGWELLS@southernco.com.

Thank you for your consideration in this matter.

Sincerely,



Matt Sunseri
Chairman, PWR Materials Management Project (PMMP) Executive Committee
President and CEO, Wolf Creek Nuclear Operating Corporation



Anne Demma
Program Manager, EPRI MRP

cc: Sheldon Stuchell, NRC
Cleve Reasoner, Ameren Missouri
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