

10 CFR 50.90

RS-20-123

October 1, 2020

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

LaSalle County Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Subject: LaSalle County Station Unit 1 And 2 – Response to Request for Additional Information for LaSalle License Amendment Request to Adopt Risk-Informed Completion Times TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b" (EPID L-2020-LLA-0018)

References:

1. Letter from D. Murray (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Application to Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b'" dated January 31, 2020
2. Letter from B. Vaidya (Project Manager, U.S Nuclear Regulatory Commission) to B. Hanson (Exelon Generation Company, LLC), "LaSalle County Station Unit 1 and 2 – Request for Additional Information for LaSalle License Amendment Request to Adopt Risk-Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed extended Completion Times - RITSTF Initiative 4b' (EPID L-2020-LLA-0018)" dated September 3, 2020
3. Letter from B. Vaidya (Project Manager, U.S Nuclear Regulatory Commission) to B. Hanson (Exelon Generation Company, LLC), "LaSalle County Station Unit 1 and 2 – Correction to Request for Additional Information Regarding License Amendment Request to Adopt TSTF-505, Revision 2, "Provide Risk-Informed extended Completion Times - RITSTF Initiative 4b' (EPID L-2020-LLA-0018)" dated September 16, 2020

By letter dated January 31, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20035E577), Exelon Generation Company, LLC (Exelon, the licensee) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) for a revision to the Technical Specifications (TS) (Appendix A) of Renewed Facility Operating License Nos. NPF-11 and NPF-18 for LaSalle County Station, Units 1 and 2.

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Exelon's proposed license amendment request (LAR) would revise TS requirements to permit the use of risk-informed completion times for actions to be taken when limiting conditions for operation are not met. The proposed changes are based on Technical Specifications Task Force Traveler (TSTF)-505, Revision 2, "Provide Risk Informed Extended Completion Times – RITSTF Initiative 4b," dated July 2, 2018 (ADAMS Package Accession No. ML18269A041).

On September 3, 2020, the NRC provided a Request for Additional Information (RAI) (Reference 2) to support their continued review of Reference 1. On September 16, 2020, the NRC amended its September 3 letter to revise the due dates for its requests for additional information (Reference 3).

Attachment 1 to this letter contains the NRC's request for additional information along with Exelon's response.

Exelon has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration provided to the NRC in Reference 1. The supplemental information provided in this letter does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. Furthermore, the supplemental information provided in this letter 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.

There are no regulatory commitments contained in this letter.

If you should have any questions regarding this submittal, please contact Jason Taken at 630-806-9804.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 1st day of October 2020.

Gullott, David M.

Digitally signed by Gullott, David
M.
Date: 2020.10.01 11:36:11 -05'00'

David Gullott
Director – Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachment 1: Response to Request for Additional Information

cc:	USNRC Region 3 Regional Administrator	w/attachments
	USNRC Senior Resident Inspector – LAS	"
	USNRC Project Manager, NRR – LAS	"
	Illinois Emergency Management Agency – Division of Nuclear Safety	"

ATTACHMENT 1

LaSalle County Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Response to Request for Additional Information

ATTACHMENT 1

LaSalle County Station, Units 1 and 2
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NRC Docket Nos. 50-373 and 50-374

EEOB TSTF-505 RAI No. 1: Technical Specifications Associated with TS 3.8 “Electrical Power Systems impact on Non-accident Unit.”

Please provide a discussion and corresponding Table for LCOs, considered for RICT, identifying the PRA success and design success criterion for the non-accident in Unit 1 concurrent with the accident in Unit 2. As an example, consider a RICT for a system or component associated with dedicated DG 1A with a postulated DBE on Unit 2.

EGC Response:

For the postulated condition of a RICT on a system associated with the 1A DG and a DBE on Unit 2, this equipment condition is currently part of the LaSalle licensing basis independent of treatment with RICT. In this scenario, any SSCs under a RICT would be reassessed based on an emergent change in plant configuration. The Division I (unit-common) diesel would be manually aligned in accordance with LOA-AP-101 “Unit 1, AC Power System Abnormal” to support Unit 1, with the Unit 2 Division II (2A DG) diesel supporting Unit 2 loads.

