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RS-18-086 10 CFR 50.90

July 16, 2018

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: Response to Request for Additional Information Regarding License Amendment Request for Temporary Extensions to Technical Specifications Supporting Maintenance on Portions of the Core Standby Cooling System

References:
1. Letter from David M. Gullott (Exelon Generation Company, LLC) to U.S. NRC, "License Amendment Request for Temporary Extensions to Technical Specifications Supporting Maintenance on Portions of the Core Standby Cooling System," dated January 24, 2018
2. Email from B. Vaidya (U.S. NRC) to R. Sprengel (Exelon Generation Company, LLC), "LaSalle Units 1 and 2, EPID-L-2018-LLR-0012, LAR RE: CSCS, Request for Additional Information (RAI)," dated June 14, 2018

In Reference 1, Exelon Generation Company, LLC (EGC) requested an amendment to Renewed Facility Operating License Nos. NPF-11 And NPF-18 for LaSalle County Station (LSCS), Units 1 and 2, respectively. In Reference 2, the NRC requested that EGC provide additional information to support their review of the subject License Amendment Request. As noted in Reference 2, a response was requested by July 16, 2018. The requested information is provided in Attachment 1. The body of Reference 2 includes a correct reference to EPID-L-2018-LLA-0012, different than the email title.

EGC has reviewed the information supporting the No Significant Hazards Consideration and the Environmental Consideration that was previously provided to the NRC in Reference 1. The additional information provided in this submittal does not affect the conclusion that the proposed license amendment does not involve a significant hazards consideration. This additional information also does not affect the conclusion that neither an environmental impact statement nor an environmental assessment need be prepared in support of the proposed amendment.

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

There are no regulatory commitments contained in this letter. Should you have any questions concerning this letter, please contact Ryan M. Sprengel at (630) 657-2814.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 16th day of July 2018.

Respectfully,

David M. Gullott
Manager – Licensing
Exelon Generation Company, LLC

Attachment 1: Response to Request for Additional Information

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – LaSalle County Station
Illinois Emergency Management Agency

ATTACHMENT 1

Response to Request for Additional Information

In Reference 1, Exelon Generation Company, LLC (EGC) requested an amendment to Renewed Facility Operating License Nos. NPF-11 And NPF-18 for LaSalle County Station (LSCS), Units 1 and 2, respectively. In Reference 2, the NRC requested that EGC provide additional information to support their review of the subject License Amendment Request. As noted in Reference 2, a response was requested by July 16, 2018. The requested information is provided below.

Request for Additional Information

Applicable Regulatory Requirements

Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the Code of Federal Regulations (10 CFR) Part 50, General Design Criterion (GDC) 2, Design bases for protection against natural phenomena, states:

> *Structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. The design bases for these structures, systems, and components shall reflect: (1) Appropriate consideration of the most severe of the natural phenomena that have been historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated, (2) appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena and (3) the importance of the safety functions to be performed.*

10 CFR Part 50.36, "Technical specifications," establish the requirements related to the content of the TSs. Section 50.36(c)(2)(ii) states:

> *Limiting conditions for operation. Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.*

Issue

The licensee stated:

> *The portion of DGCW return piping to be replaced is directly connected to the lake and below normal cooling lake level, replacement will require isolation. Isolation will be accomplished by hot tapping, installing temporary line stops (stopples), and then installing new isolation valves.*

The associated carbon steel piping surfaces and the nature of impurities in lake water could make leak tight seating of the stops difficult. Additionally, the hot tap hardware during the hot tap process would add temporary additional seismic weight and moment loads to the pipe and pipe joints.

ATTACHMENT 1

Response to Request for Additional Information

Request for Additional Information

a) *Identify and discuss the possible impact on plant safety caused by expected leakage past the line stops.*
b) *What precautions will be needed and implemented to mitigate the effects of leakage?*
c) *Considering the added weight and moment of the hot tap hardware, what actions will be taken or analysis will be performed to ensure plant safety during a seismic event, including a seismic induced loss of offsite power?*
d) *Since the pipes to be replaced are not isolable and below lake level, what contingency plans are there to combat flooding caused by possible gross failure of line stops or pipe?*

Response

a) *Identify and discuss the possible impact on plant safety caused by expected leakage past the line stops.*

The subject Core Standby Cooling System (CSCS) piping operates at low pressures and is not included in the population where through wall leakage is postulated in accordance with NUREG 0800 (Standard Review plan, Section 3.6.1 and 3.6.2, BTP SPLB 3-1). For these lines, a catastrophic line break is not considered to be a credible event. The non-code mechanical line stops for the installation of the additional new Emergency Core Cooling System (ECCS) cooler discharge valves (one per outage) are designed to meet or exceed the same pressure requirements for the current system and will be seismically mounted. Gross failure is not anticipated as each non-code mechanical line stop is installed in an open-ended return line with a maximum estimated pressure of 16 psig. Leakage past the line stop is possible and is considered.

