



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

February 17, 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: LIMERICK GENERATING STATION, UNITS 1 AND 2 – ISSUANCE OF AMENDMENT NOS. 256 AND 218 RE: TECHNICAL SPECIFICATION CHANGES RELATED TO TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER 205-A, REVISION 3, “REVISION OF CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, AND RELATED DEFINITIONS.” (EPID L-2021-LLA-0018)

Dear Mr. Rhoades:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment Nos. 256 and 218 to Renewed Facility Operating License Nos. NPF-39 and NPF-85 for the Limerick Generating Station, Units 1 and 2 (Limerick), respectively, in response to your application dated February 17, 2021.

Pursuant to Title 10 of the *Code of Federal Regulations*, Section 50.90 (10 CFR 50.90), the licensee proposed to revise the Limerick, Units 1 and 2, technical specifications (TSs) Definitions 1.4, 1.6 and 1.20 for CHANNEL CALIBRATION, CHANNEL FUNCTION TEST, and LOGIC SYSTEM FUNCTIONAL TEST, respectively to align with the definitions in the Technical Specifications Task Force (TSTF) Traveler 205-A, Revision 3, “Revision of Channel Calibration, Channel Functional Test, and Related Definitions” and to eliminate the requirement of the logic system functional test to continue through to the actuating device at the end of the logic sequence.

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

Sincerely,

/RA/

V. Sreenivas, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosures:

1. Amendment No. 256 to Renewed NPF-39
2. Amendment No. 218 to Renewed NPF-85
3. Safety Evaluation

cc: Listserv



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

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 256
Renewed License No. NPF-39

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (Exelon Generation Company), dated February 17, 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. NPF-39 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 256, are hereby incorporated into this renewed license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of 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: February 17, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 256

LIMERICK GENERATING STATION, UNIT 1

RENEWED FACILITY OPERATING LICENSE NO. NPF-39

DOCKET NO. 50-352

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

<u>Remove Page</u>	<u>Insert Page</u>
3	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 a marginal line indicating the areas of change.

<u>Remove Page</u>	<u>Insert Page</u>
1-1	1-1
1-4	1-4

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and to use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
 - (3) 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) Pursuant to the Act and 10 CFR Parts 30, 40, 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility, and to receive and possess, but not separate, such source, byproduct, and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station.
- C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below) 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 reactor core power levels not in excess of 3515 megawatts thermal (100% rated power) in accordance with the conditions specified herein and in Attachment 1 to this license. The items identified in Attachment 1 to this renewed license shall be completed as specified. Attachment 1 is hereby incorporated into this renewed license.
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 256, are hereby incorporated into this renewed license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

1.0 DEFINITIONS

The following terms are defined so that uniform interpretation of these specifications may be achieved. The defined terms appear in capitalized type and shall be applicable throughout these Technical Specifications.

ACTION

- 1.1 ACTION shall be that part of a Specification which prescribes remedial measures required under designated conditions.

AVERAGE PLANAR EXPOSURE

- 1.2 The AVERAGE PLANAR EXPOSURE shall be applicable to a specific planar height and is equal to the sum of the exposure of all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle.

AVERAGE PLANAR LINEAR HEAT GENERATION RATE

- 1.3 The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) shall be applicable to a specific planar height and is equal to the sum of the LINEAR HEAT GENERATION RATES for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle.

CHANNEL CALIBRATION

- 1.4 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass all the devices in the channel required for OPERABILITY and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

CHANNEL CHECK

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

CHANNEL FUNCTIONAL TEST

- 1.6 A CHANNEL FUNCTIONAL TEST shall be:

- a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY.
- b. Bistable channels - the injection of a simulated signal into the sensor to verify OPERABILITY of all devices in the channel required for OPERABILITY.

The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping or total channel steps and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

DEFINITIONS

LOGIC SYSTEM FUNCTIONAL TEST

- 1.20 A LOGIC SYSTEM FUNCTIONAL TEST shall be a test of all logic components required for OPERABILITY of a logic circuit, from as close to the sensor as practical up to, but not including the actuated device, to verify OPERABILITY. The LOGIC SYSTEM FUNCTIONAL TEST may be performed by any series of sequential, overlapping or total system steps such that the entire logic system is tested.

