



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 27, 2022

Mr. David P. Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – ISSUANCE OF
AMENDMENT NO. 350 RE: ADOPTION OF TSTF-264, REVISION 0
(EPID L-2021-LLA-0088)

Dear Mr. Rhoades:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 350 to Renewed Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the technical specifications in response to your application dated May 14, 2021.

The amendment revises Technical Specification (TS) 3.3.1.1, "RPS Instrumentation," by deleting Surveillance Requirements (SR) 3.3.1.1.5 and 3.3.1.1.6, which verify the overlap between the source range monitor and the intermediate range monitor, and between the intermediate range monitor and the average power range monitor.

A copy of our related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

Sincerely,

/RA/

Justin C. Poole, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosures:

1. Amendment No. 350 to DPR-59
2. Safety Evaluation

cc: Listserv



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CONSTELLATION FITZPATRICK, LLC

AND

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-333

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 350
Renewed Facility Operating License No. DPR-59

1. The U.S. Nuclear Regulatory Commission has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (on February 1, 2022, Exelon Generation Company, LLC was renamed Constellation Energy Generation, LLC (the licensee)) dated May 14, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-59 is hereby amended to read as follows:

- (2) Technical Specifications

- The Technical Specifications contained in Appendix A, as revised through Amendment No. 350, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

James G. Danna, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and Technical
Specifications

Date of Issuance: May 27, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 350
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
RENEWED FACILITY OPERATING LICENSE NO. DPR-59
DOCKET NO. 50-333

Replace the following page of the License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page
Page 3

Insert Page
Page 3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages
3.3.1.1-4
3.3.1.1-6

Insert Pages
3.3.1.1-4
3.3.1.1-6

- (3) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, at any time, any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, at any time, any byproduct, source, and special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration; or associated with radioactive apparatus, components or tools.
- (5) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Constellation Energy Generation, LLC is authorized to operate the facility at steady state reactor core power levels not in excess of 2536 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 350, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.5	NOT USED	
SR 3.3.1.1.6	NOT USED	
SR 3.3.1.1.7	Calibrate the local power range monitors.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.8	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.9	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Neutron detectors are excluded. 2. For Functions 1.a and 2.a, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. 3. For Function 2.b, the recirculation loop flow signal portion of the channel is excluded. <p>-----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWED VALUE
1. Intermediate Range Monitors					
a. Neutron Flux - High	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.9 SR 3.3.1.1.13	≤ 120/125 divisions of full scale
	5 ^(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.9 SR 3.3.1.1.13	≤ 120/125 divisions of full scale
b. Inop	2	3	G	SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.13	NA
	5 ^(a)	3	H	SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.13	NA
2. Average Power Range Monitors					
a. Neutron Flux - High, (Startup)	2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.9 SR 3.3.1.1.13	≤ 15% RTP
b. Neutron Flux - High (Flow Biased)	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.12 SR 3.3.1.1.13 SR 3.3.1.1.15	As specified in the COLR and ≤ 117% RTP

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 350

CONSTELLATION FITZPATRICK, LLC

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-333

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-59

1.0 INTRODUCTION

By letter dated May 14, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21134A211), Exelon Generation Company, LLC submitted a request for changes to the James A. FitzPatrick Nuclear Power Plant Technical Specifications (TSs). On February 1, 2022 (ML22032A333), Exelon Generation Company, LLC was renamed Constellation Energy Generation, LLC (the licensee). The proposed changes would modify TS 3.3.1.1, "RPS Instrumentation," by deleting Surveillance Requirements (SR) 3.3.1.1.5 and 3.3.1.1.6, which verify the overlap between the source range monitor (SRM) and the intermediate range monitor (IRM), and between the IRM and the average power range monitor (APRM).

The proposed changes are based on Technical Specifications Task Force (TSTF) traveler TSTF-264-A, Revision 0, 3.3.9 and 3.3.10 - *Delete Flux Monitors Specific Overlap Requirement SRs*, dated April 28, 1998 (ML040620165), as approved by letter dated July 26, 1999 (ML19067A141).

