

From: Scott Wall
Sent: Thursday, September 21, 2023 2:39 PM
To: Mathews, Mitchel A:(Constellation Nuclear)
Cc: Simpson, Patrick R.:(Exelon Nuclear); Steinman, Rebecca L:(Exelon Nuclear)
Subject: FINAL RAI - Constellation Energy Generation, LLC – Fleet Request – License Amendment Request to Adopt TSTF-580, Revision 1 (EPID No. L-2023-LLA-0077)

Dear Mr. Mathews,

By letter dated May 25, 2023 (Agencywide Documents Access and Management System Accession No. ML23145A086), Constellation Energy Generation, LLC (CEG, the licensee) submitted license amendment requests for Clinton Power Station, Unit 1, Dresden Nuclear Power Station, Units 2 and 3, James A. FitzPatrick Nuclear Power Plant (FitzPatrick), LaSalle County Station, Units 1 and 2, Nine Mile Point Nuclear Station, Unit 2, Peach Bottom Atomic Power Station, Units 2 and 3, and Quad Cities Nuclear Power Station, Units 1 and 2.

The proposed amendments requested adoption of Technical Specifications Task Force (TSTF) Traveler, TSTF-580, Revision 1, "Provide Exception from Entering Mode 4 With No Operable RHR Shutdown Cooling." The U.S. Nuclear Regulatory Commission (NRC) issued a final model safety evaluation approving TSTF 580, Revision 1, on July 11, 2021 (ML21188A227).

The NRC staff has reviewed the submittal and determined that additional information is needed to complete its review. The specific question is found in the enclosed request for additional information (RAI). On September 21, 2023, the CEG staff indicated that a response to the RAIs would be provided by October 23, 2023.

If you have questions, please contact me at 301-415-2855 or via e-mail at Scott.Wall@nrc.gov.

Scott P. Wall, LSS BB, BSP

Senior Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
301.415.2855
Scott.Wall@nrc.gov

Docket Nos.: 50-461, 50-237, 50-249,
50-333, 50-373, 50-374,
50-410, 50-277, 50-278,
50-254, and 50-265

Enclosure:
Request for Additional Information

cc: Listserv

RAI (TSTF-580: STSB)

REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT
TSTF-580, REVISION 1
CONSTELLATION ENERGY GENERATION, LLC
CLINTON POWER STATION, UNIT NO. 1
DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
LASALLE COUNTY STATION, UNITS 1 AND 2

NINE MILE POINT NUCLEAR STATION, UNIT 2

PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-461, 50-237, 50-249, 50-333, 50-373, 50-374,

50-410, 50-277, 50-278, 50-254, AND 50-265

By letter dated May 25, 2023 (Agencywide Documents Access and Management System Accession No. ML23145A086), Constellation Energy Generation, LLC (CEG, the licensee) submitted license amendment requests for Clinton Power Station, Unit 1, Dresden Nuclear Power Station, Units 2 and 3, James A. FitzPatrick Nuclear Power Plant (FitzPatrick), LaSalle County Station, Units 1 and 2, Nine Mile Point Nuclear Station, Unit 2, Peach Bottom Atomic Power Station, Units 2 and 3, and Quad Cities Nuclear Power Station, Units 1 and 2.

The proposed amendments requested adoption of Technical Specifications Task Force (TSTF) Traveler, TSTF-580, Revision 1, "Provide Exception from Entering Mode 4 With No Operable RHR Shutdown Cooling." The U.S. Nuclear Regulatory Commission (NRC) issued a final model safety evaluation approving TSTF 580, Revision 1, on July 11, 2021 (ML21188A227).

The NRC staff has reviewed the submittal and determined that additional information is needed to complete its review.

Technical Specifications Branch (STSB) Question

Background

TSTF-580 provides a technical specifications (TS) exception to entering Mode 4 if both required residual heat removal (RHR) shutdown cooling subsystems are inoperable. Any TS Required Action directing entry into Mode 4 would be suspended by this proposed change, regardless of whether it is related to RHR shutdown cooling, until at least one RHR shutdown cooling subsystem is restored to operable status. If there is a circumstance that rendered both required low pressure core injection subsystems, both required RHR suppression pool cooling subsystems, or both RHR service water subsystems inoperable but that did not render the RHR shutdown cooling function inoperable, the exception would not apply. The proposed change modifies standard technical specifications (STSS), NUREG-1433, Vol. 1, Rev. 5, "Standard Technical Specifications General Electric [Boiling Water Reactor] BWR/4Plants: Specifications" (ML21272A357), and NUREG-1434, Vol. 1, Rev. 5, "Standard Technical Specifications, General Electric BWR/6 Plants: Specifications" (ML21271A582).

Applicable Regulation and Guidance

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(a)(1) requires an applicant for an operating license to include in the application proposed TS in accordance with the requirements of 10 CFR 50.36. The categories of items required to be in the TS are provided in 10 CFR 50.36(c). As required by 10 CFR 50.36(c)(2)(i), the TS will include limiting condition for operation (LCOs), which are the lowest functional capability or performance levels of equipment required for safe operation of the facility. Per 10 CFR 50.36(c)(2)(i), when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TS until the condition can be met.