LOW (POWER) TRIP SETPOINT (LTSP)

- 1.20a The low power trip setpoint associated with the Rod Block Monitor (RBM) rod block trip setting applicable between 30% and 65% reactor thermal power.

- 1.21 (Deleted)

MEMBER(S) OF THE PUBLIC

- 1.22 MEMBER OF THE PUBLIC means any individual except when that individual is receiving an occupational dose.

MAPFAC(F)-(MAPLHGR FLOW FACTOR)

- 1.22a A core flow dependent multiplication factor used to flow bias the standard Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) limit.

MAPFAC(P)-(POWER DEPENDENT MAPLHGR MULTIPLIER)

- 1.22b A core power dependent multiplication factor used to power bias the standard Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) limit.

MINIMUM CRITICAL POWER RATIO (MCPR)

- 1.23 The MINIMUM CRITICAL POWER RATIO (MCPR) shall be the smallest CPR which exists in the core (for each class of fuel). Associated with the minimum critical power ratio is a core flow dependent (MCPR(F)) and core power dependent (MCPR(P)) minimum critical power ratio.

OFFSITE DOSE CALCULATION MANUAL

- 1.24 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm/trip setpoints, and in the conduct of the Radiological Environmental Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.7 and 6.9.1.8.

OPERABLE - OPERABILITY

- 1.25 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s) and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support function(s).



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

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 218
Renewed License No. NPF-85

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (Exelon Generation Company), dated February 17, 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. NPF-85 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 218, are hereby incorporated into this renewed license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of 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: February 17, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 218

LIMERICK GENERATING STATION, UNIT 2

RENEWED FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

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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 a marginal line indicating the areas of change.

<u>Remove Page</u>	<u>Insert Page</u>
1-1	1-1
1-4	1-4

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and to use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
- (3) 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) Pursuant to the Act and 10 CFR Parts 30, 40, 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility, and to receive and possess, but not separate, such source, byproduct, and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below) 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 reactor core power levels of 3515 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 218, are hereby incorporated into this renewed license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

1.0 DEFINITIONS

The following terms are defined so that uniform interpretation of these specifications may be achieved. The defined terms appear in capitalized type and shall be applicable throughout these Technical Specifications.

ACTION

- 1.1 ACTION shall be that part of a Specification which prescribes remedial measures required under designated conditions.

AVERAGE PLANAR EXPOSURE

- 1.2 The AVERAGE PLANAR EXPOSURE shall be applicable to a specific planar height and is equal to the sum of the exposure of all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle.

AVERAGE PLANAR LINEAR HEAT GENERATION RATE

- 1.3 The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) shall be applicable to a specific planar height and is equal to the sum of the LINEAR HEAT GENERATION RATES for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle.

CHANNEL CALIBRATION

- 1.4 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass all devices in the channel required for OPERABILITY and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

CHANNEL CHECK

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

CHANNEL FUNCTIONAL TEST

- 1.6 A CHANNEL FUNCTIONAL TEST shall be:

- a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY.
- b. Bistable channels - the injection of a simulated signal into the sensor to verify OPERABILITY of all devices in the channel required for OPERABILITY.

The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping or total channel steps and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

DEFINITIONS

LOGIC SYSTEM FUNCTIONAL TEST

- 1.20 A LOGIC SYSTEM FUNCTIONAL TEST shall be a test of all logic components required for OPERABILITY of a logic circuit, from as close to the sensor as practical up to, but not including the actuated device, to verify OPERABILITY. The LOGIC SYSTEM FUNCTIONAL TEST may be performed by any series of sequential, overlapping or total system steps such that the entire logic system is tested.

LOW (POWER) TRIP SETPOINT (LTSP)

- 1.20a The low power trip setpoint associated with the Rod Block Monitor (RBM) rod block trip setting applicable between 30% and 65% reactor thermal power.
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- 1.22 MEMBER OF THE PUBLIC means any individual except when that individual is receiving an occupational dose.

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- 1.22a A core flow dependent multiplication factor used to flow bias the standard Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) limit.

MAPFAC(P)-(POWER DEPENDENT MAPLHGR MULTIPLIER)

- 1.22b A core power dependent multiplication factor used to power bias the standard Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) limit.

