

February 17, 2021

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

Limerick Generating Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352 and 50-353

SUBJECT: License Amendment Request for Application to Revise Technical Specifications to Adopt TSTF-205-A “Revision of Calibration, Channel Functional Test, and Related Definitions.”

Pursuant to 10 CFR 50.90, “Application for amendment of license, construction permit or early site permit” Exelon Generation Company, LLC (Exelon), proposes changes to the Technical Specifications (TS), Appendix A of Renewed Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2, respectively.

The proposed amendments would revise LGS TS Definitions 1.4, 1.6 and 1.20 for CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST, respectively. The proposed changes will align the LGS TS definitions with the definitions in Technical Specification 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 circuit sequence.

The proposed changes are consistent with NUREG 1433, Revision 4, Volume 1, Section 1.1 “Definitions,” and the associated language for CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST. Deviations from the approved TSFT-205-A due to LGS not being an improved Standard Technical Specification nuclear power plant are explained in Attachment 1 of this document.

Evaluation of the proposed changes is provided in Attachment 1. Markups of the proposed TS changes are provided in Attachment 2.

Exelon has concluded that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92, “Issuance of amendment.”

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The proposed changes have been reviewed by the Plant Operations Review Committee in accordance with the requirements of the Exelon Quality Assurance Program.

This license amendment request contains no regulatory commitments.

Exelon requests approval of the proposed amendments by February 17, 2022. Upon NRC approval, the amendments shall be implemented within 60 days of issuance.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), Exelon is notifying the Commonwealth of Pennsylvania of this application for license amendment by transmitting a copy of this letter and its attachments to the designated State Official.

If you have any questions or require additional information, please contact Steve Flickinger at 267-533-1437.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 17th day of February 2021.

Respectfully,



David P. Helker
Sr. Manager, Licensing
Exelon Generation Company, LLC

Attachments: 1. Evaluation of Proposed Changes
2. Proposed Technical Specifications Markup Pages

cc: USNRC Region I, Regional Administrator w/ attachments
USNRC Project Manager, LGS "
USNRC Senior Resident Inspector, LGS "
Director, Bureau of Radiation Protection - Pennsylvania Department of Environmental Protection "

ATTACHMENT 1

License Amendment Request

Limerick Generating Station, Units 1 and 2

Docket Nos. 50-352 and 50-353

EVALUATION OF PROPOSED CHANGES

Subject: License Amendment Request for Application to Revise Technical Specifications to Adopt TSTF-205-A “Revision of Calibration, Channel Functional Test, and Related Definitions.”

- 1.0 SUMMARY DESCRIPTION**
- 2.0 DETAILED DESCRIPTION**
- 3.0 TECHNICAL EVALUATION**
- 4.0 REGULATORY EVALUATION**
 - 4.1 Applicable Regulatory Requirements/Criteria**
 - 4.2 Precedent**
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1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit or early site permit," Exelon Generation Company, LLC (Exelon), proposes changes to the Technical Specifications (TS), Appendix A of Renewed Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2, respectively.

The proposed amendments would revise LGS TS Definitions 1.4, 1.6 and 1.20 for CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST, respectively. The proposed changes will align the LGS TS definitions with the definitions in Technical Specification 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 circuit sequence.

The proposed changes are consistent with NUREG 1433, Revision 4, Volume 1, Section 1.1 "Definitions," and the associated language for CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST. Deviations from the approved TSFT-205-A due to LGS not being an improved Standard Technical Specification (STS) nuclear power plant are explained in this attachment as described below.

2.0 DETAILED DESCRIPTION

The proposed amendments would revise LGS TS Definitions 1.4, 1.6 and 1.20 for CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST, respectively, as shown below.

The LGS TS 1.4 CHANNEL CALIBRATION definition changes are shown below:

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 ~~the entire channel including the sensor and alarm and/or trip functions, and shall include the~~ 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, ~~such that the entire channel is calibrated,~~ and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

The LGS TS 1.6 CHANNEL FUNCTIONAL TEST definition changes are shown below:

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 ~~including alarm and/or trip functions and channel failure trips~~ 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 ~~including alarm and/or trip functions~~ 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 ~~such that the entire channel is tested,~~ and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

The LGS TS 1.20 LOGIC SYSTEM FUNCTIONAL TEST definition changes are shown below:

A LOGIC SYSTEM FUNCTIONAL TEST shall be a test of all logic components, ~~i.e., all relays and contacts, all trip units, solid state logic elements, etc.,~~ required for OPERABILITY of a logic circuit, from ~~as close to the sensor as practicable up to, but not including, through and 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.

