July 19, 2011

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

SUBJECT: SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION RE: TOPICAL REPORT WCAP-17236-NP, REVISION 0, "RISK-INFORMED EXTENSION OF THE REACTOR VESSEL NOZZLE INSERVICE INSPECTION INTERVAL" (TAC NO. ME4878)

Dear Mr. Nowinowski:

By letter dated October 4, 2010 (Agencywide Documents Access and Management System Accession No. ML102790086), the Pressurized Water Reactor Owners Group (PWROG) submitted Topical Report WCAP-17236-NP, Revision 0, "Risk-Informed Extension of the Reactor Vessel Nozzle Inservice Inspection Interval," for U.S. Nuclear Regulatory Commission (NRC) staff review. Upon review of the information provided, the NRC staff has determined that additional information is needed to complete the review. Mr. Chad Holderbaum, of your staff, and I agreed that the NRC staff will receive your response to the enclosed Request for Additional Information (RAI) questions within 30 days of the date of this letter. If you have any questions regarding the enclosed RAI questions, please contact me at 301-415-4053.

Sincerely,

/RA/

Jonathan G. Rowley, Project Manager
Licensing Processes Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 694

Enclosure: RAI questions

cc w/encl: See next page

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cc:

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SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION

PRESSURIZED WATER REACTOR OWNERS GROUP

TOPICAL REPORT WCAP-17236-NP,

"RISK-INFORMED EXTENSION OF THE REACTOR VESSEL NOZZLE INSERVICE INSPECTION INTERVAL"

DRA-RAI-9

In Section 3.2.4, "Change-in-Risk Calculation," subsection "Change-in-Risk Calculation Method," the Topical Report (TR) states "The change in failure frequency should be taken for the licensed life of the plant (40 or 60 years)." Both the examples, Beaver Valley Power Station, Unit 1, and Three Mile Island Nuclear Station, Unit 1 (TMI-1), have 60 year licenses yet use the change in failure frequencies at 40 years. Please clarify which failure frequency estimates should be used.

DRA-RAI-10

While describing Method A for the Electric Power Research Institute (EPRI) risk-informed inservice inspection (RI-ISI) methods on Page 3-40, the TR states "In some applications of the EPRI RI-ISI methodology, the change-in-risk calculation may use only one LOCA [loss-of-coolant accident]-initiating event (the one that is determined in the risk evaluation to be the most limiting in terms of CDF [core damage frequency] and LERF [large early release frequency])." A similar statement is included for Method B on Page 3-43. However, in the examples provided, only a small LOCA conditional core damage probability (CCDP) and conditional large early release probability (CLERP) is combined with the rupture failure frequency. On Page 8 of 18 in the TMI-1 submittal (Agencywide Documents Access and Management System accession number ML022830211) that is referenced as the example states "The failure rates and rupture frequencies that were used in this evaluation are from Reference 4." Reference 4 is "Piping System Failure Rates and Rupture Frequencies for Use in Risk Informed Inservice Inspection Applications," EPRI TR-111880, 1999, September 1999 *EPRI Licensed Material.* Reference 4 provides a single rupture frequency estimate for welds in each system and degradation mechanism. Given a single rupture frequency, the larger CCDP and CLERP for large LOCAs would appear to be most limiting in terms of CDF and LERF. Please explain this apparent discrepancy.