

RS-13-099

10 CFR 50.90

May 1, 2013

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

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: Response to Request for Additional Information Related to License Amendment Request to Revise Technical Specifications Section 3.5.3, "ECCS - Shutdown" (TAC Nos. ME9134, ME9135, ME9136, and ME9137)

- References:
1. Letter from D. M. Gullott (Exelon Generation Company, LLC (EGC)) to U. S. NRC, "License Amendment Request to Revise Technical Specifications Section 3.5.3, 'ECCS – Shutdown,'" dated July 23, 2012
 2. Letter from M. Mahoney (NRC) to M. J. Pacilio (EGC), "Byron Station, Unit Nos 1 and 2, and Braidwood Station, Units 1 and 2 – Request for Additional Information Related to License Amendment Request to Revise Technical Specifications (TS) Section 3.5.3, 'ECCS [Emergency Core Cooling System] – Shutdown' (TAC Nos. ME9134, ME9135, ME9136, and ME9137)," dated March 28, 2013

In Reference 1, Exelon Generation Company, LLC (EGC) requested an amendment to the Technical Specifications (TS) of Facility Operating License Nos. NPF-72 and NPF-77 for Braidwood Station, Units 1 and 2, and Facility Operating License Nos. NPF-37 and NPF-66 for Byron Station, Units 1 and 2. The license amendment would delete the Limiting Condition for Operation (LCO) Note associated with TS Section 3.5.3, "ECCS – Shutdown," to reflect current plant configuration and ensure the Residual Heat Removal (RHR) system operability meets the TS 3.5.3 LCO requirement. In Reference 2, the NRC requested that EGC provide additional information to support their review of Reference 1. Reference 2 requested that the response be submitted to the NRC within 30 days of the date of the letter. However, in a discussion between Ms. Dwi Murray of EGC and Mr. Michael Mahoney of the NRC on April 22, 2013, it was agreed

that EGC would provide the response by May 1, 2013. The information requested in Reference 2 is provided in the attachment to this letter.

Additionally, the response to question 1 of the No Significant Hazards Consideration provided in the Attachment supersedes the response to question 1 of the No Significant Hazards Consideration provided to the NRC in Reference 1. While the response to question 1 of the No Significant Hazards Consideration determination has been revised to add clarity, the additional information provided in this submittal does not affect the basis for concluding that the proposed license amendment does not involve a significant hazards consideration.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), EGC is providing the State of Illinois with 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 Ms. Dwi Murray at (630) 657-3695.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 1st day of May 2013.

Respectfully,



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

Attachment: Response to Request for Additional Information Related to License Amendment
Request to Revise Technical Specifications Section 3.5.3, "ECCS - Shutdown"

cc: NRC Regional Administrator – Region III
NRC Senior Resident Inspector – Braidwood Station
NRC Senior Resident Inspector – Byron Station
NRC Project Manager, NRR – Braidwood and Byron Stations
Illinois Emergency Management Agency – Division of Nuclear Safety

ATTACHMENT

Response to Request for Additional Information Related to License Amendment Request to Revise Technical Specifications Section 3.5.3, "ECCS - Shutdown"

NRC Question 1:

In Section 4.0, "No Significant Hazards Consideration", in response to question 1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?," the licensee states "Since the ECCS and RHR systems are not accident initiators, the proposed changes do not impact the initiators or assumptions of analyzed accidents "

The NRC staff requests the following information to complete its review:

- 1. Provide an explanation of accidents that have occurred that were initiated by operator error such as inappropriate valve manipulations.**

Exelon Generation Company, LLC's (EGC's) Response to NRC Question 1:

EGC recognizes that there have been operating experiences within our plants and the industry where inappropriate valve manipulations have caused system actuations, drain down events, and system or component inoperability. Chapter 15.0 of NUREG-0800, "Standard Review Plan," categorizes a single error of an operator as an example of anticipated operational occurrences (AOOs) in pressurized-water reactor (PWR) design. AOO as defined in 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," are those conditions of normal operation that are expected to occur one or more times during the life of the nuclear power unit. Furthermore, as described in Attachment 1 of Regulatory Issue Summary (RIS) 2001-022, "Attributes of a Proposed No Significant Hazards Consideration Determination," the word 'accidents' refers to anticipated (or abnormal) operational transients and postulated design basis accidents, including the events with which the plant must be able to cope (e.g., earthquake, flooding, turbine missiles, and fire) as described in the Updated Final Safety Analysis Report (UFSAR).