The proposed amendments would revise LGS TS Definitions 1.4, 1.6 and 1.20 for CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST to align the LGS TS definitions with the definitions approved in TSTF-205-A.

Additionally, the proposed changes eliminate the requirement of the LOGIC SYSTEM FUNCTIONAL TEST to continue through to actuate the device at the end of the logic circuit sequence. The revised definition will require the test to include all logic components in the circuit required for operability up to, but not including, the actuated device.

The proposed changes are consistent with NUREG 1433, Revision 4, Volume 1, Section 1.1 "Definitions."

LGS UFSAR Chapter 7, "Instrumentation and Control Systems," includes, through references, much of the licensing basis for LGS's current practices for conducting CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST and LOGIC SYSTEM FUNCTIONAL TEST. Upon issuance of license amendments in this matter, the UFSAR will be updated, as necessary.

3.0 TECHNICAL EVALUATION

3.1 Applicability of the Published Safety Evaluation

The proposed amendments would revise LGS TS Definitions 1.4, 1.6 and 1.20 for CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST, respectively.

The revised definitions eliminate a current ambiguity and possible misinterpretation of CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST. The current definitions use phrases similar to "required sensor, alarm, interlock, display and trip functions," and "required relays and contacts, trip units, solid state logic elements, etc." There is ambiguity in the application of the word "required" and whether the list is inclusive or representative. Therefore, this list has been replaced with phrases similar to, "all devices in the channel required for channel OPERABILITY." This clarifies the use of the word "required" and makes clear that the components that are required to be tested or calibrated are only those that are necessary for the channel to perform its safety function. The list of components is eliminated from the definition. These changes will clarify the requirements and allow for consistent application of the definitions, tests, and calibrations.

In addition, in the statement addressing the allowance to have the test "... performed by means of any series of sequential, overlapping or total channel steps. . ." the statement "... such that the entire channel/relay is tested/calibrated..." is deleted. This deletion is purely to remove the conflict between the verbatim reading of the definition where it is stated "... of all devices in the channel required for channel OPERABILITY."

The revised CHANNEL FUNCTIONAL TEST definition does not address the method of the testing of all of the required channel devices. A successful test of a channel relay and associated required contacts may be the verification of a single contact and that all contacts of the required device need not be tested provided the required channel contact is otherwise tested.

These changes are consistent with the improved STS definition in NUREG-1433, Revision 4, and are therefore acceptable.

3.2 Deviations from the Published TSTF-205-A

Currently, a LOGIC SYSTEM FUNCTIONAL TEST shall be a test of all logic components, i.e., all relays and contacts, all trip units, solid state logic elements, etc., of a logic circuit, from sensor through and 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. A LOGIC SYSTEM FUNCTIONAL TEST is conducted as a Surveillance Requirement (SR) within TS.

In addition to clarifying the testing of components required for OPERABILITY, the proposed change eliminates 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 revised definition will still require the test to include all logic components in the circuit up to, but not including, the actuated device. Completion of the logic circuit will be required for the test to be concluded as satisfactory. This narrows the LOGIC SYSTEM FUNCTIONAL TEST focus on the logic circuit as the criteria of testing, not including the actuated device, which is tested separately under other testing requirement, e.g., in-service testing, etc. Furthermore, by not actuating the device it lessens unnecessary wear on the actuating device, prolonging the life of the device and lowering the probability of unwanted transients to the plant.

The proposed change to the definition of a LOGIC SYSTEM FUNCTIONAL TEST and explicit exclusion of any requirement to test the actuated device is consistent with current industry standards (Reference 4) and clarifies the definition so that the testing requirement is more clearly understood. The revised definition does not necessarily require testing of the sensor or actuated device as part of the LOGIC SYSTEM FUNCTIONAL TEST. However, existing requirements for the testing of sensors and actuated devices as part of channel calibrations and inservice tests (ISTs) are unchanged and are adequate to verify operability of those components or devices (e.g., pumps and valves).

A LOGIC SYSTEM FUNCTIONAL TEST is a complex surveillance which may require numerous temporary alterations and complicated administrative controls. The complexity of the surveillance

tests has a significant potential for undesired actuations and Operator error which can induce undesirable plant transients.