MINIMUM CRITICAL POWER RATIO (MCPR)

- 1.23 The MINIMUM CRITICAL POWER RATIO (MCPR) shall be the smallest CPR which exists in the core (for each class of fuel). Associated with the minimum critical power ratio is a core flow dependent (MCPR(F)) and core power dependent (MCPR(P)) minimum critical power ratio.

OFFSITE DOSE CALCULATION MANUAL

- 1.24 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm/trip setpoints, and in the conduct of the Radiological Environmental Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.7 and 6.9.1.8.

OPERABLE - OPERABILITY

- 1.25 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s) and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support function(s).



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 256

TO RENEWED FACILITY OPERATING LICENSE NO. NPF-39

AND AMENDMENT NO. 218

TO RENEWED FACILITY OPERATING LICENSE NO. NPF-85

CONSTELLATION ENERGY GENERATION, LLC

LIMERICK GENERATING STATION, UNITS 1 AND 2

DOCKET NOS. 50-352 AND 50-353

1.0 INTRODUCTION

By letter dated February 17, 2021, (Agencywide Documents and Access Management System (ADAMS) Accession No. ML21048A324), Exelon Generation Company, LLC submitted a license amendment request (LAR) to modify Technical Specification (TS) to adopt TSTF-205-A "Revision of Calibration, Channel Functional Test, and Related Definitions" and eliminate the requirement of the logic system functional test to continue through to the actuating device at the end of the logic sequence. On February 1, 2022 (ADAMS Accession No. ML22032A333), Exelon Generation Company, LLC (the licensee) was renamed Constellation Energy Generation, LLC.

The proposed changes would revise Limerick Generating Station (Limerick) TS 1.0 Definitions 1.4 CHANNEL CALIBRATION, 1.6 CHANNEL FUNCTION TEST, and 1.20 LOGIC SYSTEM FUNCTIONAL TEST. The proposed changes will align the Limerick TS definitions with the definitions in the Technical Specifications Task Force (TSTF) Traveler 205-A, Revision 3, "Revision of Channel Calibration, Channel Functional Test, and Related Definitions." Additionally, LOGIC SYSTEM FUNCTIONAL TEST is further revised to eliminate the requirement of the logic system functional test to continue through to the actuating device at the end of the logic sequence.

The changes would add clarity to TS 1.0 Definitions to eliminate a current ambiguity and possible misinterpretation. The changes will also eliminate the requirement of the logic system functional test to continue through to the actuating device at the end of the logic circuit sequence because it is already included in other tests to determine OPERABILITY. This will help to reduce wear and tear on the actuating device by reducing the number of times it is actuated in surveillances.

2.0 REGULATORY EVALUATION

The regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.36, "Technical specifications," Paragraph (a), require that each operating license application for a production or utilization facility include proposed TSs and a summary statement of the bases for such specifications. Paragraph (c) of 10 CFR 50.36 requires, in part, that TSs include the following categories related to facility operation: (1) safety limits, limiting safety systems settings, and control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls.

The regulations in 10 CFR 50.36(c)(3), "Surveillance requirements," state, "Surveillance requirements 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 will be met."

The Nuclear Regulatory Commission (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 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared Standard Technical Specifications (STs) for each of the LWR nuclear designs. Accordingly, the NRC staff's review includes consideration of whether the proposed changes are consistent with the, "Standard Technical Specifications, General Electric, BWR/4 Plants," NUREG-1433, Volume 1, "Specifications," and Volume 2, "Bases," Revision 4.0, April 2012 (ADAMS Accession Nos. ML12104A192 and ML12104A193, respectively) as modified by NRC-approved travelers.

3.0 TECHNICAL EVALUATION

TSTF-205-A, Revision 3, changes revised definitions for Channel Calibration, Channel Functional Test, and Logic System Functional Test in the improved STs to remove potential ambiguity in what constitutes an acceptable test.

TS Section 1.0 includes definitions for instrumentation testing requirements. In accordance with 10 CFR 50.36(c)(3), "Surveillance requirements [SRs] are requirements relating to test, calibration, or inspection needed to assure that the necessary quality of systems and components is maintained, facility operation is within limits, and that the TS limiting conditions for operation are met." The definitions of Channel Calibration, Channel Functional Test, and Logic System Functional Test establish requirements for conducting testing including what the test involves, the scope of components that the test encompasses, and instructions on how the test is to be performed. The terms defined in TS Section 1.0 are referenced throughout instrumentation TS SRs to help assure consistent performance of SRs.