The non-code mechanical line stops will be located in the respective units' Residual Heat Removal (RHR) B/C Room or in the Reactor Building raceway areas with a floor elevation of 673' 4". The areas are flood protected from the Divisional ECCS rooms by watertight floodwalls to an elevation of 686' 7", and have water level alarms and duplex sump pumps. The areas have approximately 1000 ft^3 and 4800 ft^3 of unoccupied space per foot of elevation, respectively. If the line stop begins to leak, the leakage is anticipated to be minor and will be contained on the outage unit in the affected corner room or reactor building raceway. No leakage would be in the rooms that would affect the DG cooling water pump in the affected division or any equipment in the redundant division. In the event that all sump pumps were lost, action must be taken to mitigate the leakage prior to filling the raceway to a level (686' 7") where water will begin to enter the corner rooms for redundant ECCS equipment. The available flood protected volume (i.e., up to elevation 686' 7") provides adequate time for the implementation of compensatory actions and ensures potential flooding does not impact redundant equipment in surrounding areas.

These design features, compensatory actions, and the inherent robust design of the mechanical line stops are considered adequate to ensure that flooding does not occur that could impact redundant Systems, Structures, and Components during the planned CSCS valve installation.

ATTACHMENT 1

Response to Request for Additional Information

b) What precautions will be needed and implemented to mitigate the effects of leakage?

1. Leak check of line stop prior to cutting piping
2. Stage materials at jobsite for leakage mitigation such as bands, plugs
3. Verify area sump pumps are functional
4. Staging of equipment to evacuate minor leakage that could interfere with work

The integrity of the non-code mechanical line stops will be leak tested prior to cutting the unisolable piping. Should leakage occur, it would be minor and equipment will be staged, such as a vacuum nozzle, to evacuate the minor leakage that could interfere with welding. Leakage control materials will be pre-staged at each location in the unlikely event the mechanical line stops were to begin leaking significantly while the line is breeched. Implementation of leakage control measures can be accomplished since the maximum operating pressure at the location of CSCS valve installation is estimated to be less than 16 psig. In addition, each area/room where the new valves are scheduled to be installed will be verified to have functional sump pump(s) during the time that the line stop is installed.

Work will continually be performed until the code isolation is restored; therefore, any leakage will be apparent and addressed in a timely manner. Any leakage that is incurred will be on the outage unit and would not be exposed to conditions from the operating unit; thereby, allowing access for compensatory actions should leakage from the line stop occur.

c) Considering the added weight and moment of the hot tap hardware, what actions will be taken or analysis will be performed to ensure plant safety during a seismic event, including a seismic induced loss of offsite power?

The hot tap hardware will be seismically analyzed and supported to withstand a design basis seismic event. Each configuration of the line stop machine will be analyzed. Seismic restraints will be installed as required to ensure that the line stop machine remains intact during a seismic event and that the existing piping is not compromised. The non-code mechanical line stop machine does not require a power source to hold the line stop in place. If off-site power is lost, the line stop will remain in position.

d) Since the pipes to be replaced are not isolable and below lake level, what contingency plans are there to combat flooding caused by possible gross failure of line stops or pipe?

1. Verify area sump pumps are functional
2. Bands for cuts in piping and damage control plugs for when the line is removed will be staged at the jobsite for immediate use

Gross failure of the line stops and piping is not anticipated as discussed in the response to question a); however, in addition to the precautions listed in the response to question b), preparations for gross failure will also be made. Damage control plugs will be pre-staged at the work location in the unlikely event that the mechanical line stop becomes ineffective during maintenance evolutions while the CSCS line is physically removed. Mechanical sealing bands will also be pre-staged at each line stop location. These bands will be capable of isolating partially cut lines in the event of a mechanical line stop failure. In addition, each area/room

where the CSCS valves are scheduled to be installed will be verified to have functional sump pump(s) during the entire CSCS valve replacement work window.

References

1. Letter from David M. Gullott (Exelon Generation Company, LLC) to U.S. NRC, "License Amendment Request for Temporary Extensions to Technical Specifications Supporting Maintenance on Portions of the Core Standby Cooling System," dated January 24, 2018
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