



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 31, 2019

Mr. W. Anthony Nowinowski,
Executive Director
PWR Owners Group,
Program Management Office
Westinghouse Electric Company
1000 Westinghouse Drive, Suite 380
Cranberry Township, PA 16066

SUBJECT: FINAL SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR
REGULATION TOPICAL REPORT PWROG-15109-NP, REVISION 0,
"PWR PRESSURE VESSEL NOZZLE APPENDIX G EVALUATION"
(EPID: L-2018-TOP-0009)

Dear Mr. Nowinowski:

By letter dated March 5, 2018 (Agencywide Documents and Access Management System (ADAMS) Accession No. ML18067A228), the Pressurized Water Reactor (PWR) Owners Group (PWROG) submitted for U.S. Nuclear Regulatory Commission (NRC) review and approval Topical Report (TR) PWROG-15109-NP, Revision 0, "PWR Pressure Vessel Nozzle Appendix G Evaluation" (ADAMS Package Accession No. ML118067A229). By letter dated March 27, 2019, the PWROG submitted a supplement to PWROG-15109-NP, "Response to Requests for Additional Information, RAIs 1-6 Associated with on PWROG-15109-NP, Revision 0" (ADAMS Package Accession No. ML19091A089) and requested that the NRC prepare the final safety evaluation (SE) for PWROG-15109-NP against Revision 0.

The NRC staff has reviewed the TR and its supplemental information, and based on the evaluation in Section 4 of the enclosed SE, finds that the TR, as modified by the SE, provides an acceptable means for addressing the potential for pressure-temperature (P-T) limit curves for inlet or outlet nozzle corners of U.S. PWRs to be more limiting than the current NRC-approved P-T limits (as of the time of issuance of this SE) of the shell (and associated welds) in the traditional bellline region of the reactor pressure vessel. Accordingly, the TR, as modified by the SE, is acceptable for referencing to satisfy the fracture toughness requirements in Appendix G to Title 10 of the *Code of Federal Regulations* Part 50 for U.S. PWR inlet and outlet nozzles only, which provide adequate margins of safety during any condition of normal operation, including anticipated operational occurrences and system hydrostatic tests, to which the pressure boundary may be subjected over its service lifetime. Applicants who utilize the TR will be required to adhere to the conditions that the NRC staff imposed in the SE and shall be subject to NRC staff review and approval on a case-by-case basis.

By letter dated June 25, 2019 (ADAMS Accession No. ML19158A266), the NRC staff provided the draft SE to the PWROG for review and comment. By letter dated August 22, 2019 (ADAMS Accession No. ML19239A119), the PWROG provided comments on the draft SE. In accordance with the guidance provided on the NRC website, we request that the PWROG publish approved versions of PWROG-15109-NP, Revision 0 within 3 months of receipt of this letter. The approved version shall incorporate this letter and the enclosed final SE after the title

page. Also, the approved versions must contain historical review information, including NRC requests for additional information (RAIs) and the responses. The approved versions shall include an "-A" (designating approved) following the TR identification symbol. As an alternative to including the request for RAIs and RAI responses behind the title page, if changes to the TR were provided to the NRC staff to support the resolution of RAI responses, and if the NRC staff reviewed and approved those changes as described in the RAI responses, there are two ways that the accepted version can capture the RAIs:

1. The RAIs and RAI responses can be included as an Appendix to the accepted version.
2. The RAIs and RAI responses can be captured in the form of a table (inserted after the final SE) which summarizes the changes as shown in the approved version of the TR. The table should reference the specific RAIs and RAI responses which resulted in any changes, as shown in the accepted version of the TR.

If future changes to the NRC's regulatory requirements affect the acceptability of these TRs, PWROG will be expected to revise the TRs appropriately or justify their continued applicability for subsequent referencing. Licensees referencing these TRs would be expected to justify their continued applicability or evaluate their plant using the revised TRs.

If you have any questions, please contact Leslie Fields at 301-415-1186.

Sincerely,

/RA/

Dennis C. Morey, Chief
Licensing Processes Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 99902037

Enclosure:
Final SE (Nonproprietary)

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ADAMS Accession Nos.**ML19301D191 (Package)****ML19301D063 (Cover Letter)****ML19301D160 (Enclosure)**

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