

NMP2L2787
November 15, 2021

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Nine Mile Point Nuclear Station, Unit 2
Renewed Facility Operating License No. NPF-69
NRC Docket No. 50-410

Subject: Response to Request for Additional Information - Relief Request Associated with Excess Flow Check Valves

References: 1) Letter from D. Gudger (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Relief Request Associated with Excess Flow Check Valves," dated September 8, 2021 (ML21251A491)


2) Email from R. Guzman (U.S. Nuclear Regulatory Commission) to T. Loomis (Exelon Generation Company, LLC), "Nine Mile Point Nuclear Station, Unit 2 - REQUEST FOR ADDITIONAL INFORMATION, Alternative Request GV-RR-10 (EPID L-2021-LLR-0066)," dated November 2, 2021 (ML21306A331)

In the Reference 1 letter, Exelon Generation Company, LLC (Exelon) requested NRC approval of a proposed relief request associated with the Inservice Testing (IST) Program for the Nine Mile Point Nuclear Station, Unit 2. This request revises the testing frequency of Excess Flow Check Valves (EFCVs). In Reference 2, the U.S. Nuclear Regulatory Commission requested additional information. Attached is our response.

There are no regulatory commitments contained in this letter.

If you have any questions, please contact Tom Loomis at 610-765-5510.

Respectfully,



David T. Gudger
Sr. Manager - Licensing and Regulatory Affairs
Exelon Generation Company, LLC

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Attachment: Response to Request for Additional Information - Request for Relief GV-RR-10

cc: Regional Administrator - NRC Region I
NRC Senior Resident Inspector – Nine Mile Point
NRC Project Manager – Nine Mile Point
A. L. Peterson - NYSERDA

ATTACHMENT

Response to Request for Additional Information - Request for Relief GV-RR-10

On September 8, 2021, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21251A491), Exelon Generation Company, LLC (Exelon, the licensee), submitted Alternative Request GV-RR-10, Excess Flow Check Valves (EFCVs), for Nine Mile Point Nuclear Station, Unit 2 (NMP2) (Reference 1). In Alternative Request GV-RR-10, Exelon proposed that specific NMP2 EFCVs be tested on a representative sampling basis (i.e., approximately 20 percent every refueling outage), with all EFCVs tested at least once within a 10-year interval, rather than the current interval of 24 months. The NRC staff has determined that additional information is needed to complete its review, as described in the request for additional information (RAI) shown below.

Question:

1. In Alternative Request GV-RR-10, Exelon references BWROG Topical Report NEDO-32977-A (Reference 2) in support of the proposed testing frequency for specific EFCVs. Exelon states that the NMP2 test experience is consistent with the findings in the BWROG NEDO-32977-A. However, Alternative Request GV-RR-10 does not discuss the safety evaluation (SE) dated March 14, 2000 (Reference 3), describing the NRC staff review of BWROG NEDO-32977-A. In the SE, the NRC staff concluded that the topical report was acceptable for reference in support of the relaxation of EFCV surveillance testing, subject to specific conditions stated in the SE. In Alternative Request GV-RR-10, Exelon does not discuss the conditions specified by the NRC staff in Section 4.0, "Conclusion," of the SE for the acceptability of BWROG NEDO-32977-A. The NRC staff requests that Exelon describe its actions to address the conditions specified in the SE for the acceptability of BWROG NEDO-32977-A to support Alternative Request GV-RR-10 for NMP2.

Response:

The following is a discussion of the conditions provided by General Electric Nuclear Energy Topical Report NEDO-32977-A:

- (1) EFCV failure rate and release frequency;

As discussed in the relief request, an evaluation of the maintenance history and a comparison to the acceptance criteria in the General Electric Nuclear Energy Topical Report NEDO-32977-A concludes that Nine Mile Point Nuclear Power Station, Unit 2 has demonstrated that the low-pressure EFCVs are highly reliable and that failures to isolate are very infrequent (4 out of approximately 286 tests in 22 years). The failure rate of the Unit 2 low pressure EFCVs was also confirmed to be below the highest failure rates presented in NEDO-32977-A.

- (2) failure feedback mechanism and corrective action program;

Nine Mile Point Nuclear Station, Unit 2 will utilize the Inservice Testing (IST) Program as the means to track the performance of EFCVs in a manner similar with existing performance-based testing programs. To ensure that the EFCV performance remains consistent with the extended test interval, as bounded by the General Electric Nuclear Energy Topical Report NEDO-32977-A, a minimum performance standard has been established. The performance standard will require less than or equal to one failure during a 24-month rolling average to ensure that adverse trends in EFCV performance are identified and dispositioned in the Corrective Action

Program. Field test procedures and the IST Program Plan will be revised to assure that each failure is entered into the Corrective Action Program (CAP) and evaluated against the performance criteria with appropriate corrective actions taken based on the failure analysis and trend in failures.

If failures exceed the performance criteria of less than or equal to one failure during a 24-month rolling average the IST Program Plan will require a cause evaluation and determination of additional testing requirements. The failed valves will also be retested in the next refueling outage.

(3) radiological dose assessment;

Consistent with the radiological consequence calculations performed in NEDO-32997-A, the corresponding public risk with the proposed testing frequency was evaluated. The results show values approximately eight orders of magnitude below 10 CFR 20.1301(a) annual exposure limits to the general public of 100 mRem/year (Whole Body) when considering the release from a single line. The release frequencies are sufficiently low. It can be concluded that a change in surveillance test frequency has minimal impact on the valve reliability and radiological consequences.

Question:

2. Alternative Request GV-RR-10, Section 5, "Proposed Alternative and Basis for Use," states in part that industry experience, as documented in BWROG Topical Report NEDO-32977-A, indicates the ECFVs have a very low failure rate, and that NMP2 test experience is consistent with the findings in the BWROG NEDO-32977-A. The BWROG topical report specifies that corrective action programs must evaluate equipment failures and establish appropriate corrective actions. Alternative Request GV-RR-10 does not discuss the NMP2 corrective action program with respect to EFCV performance. Exelon is requested to describe the NMP2 corrective action program related to EFCV performance, and to specify the corrective actions that will be taken if a test or operating failure occurs with an EFCV within the scope of Alternative Request GV-RR-10. For example, see the SE dated March 10, 2005 (ADAMS Accession No. ML050690239), describing the NRC staff review of Alternative Request RR-03 for a similar proposal for EFCV surveillance testing applicable to Susquehanna Steam Electric Station, Units 1 and 2.

Response:

See response to Question 1.

References:

1. Letter from Exelon Generation Company, LLC, to U.S. Nuclear Regulatory Commission (NRC), 10 CFR 50.55a Alternative Request No. GV-RR-10, at Nine Mile Nuclear Station, Unit 2 (NMP2), dated September 8, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21251A491).
2. General Electric (GE) Boiler Water Reactor Owners Group (BWROG) Topical Report NEDO-32977-A/821-00658-01, "Excess Flow Check Valve Testing Relaxation," June 2000 (ADAMS Accession No. ML003729011).
3. NRC reviewed BWROG Topical Report NEDO-32977-A and issued a safety evaluation (SE) on March 14, 2000 (ADAMS Accession No. ML003691722).
4. Letter from D. Gudger (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information by the Office of Nuclear Reactor Regulation to Support Review of Nine Mile Point Nuclear Station, Unit 1, License Amendment Request to Adopt TSTF-334, Revision 2," dated January 22, 2021 (ADAMS Accession No. ML21022A010).