In its application, the licensee proposed to adopt TSTF-205-A, Revision 3, TS changes to the definitions of the Channel Calibration, Channel Functional Test, and Logic System Functional Test to eliminate current ambiguity and possible misinterpretations of testing requirements. The current definitions for instrumentation Channel Calibration, Channel Functional Test, and Logic System Functional Test use phrases "the entire channel including the sensor and alarm and/or trip functions," and "including alarm and/or trip functions and channel failure trips" to describe those instrument channel devices required to be included for specified tests. There is ambiguity in whether the list is inclusive of all devices that must be tested or whether the list is representative of devices to be tested. Thus, the licensee requested to adopt proposed

changes from TSTF-205-A, Revision 3, which replace the string of required instrument channel devices in the definitions discussed above with "all devices in the channel required for channel OPERABILITY."

The revised channel functional test definition does not address the method for conducting testing of all required channel devices. The NRC staff position is that a successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable channel functional test of a relay. This is acceptable because all the other required contacts of the relay are verified by other TS and non-TS tests at least once per refueling interval with applicable extensions. This NRC staff position is incorporated into the TSTF-205-A, Revision 3, bases for channel functional tests. The licensee chose to adopt the approved TSTF-205-A, Revision 3, bases to clarify testing requirements by modifying the bases of applicable surveillances to provide acceptable methods of testing.

In addition, the current TS definition for Channel Calibration specifies that testing may be "performed by means of any series of sequential, overlapping or total channel steps so that the entire channel is calibrated" and the definition for Channel Functional Test specifies that testing may be "performed by means of any series of sequential, overlapping or total channel steps so that the entire channel is tested." The proposed TS changes delete the phrase "such that the entire channel is calibrated" from the definition of channel calibration and "such that the entire channel is tested" from the definition of channel functional test to eliminate a verbatim conflict between the definition and the TSTF-205-A, Revision 3, bases, which state a successful test to be the verification of the change of state of a single contact of the relay.

3.1 Variations

The licensee proposed to eliminate the requirement of a LOGIC SYSTEM FUNCTIONAL TEST to continue through to actuate the device at the end of the logic circuit sequence. The current definition of LOGIC SYSTEM FUNCTIONAL TEST states that the action will go to completion (e.g., pumps will be started, and valves operated). The proposed revised definition will still require the test to include all logic components in the circuit up to, but not including the actuated device. The licensee stated that the proposed change narrows the LOGIC SYSTEM FUNCTIONAL TEST focus on the logic circuit as the criteria of testing, not including the actuated device, which will be tested separately under the Inservice Testing Program (IST). Also, not actuating the device reduces unnecessary wear on the actuated device, prolonging the life of the device and lowering the probability of unwanted transients to the plant.

4.0 TECHNICAL CONCLUSION

The NRC staff reviewed the changes proposed by the licensee and finds them acceptable because they are compatible with the STSs, do not result in any substantive change in operating requirements, and are consistent with 10 CFR 50.36(c)(3). These changes will provide for a consistent application of the definitions, tests, and calibrations.

In addition, the NRC staff reviewed the proposed variation to TSTF-205-A and determined that the requested variation is acceptable because the LOGIC SYSTEM FUNCTIONAL TEST will continue to require the test to include all the logic components in the circuit and continue to meet the requirements of 10 CFR 50.36(c)(3) and are consistent with NUREG-1433. The logic systems consist of detection devices activated by pressure switches, temperature switches, etc. and decision-making relay networks that will cause a safety system component or device to

operate when needed. A LOGIC SYSTEM FUNCTIONAL TEST includes all logic components in these decision-making networks to assure that the system will operate as designed. Actuated devices are subject to the licensee's IST requirements, and the combined testing of the various components and logic systems verify the operability of the entire system.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments on January 3, 2021. The State official had no comments.

7.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on December 1, 2020 (85 FR 77274). 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 amendments.

8.0 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: T. Sweat, NRR

Date of Issuance: February 17, 2022

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