The PRA and design success criteria presented in the LAR Enclosure 1, Table E1-1 are specific to given Technical Specification LCO conditions, assessed on a per-unit basis, and are not affected by the presence of a DBE, beyond establishing the relevant LCO.

EEOB TSTF-505 RAI No. 2: Technical Specifications Associated with Safety Systems and Components in Scope of the RICT Program and Impact on Non-accident Unit.

The discussion above considers specific configurations associated with TS LCOs that are proposed in the LAR for RICT changes and can be impacted by the DG configuration following a DBE. The LAR proposes changes to other TS CTs that are associated with the non-accident unit. As an example, TS in Section 3.7 “Plant Systems” proposes changes to residual heat removal subsystems that may be needed for controlled shutdown of the non-accident unit. Please provide a discussion on other shared systems needed for concurrent safe shutdown of the non-accident unit which may have only one division of onsite power system.

EGC Response:

There are no systems in scope of the RICT Program that are shared between the two units and required for safe shutdown. The residual heat removal subsystem discussed in EEOB TSTF-505 RAI No. 2 has two independent trains powered from separate divisions on each unit. The allowed plant configurations under the RICT are unchanged from the existing LaSalle licensing basis.

EEOB/EICB TSTF-505 RAI No. 3: TS 3.3.8.1 “Loss of Power (LOP) Instrumentation”

The loss of voltage (LOV) relays and degraded voltage (DV) relays for each Division 1 and Division 2, 4kV safety bus are connected in independent two-out-of-two logic circuits designed to initiate a DG start at different decreased bus voltages. The LAR proposes to extend the CT for Condition A “One or more channels inoperable.” The NRC staff notes that the PRA success criteria assumes failure of the associated DG only. Depending on unit loading conditions (voltage drop on the safety buses), an accident or anticipated operational occurrence (AOO),

<i>Loss of Channel Identified by 'x'</i>	Division I				Division II				Division III			
	Loss of Voltage		Degraded Voltage		Loss of Voltage		Degraded Voltage		Loss of Voltage		Degraded Voltage	
	1	2	1	2	1	2	1	2	1	2	1	2
Loss of Function									X	X		
Loss of Function (two-out-of-two logic)											X	
												X

TSTF-505 APLC RAI No. 01 – Screening of Non-Seismic External Hazard

Section 2.3.1, Item 7, of NEI 06-09, “Risk-Informed Technical Specifications Initiative 4b, Risk Managed Technical Specifications (RMTS) Guidelines,” Revision 0-A, states that the “impact of other external events risk shall be addressed in the RMTS program,” and explains that one method to do this is by documenting prior to the RMTS program that external events that are not modeled in the probabilistic risk assessment (PRA) are not significant contributors to configuration risk. The safety evaluation for Nuclear Energy Institute (NEI) 06-09, states that “[o]ther external events are also treated quantitatively, unless it is demonstrated that these risk sources are insignificant contributors to configuration-specific risk.”

External Flooding

Section 5 of Enclosure 4 to the LAR discusses the evaluation of external flooding on the proposed RICTs and concludes that the risk from external flooding is considered negligible and can be screened from inclusion in the RICT program. The basis for screening the external flooding hazard includes the results documented in the licensee’s focused evaluation (FE) based on the reevaluated flood hazard for the site (Reference 34). The licensee states that flood mitigation was achieved by “permanently installed passive flood protection (e.g., exterior doors and plant grade) that require no manual action for success.” Attachment 4 of the Enclosure to the licensee’s LAR for adoption of 10 CFR 50.69 (ADAMS Accession No. ML20031E699), indicates that there are “several flood doors integral to flood protection.”

