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10 CFR 50.90

June 11, 2018

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

Limerick Generating Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352 and 50-353

Subject: License Amendment Request –Revise Technical Specifications to Lower the Minimum Standby Liquid Control System Pump Flowrate – Supplement 1 Response to Request for Additional Information

References:
1. Exelon letter to the NRC, "Application to Revise Technical Specifications to Lower the Minimum Standby Liquid Control System Pump Flowrate," dated January 29, 2018 (ADAMS Accession No. ML18029A509)
2. Email from V. Sreenivas (USNRC) to D. Neff (Exelon), "LIMERICK UNITS 1 and 2: REQUEST FOR INFORMATION (RAI): Revise Technical Specifications to Lower the Minimum Standby Liquid Control System Pump Flowrate at Limerick Generating Station, Units 1 and 2 - EPID: L- 2018-LLA-0020," dated May 15, 2018 (ADAMS Accession No. ML18135A112)

In accordance with 10 CFR 50.90, Exelon Generation Company, LLC (Exelon) requested amendments to Renewed Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS) Units 1 and 2 (Reference 1). Specifically, the proposed changes would revise the Technical Specifications (TSs) to lower the TS Standby Liquid Control System (SLCS) Surveillance Requirement (SR) pump flowrate value, raise the TS SLCS SR Boron-10 Enrichment value of the Sodium Pentaborate added to the SLCS tank and expand the operating range in the Sodium Pentaborate Solution Temperature/Concentration Requirements Figure. During their technical review of the application, the NRC Staff identified the need for additional information. Reference 2 provided the Request for Additional Information (RAI) from the NRC Reactor Systems Branch (SRXB). The Attachment to this letter provides the response to this RAI.

Exelon has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration provided to the U.S. Nuclear Regulatory Commission in Reference 1. The supplemental information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. Further, the additional information provided in this

submittal 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 by transmitting a copy of this letter to the designated State Official.

There are no regulatory commitments contained in this response.

Should you have any questions concerning this response, please contact Mr. David Neff at (267) 533-1132.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 11th day of June 2018.

Respectfully,

David P. Helker
Manager - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Response to Request for Information from NRC Review Branch SRXB

cc: USNRC Region I, Regional Administrator
USNRC Senior Resident Inspector, LGS
USNRC Project Manager, LGS
R. R. Janati, Pennsylvania Bureau of Radiation Protection

Attachment

Limerick Generating Station, Units 1 and 2

NRC Docket Nos. 50-352 and 50-353

Response to Request for Additional Information from

NRC Review Branch SRXB

Response to NRC Staff's Request for Additional Information

By application dated January 29, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18029A509), Exelon Generation Company, LLC (Exelon) submitted a license amendment request (LAR) for Limerick Generating Station (LGS), Units 1 and 2. The amendment would revise the Technical Specifications (TSs) to lower the TS Standby Liquid Control System (SLCS) Surveillance Requirement (SR) pump flowrate value, raise the TS SLCS SR Boron-10 Enrichment value of the Sodium Pentaborate added to the SLCS tank and expand the operating range in the Sodium Pentaborate Solution Temperature/Concentration Requirements Figure.

In an email dated May 15, 2018, from the NRC (V. Sreenivas) to Exelon (David Neff) (ADAMS Accession No. ML18135A112), the NRC provided a Request for Additional Information (RAI) seeking clarification of certain issues related to the RAI. In a phone call on May 15, 2018, Mr. Neff stated that Exelon would provide a response to the RAI question by June 13, 2018.

SRXB-RAI-1 Determination of TS SR 4.1.5.c Limit

Regulatory Basis - *10 CFR 50.36, "Technical Specifications"*
Insofar as it requires as discussed in 10 CFR 50.36(c)(3), SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

According to 10 CFR 50.36(c)(3) for TS SR 4.1.5.c, the standby liquid control system (SLCS) pump shall be tested to assure that the quality of pump performance on the flow rate be maintained. Provide justification for the proposed minimum limit of 37 gpm for TS SR 4.1.5.c, relative to past pump performance given that the ASME OM 2004 Code permits a low limit of 39.7 gpm for required action.

