

10 CFR 50.90  
10 CFR 50.91(a)(5)

April 7, 2020

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

Limerick Generating Station, Unit 1  
Renewed Facility Operating License No. NPF-39  
NRC Docket No. 50-352

Subject: Response to Request for Additional Information  
Emergency License Amendment Request - Proposed One-Time Change to  
Revise Main Steam Isolation Valve Allowable Leakage Rate Limit

- References:
1. Letter from D. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Emergency License Amendment Request - Proposed One-Time Change to Revise Main Steam Isolation Valve Allowable Leakage Rate Limit," dated April 1, 2020 (ADAMS Accession No. ML20092P478).
  2. Electronic mail message from M. Wentzel, U.S. Nuclear Regulatory Commission, to D. Helker, Exelon Generation Company, LLC, "Draft Request for Additional Information - Limerick Generating Station, Unit 1 - Emergency LAR to Increase Allowable MSIV Leakage (EPID L-2020-LLA-0064)," dated April 6, 2020 (ADAMS Accession No. ML20098C434).

By letter dated April 1, 2020 (Reference 1), Exelon Generation Company, LLC (Exelon) requested an emergency amendment to the Renewed Facility Operating License No. NPF-39 for Limerick Generating Station (LGS), Unit 1.

The proposed changes would modify LGS Unit 1 TS 3.6.1.2, "Primary Containment Leakage." Specifically, the proposed one-time change would involve the addition of a footnote which would modify LGS TS 3.6.1.2 to revise the allowable leakage rate limit for one main steam isolation valve (MSIV).

Upon review of the submittal, the U.S. Nuclear Regulatory Commission (NRC) staff identified an area where additional information is needed to complete its review. The draft request for additional information (RAI) was provided to Exelon on April 6, 2020 (Reference 2), with response requested by April 7, 2020.

The attachment to this letter provides a restatement of the NRC questions followed by our responses.

Exelon has reviewed the information supporting a finding of no significant hazards consideration, and the environmental consideration, that were previously provided to the NRC in Attachment 1 of the Reference 1 letter. Exelon has concluded that the information

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provided in this response does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92. In addition, Exelon has concluded that the information in this response does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), Exelon is notifying the Commonwealth of Pennsylvania of this response to request for additional information by transmitting a copy of this letter and its attachment to the designated State Official.

This letter contains no regulatory commitments.

If you should have any questions regarding this submittal, please contact Glenn Stewart at 610-765-5529.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 7<sup>th</sup> day of April 2020.

Respectfully,



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David P. Helker  
Sr. Manager - Licensing  
Exelon Generation Company, LLC

Attachment: Emergency License Amendment Request - Response to Request for Additional Information

cc: USNRC Region I, Regional Administrator  
USNRC Project Manager, Limerick  
USNRC Senior Resident Inspector, Limerick  
Director, Bureau of Radiation Protection – Pennsylvania Department  
of Environmental Protection

**ATTACHMENT 1**

**Emergency License Amendment Request**

**Limerick Generating Station, Unit 1  
NRC Docket No. 50-352**

**Response to Request for Additional Information  
Proposed One-Time Change to Revise Main Steam  
Isolation Valve Allowable Leakage Rate Limit**

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A restatement of the NRC questions followed by our responses is provided below.

#### **Request for Additional Information (RAI)**

In the LAR, the licensee stated the following:

*The EQ program has been evaluated for both chemical-mechanical and radiological impacts from MSIV leakage. The High Energy Line Break (HELB) scenario evaluated significantly more moisture and heat deposition on the equipment than the MSIV leakage would impose. The zone radiation calculations already incorporate a lumped leakage rate of 200 scfh. Therefore, there is no impact to the EQ program from MSIV leakage as long as the total leak rate does not exceed 200 scfh.*

However, the licensee did not provide an evaluation of the impact of the revised MSIV increased leakage rate on pressure that the environmentally qualified electrical equipment may be exposed to as a result of the proposed change. It is also unclear to the staff as to whether the licensee considered the impact of the proposed change on non-safety related equipment whose failure under postulated environmental conditions could prevent satisfactory accomplishments of safety functions by the safety-related equipment.

10 CFR 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants," identifies requirements for establishing a program for qualifying electric equipment that is important to safety as defined in 10 CFR 50.49(b). Section 50.49(e)(1) of 10 CFR requires that the time-dependent temperature and pressure at the location of the electric equipment important to safety must be established for the most severe design basis accident during and following which this equipment is required to remain functional. Section 50.49(b)(2) of 10 CFR requires qualification of non-safety-related electric equipment whose failure under postulated environmental condition could prevent satisfactory accomplishment of safety-related equipment.

- a. Provide an evaluation of the impact of the revised MSIV increased leakage rate on pressure that the environmentally qualified electrical equipment may be exposed to as a result of the proposed change.

- b. Provide a discussion on how you assessed the impact of the proposed change on non-safety related equipment whose failure under postulated environmental conditions could prevent satisfactory accomplishments of safety functions by the safety-related equipment as a result of the proposed change.
- c. Clarify whether any components are being added to the EQ equipment list to comply with 10 CFR 50.49 due to the proposed change.

## **Response**

- a. The main steam isolation valves (MSIVs) are designed to close and be leak-tight to isolate the primary reactor coolant system and containment during the worst conditions of pressure, temperature, and steam flow following a break in the main steam line outside containment. The equipment and components potentially impacted by the modified MSIV leak rate are located in the main steam tunnel and turbine building, downstream of the MSIVs. The normal service environmental conditions in the main steam tunnel or turbine building are due to the fluid flowing through the main steam lines when the MSIVs are open and thus not impacted by allowing increased leakage past the closed valve. The bounding accident temperature and pressure profiles in the main steam tunnel and turbine building are associated with a high energy line break (HELB) in the steam tunnel. When the modified MSIV leakage is considered, the HELB temperature and pressure profile in these zones continues to bound the LOCA profile. Additionally, the accident humidity in these zones is already assumed to be 100%. Therefore, the proposed change in allowable MSIV leakage would contribute no additional environmental impact to equipment qualified for use in the main steam tunnel or the turbine building.
- b. Because there is no change to Environmental Qualification (EQ) design basis temperatures, pressure, humidity, or radiation values, the proposed change in MSIV leakage has no impact on non-safety related equipment whose failure under postulated environmental conditions could prevent satisfactory accomplishment of safety functions by the safety-related equipment.
- c. No components are being added to the EQ equipment list due to the proposed change in allowable MSIV leakage.

## **REFERENCES**

1. Letter from D. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Emergency License Amendment Request - Proposed One-Time Change to Revise Main Steam Isolation Valve Allowable Leakage Rate Limit," dated April 1, 2020 (ADAMS Accession No. ML20092P478).
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