Testing instrument channels and logic circuits separate from their actuated devices is acceptable industry practice. Actuated devices (e.g., pumps and valves) are subject to IST requirements, and the combined testing of the various components and logic systems verify the operability of the entire system.

Logic systems are comprised of detection devices activated by certain physical conditions (e.g., pressure switches, temperature switches, etc.) and decision-making relay networks that will cause a safety system component or device (e.g., pump, valve, etc.) to operate when needed. Each relay in a decision-making logic network has one or more contact pairs associated with it. A LOGIC SYSTEM FUNCTIONAL TEST includes all logic components (including relays and contacts) in these decision-making networks to assure that the system will operate as designed upon demand.

LOGIC SYSTEM FUNCTIONAL TEST should test for operability of all relays, contacts, trip units and solid-state logic elements from as close to the sensor as practicable up to but need not include the actuated device. A LOGIC SYSTEM FUNCTIONAL TEST may consist of a single, integrated test, but may also be performed as a series of tests, provided that when combined, the entire logic system is tested. To ensure that no part of the logic is overlooked, the procedures for these partial functional tests ensure that an overlap occurs between where one section of testing ends, and the next section begins.

TSTF-205-A also adds two paragraphs to the TS Bases section for TS Instrumentation. The paragraphs provide added clarifying information for what is an acceptable CHANNEL FUNCTIONAL TEST of a relay under the Surveillance Requirements (SR). The clarifying wording is added to the Bases of several Instrumentation system SR. This is done because improved STS plants have Bases for their SRs. Limerick is not an improved STS plant, does not have information in their TS Bases for SRs and therefore the TSTF-205-A TS Bases inserts do not apply to Limerick.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Exelon Generation Company, LLC (Exelon), proposes changes to the Technical Specifications (TS), Appendix A of the Renewed Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2, respectively.

The LGS TS contain definitions of terms used throughout the TS. These include definitions of CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST. These definitions provide basic information about what the test involves, the components encompassed in the test, and general information regarding how the test is to be performed.

The proposed revisions are based on the NRC-approved Technical Specification Task Force Traveler TSTF-205-A, Revision 3, "Revision of Channel Calibration, Channel Functional Test,

and Related Definitions." As discussed in TSTF-205-A, Revision 3, the revisions eliminate ambiguity and possible misinterpretation of the definitions and are not intended to change the meaning or intent of the affected definitions.

The proposed changes also eliminate the requirement of the logic system functional test to continue through to actuating the device at the end of the logic circuit sequence. The revised definition will require the test to include all logic components in the circuit up to, but not including, the actuated device.

The proposed changes conform to the requirements of 10 CFR 50.36, "Technical specifications," for the contents of TS, and are consistent with the Improved Standard Technical Specifications issued by the NRC in NUREG-1433, "Standard Technical Specifications – General Electric BWR/4 Plants." The definition section of the TS has historically been provided to help maintain consistency within the TS as well as with industry practices (Reference 3). The requirements of 10 CFR 50.36 do not require a definition section in the TS.

Exelon has evaluated the proposed changes, using the criteria in 10 CFR 50.92, "Issuance of amendment," and has determined that the proposed changes do not involve a significant hazards consideration. The following information is provided to support a finding of no significant hazards consideration.

4.2 Precedent

The proposed changes to TS Definitions 1.4, 1.6 and 1.20 are similar to changes previously approved by the NRC shown below:

NRC Letter to Cooper Nuclear Station, "Cooper Nuclear Station – Issuance of Amendment RE: Revise Technical Specifications Instrumentation Definitions (TAC No. MC8230)." March 10, 2006 (ADAMS Accession No. ML060460122). (Reference 4).

NRC Letter to Vermont Yankee Nuclear Power Station, "Vermont Yankee Nuclear Power Station – Issuance of Amendment RE: Logic System Functional Test (TAC No. MB7214)." December 23, 2003 (ADAMS Accession No. ML030730048). (Reference 5).

4.3 No Significant Hazards Consideration

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The definitions of CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST specified in TS provide basic information regarding what the test involves, the components involved in the test, and general information regarding how the test is to be performed. These definitions and their specific wording are not precursors to any accident. As a result, these revised definitions result in no increase in the probability or consequences of an accident previously evaluated.

The proposed revisions of these definitions involve no changes to plant design, equipment, or operation related to mitigation of accidents. The proposed revisions of these definitions do not change their meaning or intent. The proposed revisions clarify the definitions and do not result in a reduction of required testing of instrumentation used to mitigate accidents.