RESPONSE

The proposed minimum TS SR 4.1.5.c SLCS pump flowrate limit of 37 gpm ensures that, when combined with the TS limits for Sodium Pentaborate solution concentration and B-10 enrichment, the rate of negative reactivity insertion from the SLCS will satisfy design basis analyses. This TS SR testing confirms component TS operability and allows for performance trending and detection of incipient failures by indicating abnormal performance. In accordance with the Inservice Testing (IST) Program and the ASME OM 2004 Code, the performance of the SLCS pumps is measured against more restrictive limits based on each pump's most recent IST Program Reference Value. The Alert Low and Required Action Low limits specified by the IST Program are set more conservative than the proposed TS SR limits, and therefore, any future pump degradation will be identified before the pump's performance falls below the minimum flowrate necessary to meet the design basis and the TS Limiting Condition for Operation (LCO). The proposed change to the minimum SLCS pump flowrate in TS SR 4.1.5.c is requested to provide increased testing margin and operational flexibility while assuring the minimum injection rate of Sodium Pentaborate to satisfy the Anticipated Transient Without Scram and Loss of Coolant Accident analyses.

The SLCS pump performance testing results for the last two years compared to the limits for the current TS SR, proposed TS SR and IST Action are shown in Figure SRXB-RAI-1. The figure shows that the SLCS pumps on both units continue to have acceptable performance trends. The proposed IST Program Action limit is more restrictive than the proposed TS SR, thereby ensuring the SLCS pump performance is maintained above the TS SR limit.
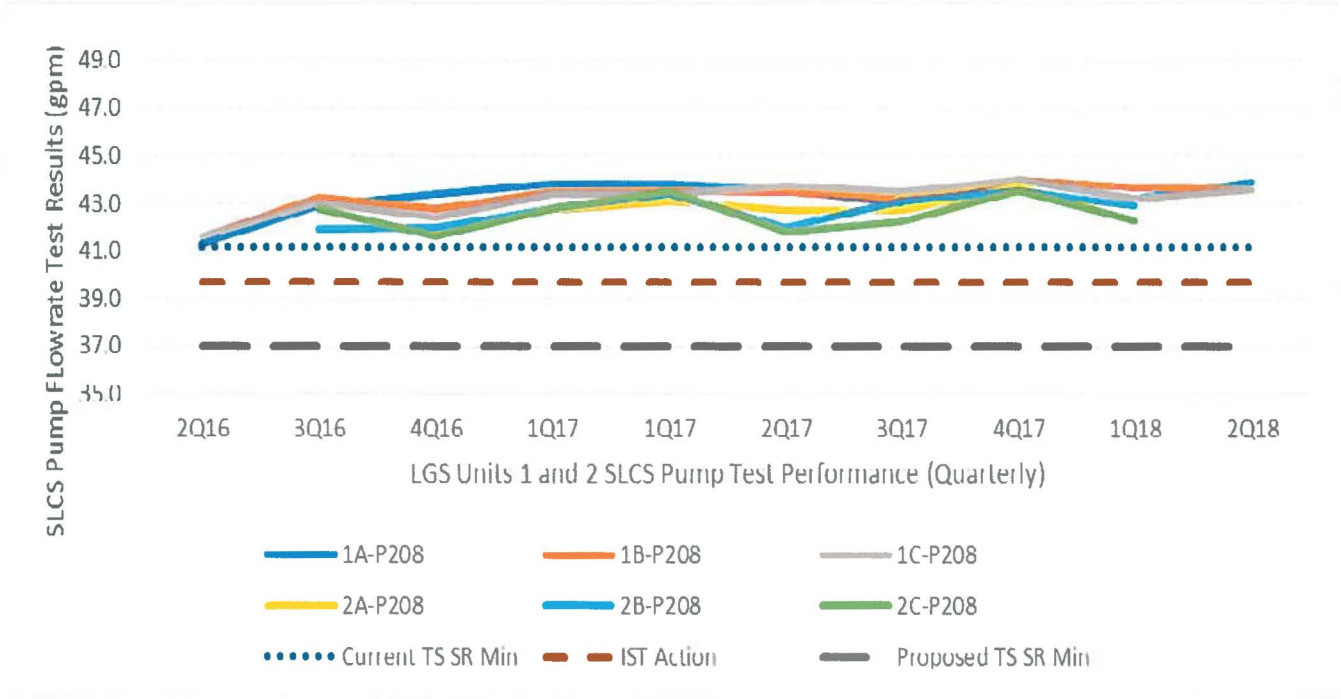
Figure SRXB-RAI-1 SLCS Pump Performance Testing Results