



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

August 30, 2017

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2 – REQUEST FOR
ADDITIONAL INFORMATION REGARDING RELIEF REQUEST NMP-RR-001 TO
UTILIZE CODE CASE N-702 (CAC NOS. MF9381 AND MF9382)

Dear Mr. Hanson:

By letter dated March 7, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17067A056), as supplemented by letter dated July 24, 2017 (ADAMS Accession No. ML17206A101), Exelon Generation Company, LLC submitted Relief Request NMP-RR-001 for the Nine Mile Point Nuclear Station, Units 1 and 2. The proposed relief request would authorize an alternative to performing 100 percent examination of the reactor pressure vessel nozzles listed in the request. The proposed alternative is to examine a minimum of 25 percent of the nozzle-to-vessel welds and inner radii sections, including at least one nozzle from each system and nominal pipe size, in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code Case N-702, "Alternative Requirements for Boiling Water Reactor (BWR) Nozzle Inner Radius and Nozzle-to-Shell Welds, Section XI, Division 1."

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information provided in that letter and has determined that additional information is needed to complete its review. Enclosed is the NRC staff's request for additional information (RAI). The RAI was discussed with your staff on August 25, 2017, and it was agreed that your response would be provided within 30 days from the date of this letter.

Sincerely,

A handwritten signature in black ink that reads "Michael L. Marshall, Jr." with a stylized flourish at the end.

Michael L. Marshall, Jr., Senior Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-220 and 50-410

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

NINE MILE POINT NUCLEAR STATION, LLC

EXELON GENERATION COMPANY, LLC

NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-220 AND 50-410

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BWRVIP-108 and BWRVIP-241 are referenced by the licensee as the technical basis for its use of Code Case N-702. Both BWRVIP-108 and BWRVIP-241 are applicable for 40 years of operation. Appendix A of BWRVIP-241 extends the application of BWRVIP-108 and BWRVIP-241 through the period of extended operation (i.e., 40 years to 60 years).

The licensee provided a demonstration in its submittal (NMP-RR-001) that the Nine Mile Point Unit 1, recirculation outlet nozzle (N1), met criteria #4 and #5 established in the staff's safety evaluation for BWRVIP-241 (ADAMS Accession No. ML13071A240). Furthermore, the licensee provided a demonstration that the Nine Mile Point, Unit 2, recirculation inlet nozzle (N2) met criteria #2 and #3 established in the staff's SE for BWRVIP-241.

The licensee requested approval of its proposed alternative for the through the remainder of the 10-year intervals defined in Section 3 of the relief request and the remainder of the Nine Mile Point, Units 1 and 2 renewed facility operating licenses (RFOLs), which currently expire on August 22, 2029 and October 31, 2046, respectively. However, the licensee's probabilistic fracture mechanics (PFM) analyses for 60 years are only applicable to the recirculation inlet nozzle for Unit 1 and the recirculation outlet nozzle for Unit 2. For other inlet and outlet nozzles, application of ASME Code Case N-702 through the period of extended operation of the Nine Mile Point, Units 1 and 2 RFOLs still needs to be established.

Specifically, Sections A.3 and A.4 of Appendix A to BWRVIP-241 indicate the following areas should be addressed:

- Demonstrate that the structural analysis of the representative nozzle geometry and the evaluation of the safety consequences of the nozzle failure in BWRVIP-108 and BWRVIP-241 applies to their plant's current licensing basis.

Enclosure

- The stress and cycling range during the extended operating period require evaluation to demonstrate that commitments for the current license term can be maintained.

Furthermore, BWRVIP-108 and BWRVIP-241 assumed that neutron fluence effects were negligible at all nozzle locations for the initial license period. The U.S. Nuclear Regulatory Commission (NRC) staff noted that this assumption may not be appropriate when considering plant operation through the period of extended operation of an RFOL.

For the Nine Mile Point, Unit 1, recirculation outlet nozzle (i.e., N1 nozzle), and the Nine Mile Point, Unit 2, recirculation inlet nozzle (i.e., N2 nozzle), the NRC staff has determined that the following additional information is required to complete its review:

- Provide a justification that the PFM analyses provided in relief request NMP-RR-001 demonstrates application of ASME Code Case N-702 for Nine Mile Point Unit 1, recirculation outlet nozzle, and the Nine Mile Point Unit 2, recirculation inlet nozzle, for the duration of the Nine Mile Point, Units 1 and 2 RFOLs.
- Alternatively, address the following areas:
 - Provide a justification that demonstrates that the structural analysis of the representative nozzle geometry and the evaluation of the safety consequences of the nozzle failure in BWRVIP-108 and BWRVIP-241 apply to the plant's current licensing basis.
 - Provide a justification that demonstrates that the current licensing basis can be maintained when considering the stress and cycling range during the extended operating period.
 - Provide a justification that demonstrates that neutron fluence effects are negligible at the nozzle locations when considering the period of extended operation.

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION REGARDING RELIEF REQUEST NMP-RR-001 TO UTILIZE CODE CASE N-702 (CAC NOS. MF9381 AND MF9382) DATED AUGUST 30, 2017

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ADAMS Accession Number: ML17234A359

*by e-mail

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