2.0 REGULATORY EVALUATION

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.36(c)(3) requires that TSs include items in the category of SRs, which 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 limiting conditions for operation (LCOs) will be met.

The NRC staff's guidance for the review of TSs is in chapter 16.0, "Technical Specifications," of NUREG 0800, Revision 3, *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light Water Reactor] Edition* (SRP), March 2010 (ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has

prepared Standard Technical Specifications (STSs) for each of the LWR nuclear designs. Accordingly, the NRC staff's review includes consideration of whether the proposed changes are consistent with NUREG-1433, *Standard Technical Specifications, General Electric BWR/4 Plants*, Volume 1, "Specifications," and Volume 2, "Bases," Revision 4.0, April 2012 (ML12104A192 and ML12104A193, respectively), as modified by NRC approved travelers.

3.0 TECHNICAL EVALUATION

3.1 Current FitzPatrick TS Requirements for Nuclear Instrumentation Neutron Flux Indication Overlap Verification

TS 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," SRs 3.3.1.1.5 and 3.3.1.1.6, require verification of overlap for the SRM and IRM indications, and for the IRM and APRM indications, respectively. The Bases for these SRs explain what constitutes acceptable overlap in each case and state, in part, that:

Overlap between IRMs and APRMs exists when sufficient IRMs and APRMs concurrently have onscale readings such that the transition between MODE 1 and MODE 2 can be made without either APRM downscale rod block, or IRM upscale rod block. Overlap between the SRMs and IRMs similarly exists when, prior to withdrawing the SRMs from the fully inserted position, IRMs are above mid-scale on range 1 before SRMs have reached the upscale rod block.

The Frequency of SR 3.3.1.1.5 (IRM-SRM overlap verification) is, "Prior to fully withdrawing SRMs." The surveillance column note in SR 3.3.1.1.6 (APRM-IRM overlap verification) states, "Only required to be met during entry into MODE 2 from MODE 1." The Frequency of SR 3.3.1.1.6 is "In accordance with the Surveillance Frequency Control Program."

SR 3.3.1.1.1 requires a CHANNEL CHECK of IRM and APRM channels in accordance with the surveillance frequency control program.

As specified in TS Table 3.3.1.1-1, in Mode 2, SR 3.3.1.1.5 applies to RPS Function 1.a, IRM Neutron Flux - High, and SR 3.3.1.1.6 applies to RPS Function 1.a, and Function 2.a, APRM Neutron Flux - High (Startup). In addition, SR 3.3.1.1.1 applies to both Function 1.a and Function 2.a.

3.2 Proposed FitzPatrick TS Requirements for Nuclear Instrumentation Neutron Flux Indication Overlap Verification

The proposed change revises FitzPatrick TS 3.3.1.1, "RPS Instrumentation," by deleting SR 3.3.1.1.5 and SR 3.3.1.1.6, which verify the SRM-IRM neutron flux indication overlap and the IRM-APRM neutron flux indication overlap, respectively. TS 3.3.1.1 retains the surveillance number designators but replaces the surveillance statement and any associated surveillance note with the phrase "(Not used.," and leaves the frequency column blank in the SRs table rows for existing SR 3.3.1.1.5 and SR 3.3.1.1.6.

A CHANNEL CHECK is currently required for Functions 1.a and 2.a with a Frequency of "In accordance with the Surveillance Frequency Control Program." FitzPatrick TS Section 1.1 defines a CHANNEL CHECK as follows (the same as the STS definition):

A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

As explained in TSTF-264-A, this definition of A CHANNEL CHECK in the STS may be interpreted as requiring SRM-IRM and IRM-APRM neutron flux indication overlap verification for the IRM-and APRM-associated RPS Functions that are required to be operable in Mode 2 (i.e., Functions 1.a and 2.a). Therefore, consistent with TSTF-264-A, the present indication overlap verifications may be considered redundant to the channel check SR.