Based on the description above, inappropriate valve manipulation resulting in an impact to RHR system or ECCS operability could be considered an initiator of an AOO. Therefore, EGC has revised the response to question 1 of the No Significant Hazards Consideration provided in Reference 1. Specifically, the original paragraph in Section 4.3, "No Significant Hazards Consideration," of Reference 1 stated:

"The proposed changes to delete the TS 3.5.3 LCO Note will ensure that one train of RHR remains aligned for ECCS mode of operation as required to mitigate an accident described in the Updated Final Safety Analysis Report (UFSAR). The proposed changes do not affect the design, operational characteristics, and function of the ECCS and RHR systems to mitigate a design basis accident (DBA). Furthermore, the interfaces between the RHR system and other plant systems' operating functions, or the reliability of the RHR system are not impacted by the proposed changes. Since the ECCS and RHR systems are not accident initiators, the proposed changes do not impact the initiators or assumptions of analyzed accidents, nor do they impact the mitigation of accidents or transient events. Therefore, the ECCS and RHR systems will be capable of performing their accident mitigation functions, and the proposed deletion of the TS 3.5.3 LCO Note does not involve a significant increase in the probability of an accident."

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Response to Request for Additional Information Related to License Amendment Request to Revise Technical Specifications Section 3.5.3, "ECCS - Shutdown"

This paragraph is being revised as follows to address the NRC question and discussion provided above:

"The proposed changes to delete the TS 3.5.3 LCO Note will ensure that one train of RHR remains aligned for ECCS mode of operation as required to mitigate an accident described in the Updated Final Safety Analysis Report (UFSAR). The proposed changes do not affect the ECCS and RHR system design, operating procedures, and administrative controls that have the function of preventing or mitigating any of the postulated design basis accidents as described in the UFSAR. Furthermore, the interfaces between the RHR system and other plant systems' operating functions, or the reliability of the RHR system are not impacted by the proposed changes. The proposed changes do not change or impact the initiators and assumptions of the analyzed accidents. Therefore, the ECCS and RHR systems will be capable of performing their accident mitigation functions, and the proposed deletion of the TS 3.5.3 LCO Note does not involve a significant increase in the probability of an accident."

The following response to question 1 of the No Significant Hazards Consideration supersedes the entire response to question 1 of the No Significant Hazards Consideration previously provided in Reference 1:

4.3 No Significant Hazards Consideration

In accordance with 10 CFR 50.90, Exelon Generation Company, LLC, (EGC), is requesting amendments to Facility Operating License Nos. NPF-72 and NPF-77 for Braidwood Station, Units 1 and 2, and Facility Operating License Nos. NPF-37 and NPF-66 for Byron Station, Units 1 and 2.

The proposed changes will revise Technical Specifications (TS) Section 3.5.3 Limiting Condition for Operation (LCO) for Emergency Core Cooling System (ECCS) operability requirement in MODE 4 by deleting the LCO Note which allows a Residual Heat Removal (RHR) train to be considered operable for ECCS mode of operation when aligned for decay heat removal operation. The proposed changes will correct a non-conservative TS which may not adequately ensure the RHR system operability requirements during shutdown cooling operations in MODE 4. The proposed changes will ensure that one train of RHR remains aligned for ECCS mode of operation to satisfy the TS 3.5.3 LCO requirements. This conclusion is based on the information provided in Westinghouse Nuclear Safety Advisory Letter (NSAL) 09-8, "Presence of Vapor in Emergency Core Cooling System/Residual Heat Removal System in Modes 3/4 Loss-of-Coolant Accident Conditions," dated November 3, 2009.

EGC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92(c), "Issuance of amendment," as discussed below:

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

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Response to Request for Additional Information Related to License Amendment Request to Revise Technical Specifications Section 3.5.3, "ECCS - Shutdown"

The proposed changes to delete the TS 3.5.3 LCO Note will ensure that one train of RHR remains aligned for ECCS mode of operation as required to mitigate an accident described in the Updated Final Safety Analysis Report (UFSAR). The proposed changes do not affect the ECCS and RHR system design, operating procedures, and administrative controls that have the function of preventing or mitigating any of the postulated design basis accidents as described in the UFSAR. Furthermore, the interfaces between the RHR system and other plant systems' operating functions, or the reliability of the RHR system are not impacted by the proposed changes. The proposed changes do not change or impact the initiators and assumptions of the analyzed accidents. Therefore, the ECCS and RHR systems will be capable of performing their accident mitigation functions, and the proposed deletion of the TS 3.5.3 LCO Note does not involve a significant increase in the probability of an accident.

The proposed changes will ensure that one train of RHR be available for ECCS mode of operation during MODE 4 to ensure that the RHR system, as a subsystem of ECCS, is operable for ensuring sufficient ECCS flow is available to the core for mitigating the consequences of a loss of coolant accident (LOCA). Thus, the proposed deletion of the TS 3.5.3 LCO Note does not involve a significant increase in the consequences of an accident.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

Reference:

1. Letter from D. M. Gullott (Exelon Generation Company, LLC (EGC)) to U. S. NRC, "License Amendment Request to Revise Technical Specifications Section 3.5.3, 'ECCS – Shutdown,'" dated July 23, 2012 (ADAMS Accession No. ML12206A057)