The revised LOGIC SYSTEM FUNCTIONAL TEST definition will still require the test to include all logic components in the circuit up to, but not including, the actuated device. Completion of the logic circuit will be required for the test to be concluded as satisfactory. Combined testing of the various components and logic systems verify the operability of the entire system and certain actuated devices (e.g., pumps and valves) are also subject to IST requirements.

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

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed revisions of the definitions do not involve a change to the design or operation of any plant structure, system, or component (SSC). As a result, the plant will continue to be operated in the same manner. The proposed revisions will not result in a change to how the instrumentation used to monitor plant operation and to mitigate accidents is tested. Operating the plant and testing the plant's instrumentation in the same manner as is currently done will not create the possibility of a new or different kind of accident.

Also, the revised LOGIC SYSTEM FUNCTIONAL TEST definition will still require the test to include all logic components in the circuit up to, but not including, the actuated device. The changes do not alter assumptions made in the safety analysis. The proposed changes are consistent with current industry standards (Reference 3) and plant operating practices.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No.

The affected definitions involve testing of instrumentation used in the mitigation of accidents to ensure that the instrumentation will perform as assumed in safety analyses. The proposed revisions of these definitions will not change their meaning or intent. As a result, the instrumentation will continue to be tested in the same manner as is currently done. Revising these definitions as proposed will not result in a change to the design or operation of any plant SSC used to shut down the plant, initiate the Emergency Core Cooling Systems, or isolate primary or secondary containment. As a result, the ability of the plant to respond to and mitigate accidents is unchanged by the revised definitions.

The revised LOGIC SYSTEM FUNCTIONAL TEST definition will still require the test to include all logic components in the circuit up to, but not including, the actuated device. Completion of the logic circuit will be required for the test to be concluded as satisfactory. Combined testing of the various components and logic systems verify the operability of the entire system and certain actuated devices (e.g., pumps and valves) are also subject to IST requirements.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

4.4 Conclusions

Based on the above, Exelon concludes that the proposed amendments present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of no significant hazards consideration is justified.

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed changes would not change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, and would not change an inspection or surveillance requirement. Furthermore, the proposed changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed changes.

6.0 REFERENCES

1. NUREG 1433, "Standard Technical Specifications," Revision 4, April 2012 (ADAMS Accession No. ML12104A19)
2. TSTF-205-A Revision 3, "Revision of Calibration, Channel Functional Test, and Related Definitions" dated July 31, 2003.
3. 338-1987, "IEEE Standard for Criteria for the Periodic Surveillance Testing of Nuclear Power Generating Station Safety", Section 6.3.5
4. NRC Letter to Cooper Nuclear Station, "Cooper Nuclear Station – Issuance of Amendment RE: Revise Technical Specifications Instrumentation Definitions (TAC No. MC8230)." March 10, 2006 (ADAMS Accession No. ML060460122).
5. NRC Letter to Vermont Yankee Nuclear Power Station, "Vermont Yankee Nuclear Power Station – Issuance of Amendment RE: Logic System Functional Test (TAC No. MB7214)." December 23, 2003 (ADAMS Accession No. ML030730048).

ATTACHMENT 2

License Amendment Request

**Limerick Generating Station, Units 1 and 2
Docket Nos. 50-352 and 50-353**

Proposed Technical Specifications Markup Pages

Unit 1 TS Pages

1-1
1-4

Unit 2 TS Pages

1-1
1-4

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 ~~the entire channel including the sensor and alarm and/or trip functions, and shall include the 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 ~~such that the entire channel is calibrated,~~ 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 ~~including alarm and/or trip functions and channel failure trips. 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 ~~including alarm and/or trip functions. 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 ~~such that the entire channel is tested,~~ 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, ~~i.e., all relays and contacts, all trip units, solid state logic elements, etc,~~ required for OPERABILITY of a logic circuit, from as close to the sensor as practical up to, but not including through and 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).

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 ~~the entire channel including the sensor and alarm and/or trip functions, and shall include the~~ 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 ~~such that the entire channel is calibrated,~~ 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 ~~including alarm and/or trip functions and channel failure trips 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 ~~including alarm and/or trip functions 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 ~~such that the entire channel is tested,~~ 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, ~~i.e., all relays and contacts, all trip units, solid state logic elements, etc,~~ required for OPERABILITY of a logic circuit, from as close to the sensor as practical up to, but not including through and 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).