The licensee stated that it will relocate the existing discussions of the SR 3.3.1.1.5 and SR 3.3.1.1.6 overlap verification requirements from the existing Bases to the Bases for SR 3.3.1.1.1. Specifically, the licensee plans to add the following paragraph to SR 3.3.1.1.1 Bases:

The agreement criteria includes an expectation of one decade of overlap when transitioning between neutron flux instrumentation. The overlap between SRMs and IRMs must be demonstrated prior to withdrawing SRMs from the fully inserted position since indication is being transitioned from the SRMs to the IRMs. This will ensure that reactor power will not be increased into a neutron flux region without adequate indication. The overlap between IRMs and APRMs is of concern when reducing power into the IRM range (entry into MODE 2 from MODE 1). On power increases, the system design will prevent further increases (by initiating a rod block) if adequate overlap is not maintained. Overlap between IRMs and APRMs exists when sufficient IRMs and APRMs concurrently have onscale readings such that the transition between MODE 1 and MODE 2 can be made without either APRM downscale rod block, or IRM upscale rod block. Overlap between SRMs and IRMs similarly exists when, prior to withdrawing the SRMs from the fully inserted position, IRMs are above mid-scale on range 1 before SRMs have reached the upscale rod block.

If overlap for a group of channels is not demonstrated (e.g., IRM/APRM overlap), the reason for the failure of the Surveillance should be determined and the appropriate channel(s) declared inoperable. Only those appropriate channels that are required in the current MODE or condition should be declared inoperable.

In adopting TSTF-264-A, the FitzPatrick TS 3.3.1.1 retains the surveillance number designators but replaces the surveillance statement and any associated surveillance note with the phrase "(Not used.)" and leaves the frequency column blank in the SRs table rows for existing SR 3.3.1.1.5 and SR 3.3.1.1.6. This is in lieu of removing these rows and renumbering the existing subsequent SRs, as done in the traveler's markup of NUREG-1433, Revision 1. In addition, the references to these SRs in FitzPatrick TS Table 3.3.1.1-1 are removed. References to SR 3.3.1.1.5 and SR 3.3.1.1.6 in the Bases for FitzPatrick TS 3.3.1.2, "SRM Instrumentation," will be replaced by references to SR 3.3.1.1.1. No changes were needed to FitzPatrick TS 3.3.1.2 requirements on SRM channel operability, actions, or surveillances in Mode 2 with IRMs on Range 2 or below.

The licensee stated that it would maintain the existing neutron flux monitor channel indication overlap criteria by relocating the discussion of the criteria to the Bases for FitzPatrick TS SR 3.3.1.1.1 for RPS Functions 1.a and 2.a. The overlap check will be performed when SR 3.3.1.1.1 is performed for RPS Functions 1.a and 2.a. Although the TS Bases are a

licensee-controlled document, changes to the TS Bases are controlled by the 10 CFR 50.59 process. The NRC staff finds that the licensee continues to uphold the previously approved definition of overlap and will maintain compliance with the requirement to verify SRM-IRM and IRM-APRM indication overlap at the necessary ranges of reactor power by performing the channel check specified for TS 3.3.1.1 Functions 1.a and 2.a at the Frequencies stated in the surveillance frequency control program.

The NRC staff has determined that the proposed changes are in accordance with NRC-approved TSTF-264, Revision 0, with no technical deviations, are consistent with STS Revision 4.0, and the overlap check will still be performed during surveillance testing.

Additionally, the NRC staff concludes that the requirements of 10 CFR 50.36(c)(3) continue to be met because the revised SR provides the appropriate surveillance to ensure the necessary quality of components is maintained and the LCO will be met. Based on the above, the NRC staff concludes the proposed changes to SR 3.3.1.1.5, SR 3.3.1.1.6, and Table 3.3.1.1 1 of FitzPatrick TS 3.3.1.1 to be acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment on April 29, 2022. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (November 2, 2021; 86 FR 60484). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor(s): T. Sweat

Date: May 27, 2022

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – ISSUANCE OF AMENDMENT NO. 350 RE: ADOPTION OF TSTF-264, REVISION 0 (EPID L-2021-LLA-0088) DATED MAY 27, 2022

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***via memorandum**

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