Section 3.3.5 of NEI 06-09-A states that: “In addition to the evaluation of external events for potential RICT impact, these events should be evaluated for insights which permit development and implementation of applicable risk management actions.” The LAR does not describe any risk management actions to ensure that the flood protection features, which are “integral to flood protection” and important for screening of external flooding, continue to be available and functional during the proposed RICTs.

Discuss how the licensee’s proposed RICT program will ensure that assumptions related to the availability and the functionality of flood protection features (e.g., flood doors) that are credited for the screening remain valid during RICTs such that the external flooding hazard continues to have an insignificant impact on the configuration-specific risk.

EGC Response:

The RICT program will rely on existing plant procedures to ensure that the normally closed exterior plant doors along the 710'-6" elevation (i.e., those doors integral to flood protection) are verified to be closed prior to heavy rainfall. Step B.6.2 directs the station to verify closed all exterior doors as listed in Appendix E of procedure LOA-FLD-001 (Reference 1). Step B.6.3 then further directs station personnel to place a sign on all doors that notes: "Ensure door remains closed due to potential flooding concerns. Contact Shift Manager prior to opening".

Given the direction in LOA-FLD-001 to plant personnel, it has been determined that no further Risk Management Actions (RMAs) are required and existing plant procedures are sufficient to ensure that normally closed exterior doors assumed to be closed in the Focused Evaluation (Reference 2) remain closed during any configuration when heavy rainfall is predicted.

LOA-FLD-001 contains procedural steps in B.6.2 and B.6.3 to control doors in order to mitigate the external flooding hazard. AD-LA-1000, LaSalle Procedure Writers Guide and AD-AA-101-1002, Writer's Guide for Procedures and T&RM provide administrative controls for procedure steps tied to regulatory commitments. Steps B.6.2 and B.6.3 in LOA-FLD-001 will be annotated per procedure and commitments will remain controlled under LS-AA-110, Commitment Management.

Turbine Missiles

The discussion for turbine missiles states, "the speed capability of these rotors is considerably higher than the maximum attainable speed of these turbine generator units. Consequently, the probability of missiles being generated is statistically insignificant." The turbine missile probability analysis evaluates the failure of turbine stop, control, and bypass valves, and determines the inspections and frequency of those inspection so that the failure rate and probability of turbine missile damaging safety related equipment is below the threshold of 10^{-7} . It is unclear whether the turbine missile probability analysis is the basis for the screening or the speed capability of the rotors.

Clarify whether the basis for screening the turbine missile hazard is the probability of turbine missile analysis. If not, provide justification for not using that analysis and selecting an alternate approach.

EGC Response:

The basis for screening the turbine missile hazard is the probability of the turbine missile analysis and the screening criterion is PS4 (bounding mean CDF is less than $1E-6$ /yr).

A calculation of the probability of turbine missile generation from a main turbine failure was recently updated (Reference 3). The analysis was performed for LaSalle Unit 1, but also applies to LaSalle Unit 2.

Per Reference 3, the probability of missile generation per year due to overspeed (P_1 in Reference 4) is $7.55E-6$. The probability of turbine missile damage conditional on missile generation (P_2) is

less than 1E-3, based on Section 3.4.5.3 of NUREG/CR-4832 (Reference 5). Therefore, the CDF from turbine missiles is estimated to be less than 1E-7/yr.

References

1. LaSalle Station Unit 1,2 and Common Operating Abnormal Procedure, Flooding, LOA-FLD-001, Revision 21, January 15, 2020
2. LaSalle County Station, Units 1 and 2, Flooding Focused Evaluation Summary Submittal, NRC ADAMS Accession No. ML 17067A402, March 8, 2017
3. Turbine Missile Analysis L-003599, Revision 0A, May 2019.
4. Regulatory Guide RG 1.115, Protection Against Turbine Missiles, Revision 2, January 2012.
5. NUREG/CR-4832 Vol. 7, Analysis of the LaSalle Unit 2 Nuclear Power Plant, "Risk Methods Integration and Evaluation Program (RMIEP)," External Event Scoping Quantification, February 1985.