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April 6, 2018;

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Document Control Desk
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

Subject: PWR Owners Group
Transmittal of PWROG-17090-NP, Revision 0, "Generic Rotterdam Forging and Weld Initial Upper-Shelf Energy Determination," PA-MS-1367

Reference: NRC Regulatory Issue Summary 2014-11, "Information on Licensing Applications for Fracture Toughness Requirements for Ferritic Reactor Coolant Pressure Boundary Components," October 2014

The purpose of this letter is to transmit Pressurized Water Reactor Owners Group (PWROG) Topical Report (TR), PWROG-17090-NP, Revision 0, "Generic Rotterdam Forging and Weld Initial Upper-Shelf Energy Determination," in accordance with the Nuclear Regulatory Commission (NRC) TR program for review and acceptance for referencing in regulatory actions (Enclosure 1).

Background

NRC Regulatory Information Summary (RIS) 2014-11 was issued to clarify what information should be included in submittals associated with reactor vessel fracture toughness. Specifically, the RIS clarifies that 10 CFR 50, Appendix G evaluations should address the effects of neutron radiation for any reactor vessel location predicted to experience a neutron fluence exposure greater than $1 \times 10^{17} \text{ n/cm}^2$ ($E > 1 \text{ MeV}$) at the end of the licensed operating period.

When the licensed operating period increases, additional materials (often termed the "extended beltline") are predicted to accrue neutron fluence exposure greater than $1 \times 10^{17} \text{ n/cm}^2$ ($E > 1 \text{ MeV}$) at the end of the licensed operating period. The reactor vessel material-specific information (such as complete Charpy V-notch test data for a given material) for the extended beltline materials may not be available for some reactor vessels. PWROG-17090-NP contains generic initial upper-shelf energy (USE) and chemistry weight percent values for reactor vessel materials fabricated by the Rotterdam Dockyard Company that can be used when material-specific information is not available for a reactor vessel.

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Topical Report Summary

PWROG-17090-NP contains generic initial USE and chemistry weight percent values for reactor vessel materials fabricated by the Rotterdam Dockyard Company that can be used when material specific-information is not available for a reactor vessel. These values were determined using original reactor vessel material Charpy V-notch test data that was available to Westinghouse for reactor vessels manufactured by the Rotterdam Dockyard Company.

Licensees will reference PWROG-17090-NP as the basis for the USE and chemistry weight percent values to demonstrate compliance with 10 CFR Part 50, Appendix G for extended operating license periods when reactor vessel material information is incomplete or not available.

Limits of Applicability

PWROG-17090-NP is applicable to all U.S PWRs with reactor vessels fabricated by the Rotterdam Dockyard Company in the late 1960's and early 1970's timeframe.

Intended Application

Licensees will reference PWROG-17090-NP as the basis for the USE and chemistry weight percent values to demonstrate compliance with 10 CFR Part 50, Appendix G for extended operating license periods when reactor vessel material information is incomplete or not available

Industry Implementation

WCAP-17090-NP can be implemented by all U. S. PWRs with reactor vessels fabricated by the Rotterdam Dockyard Company in the late 1960's and early 1970's timeframe.

Specialized Resource Availability

This TR is being submitted to the NRC for review and approval so that the NRC approved version can be utilized by licensees. Licensees will reference PWROG-17090-NP as the basis for the USE and chemistry weight percent values to demonstrate compliance with 10 CFR Part 50, Appendix G for extended operating license periods when reactor vessel material information is incomplete or not available. NRC approval of the generic TR will reduce the impact on both licensee and NRC resources by eliminating the need for the preparation of and NRC review of plant specific justifications for USE and chemistry weight percent values when reactor vessel material information is incomplete or not available.

NRC Review Schedule

The PWROG requests that the NRC complete their review of the TR by September 2019.

This letter transmits one copy of PWROG-17090-NP, Revision 0 (Enclosure 1).

Correspondence related to this transmittal should be addressed to:

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If you have any questions, please do not hesitate to contact me at (805) 545-4328 or Mr. W. Anthony Nowinowski, Program Manager of the PWR Owners Group, Program Management Office at (412) 374-6855.

Sincerely yours,

Ken Schrader, Chief Operating Officer and Chairman
PWR Owners Group

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Enclosure One copy of PWROG-17090-NP, Revision 0

cc: PWROG Management Committee
PWROG Materials Committee
PWROG Steering Committee
PWROG Licensing Committee
PWROG PMO
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