Request for Additional Information

TSTF-580 modifies BWR/4 STS 3.4.8 and BWR/6 STS 3.4.9 as follows:

- Condition A is revised from, "One or two RHR shutdown cooling subsystems inoperable," to "One [required] RHR shutdown cooling subsystems inoperable."
- Condition B, "Required Action and associated Completion Time of Condition A not met," is revised to be applicable to a single inoperable RHR shutdown cooling subsystem.
- A new Condition C is added which is applicable when two [required] RHR shutdown cooling subsystems are inoperable.
- A new Condition D, "Required Action and associated Completion Time of Condition C not met," is added.
- Current Condition C and associated Required Actions C.1, C.2, and C.3 are renumbered as Condition E Required Actions E.1, E.2, and E.3 with no other changes as specified below:

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|-----------------|
| E. No RHR shutdown cooling subsystem in operation. | E.1 Initiate action to restore one RHR shutdown cooling subsystem or one recirculation pump to operation. | Immediately |
| AND | | |
| No recirculation pump in | | |

| | | |
|------------|---|---|
| operation. | AND E.2 Verify reactor coolant circulation by an alternate method. AND E.3 Monitor reactor coolant temperature and pressure. | 1 hour from discovery of no reactor coolant circulation AND Once per 12 hours thereafter Once per hour |
|------------|---|---|

NUREG-1433, Vol. 2, Rev. 5, "Standard Technical Specifications General Electric BWR/4 Plants: Bases" (ML21272A358) explains the Condition E actions as below:

E.1, E.2, and E.3

With no RHR shutdown cooling subsystem and no recirculation pump in operation, except as permitted by LCO Note 1, reactor coolant circulation by the RHR shutdown cooling subsystem or recirculation pump must be restored without delay.

Until RHR or recirculation pump operation is re-established, an alternate method of reactor coolant circulation must be placed into service. This will provide the necessary circulation for monitoring coolant temperature. The 1 hour Completion Time is based on the coolant circulation function and is modified such that the 1 hour is applicable separately for each occurrence involving a loss of coolant circulation. Furthermore, verification of the functioning of the alternate method must be reconfirmed every 12 hours thereafter. This will provide assurance of continued temperature monitoring capability.

During the period when the reactor coolant is being circulated by an alternate method (other than by the required RHR shutdown cooling subsystem or recirculation pump), the reactor coolant temperature and pressure must be periodically monitored to ensure proper function of the alternate method. The once per hour Completion Time is deemed appropriate.

RAI-STSB-01

FitzPatrick TS 3.4.7 does not currently include an equivalent requirement to NUREG-1433, STS 3.4.8 Condition C (re-numbered as Condition E), therefore Condition E is not proposed to be adopted. TSTF-580 allows suspension of LCO 3.0.3 and other LCO Required Actions when no RHR shutdown cooling subsystem is in operation. Part of the technical basis for the approval of TSTF-580 was the inclusion of Condition E which ensures that: 1) one RHR or recirculation pump is restored without delay, and 2) an alternate method of reactor coolant recirculation is established without delay so that coolant temperature can be adequately monitored. In the LAR, CEG stated that it had reviewed the information in TSTF-580 and the model SE and determined that it applied to FitzPatrick. However, FitzPatrick's adoption of the TSTF without Condition E as proposed, would leave a deficiency that no requirement to establish heat removal and monitor reactor coolant temperature would be required when no RHR or recirculation pumps is operating.

- Please explain how FitzPatrick meets the technical basis for TSTF-580 without Condition E.

Hearing Identifier: NRR_DRMA
Email Number: 2245

Mail Envelope Properties (SA1PR09MB9605991DA2F51B8B8377834D92F8A)

Subject: FINAL RAI - Constellation Energy Generation, LLC – Fleet Request – License Amendment Request to Adopt TSTF-580, Revision 1 (EPID No. L-2023-LLA-0077)
Sent Date: 9/21/2023 2:38:48 PM
Received Date: 9/21/2023 2:38:52 PM
From: Scott Wall

Created By: Scott.Wall@nrc.gov

Recipients:

"Simpson, Patrick R.:(Exelon Nuclear)" <patrick.simpson@exeloncorp.com>

Tracking Status: None

"Steinman, Rebecca L:(Exelon Nuclear)" <Rebecca.Steinman@exeloncorp.com>

Tracking Status: None

"Mathews, Mitchel A:(Constellation Nuclear)" <Mitchel.Mathews@constellation.com>

Tracking Status: None

Post Office: SA1PR09MB9605.namprd09.prod.outlook.com

| Files | Size | Date & Time |
|--------------|-------------|------------------------|
| MESSAGE | 9592 | 9/21/2023 2:38:52 PM |

Options

Priority: Normal

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date: