

January 16, 2001

Mr. James A. Hutton
Director-Licensing
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Nuclear Group Headquarters
Correspondence Control
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SUBJECT: LIMERICK GENERATING STATION (LGS), UNIT 2 - ISSUANCE OF
AMENDMENT RE: POWER RANGE NEUTRON MONITORING (TAC NO. MA6966)

Dear Mr. Hutton:

The Commission has issued the enclosed Amendment No. 109 to Facility Operating License No. NPF-85 for the Limerick Generating Station (LGS), Unit 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated October 14, 1999, as supplemented February 11, September 22, and October 18, 2000.

This amendment revises TS Section 2.2, "Safety Limits and Limiting Safety Systems Settings," and TS Section 3.0/4.0, "Limiting Conditions for Operation and Surveillance Requirements." These revisions will support the installation of LGS Modification P00224 for Unit 2, which will install a Power Range Neutron Monitoring System and incorporate long-term thermal-hydraulic stability solution hardware.

Your October 14, 1999, letter proposed issuing amendments for both Units 1 and 2. Modification P00224 was installed on Unit 1 during the spring 2000 refueling outage, and TS Amendment No. 141 for Unit 1 was issued on April 12, 2000. Modification P00224 will be installed on Unit 2 during the spring 2001 refueling outage. This document approves your application for LGS Unit 2.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

James W. Clifford, Section Chief
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-353

Enclosures: 1. Amendment No. 109 to License No. NPF-85
2. Safety Evaluation

cc w/encls: See next page

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cc w/encls: See next page

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Limerick Generating Station, Units 1 & 2

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PECO ENERGY COMPANY

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 109
License No. NPF-85

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by PECO Energy Company (the licensee) dated October 14, 1999, as supplemented February 11, September 22, and October 18, 2000, 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 Facility Operating License No. NPF-85 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 109, are hereby incorporated in the license. PECO Energy Company 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 during the Limerick Generating Station, Unit 2, refueling outage scheduled to begin in the spring of 2001.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: January 16, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 109

FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

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.

<u>Remove</u>	<u>Insert</u>
2-3	2-3
2-4	2-4
B 2-6	B 2-6
B 2-7	B 2-7
3/4 3-1	3/4 3-1
-----	3/4 3-1a
3/4 3-2	3/4 3-2
3/4 3-4	3/4 3-4
3/4 3-5	3/4 3-5
3/4 3-6	3/4 3-6
3/4 3-7	3/4 3-7
3/4 3-8	3/4 3-8
3/4 3-57	3/4 3-57
3/4 3-58	3/4 3-58
3/4 3-59	3/4 3-59
3/4 3-60	3/4 3-60
3/4 3-60a	3/4 3-60a
3/4 3-61	3/4 3-61
3/4 3-62	3/4 3-62
3/4 4-1a	3/4 4-1a
B 3/4 3-1	B 3/4 3-1
-----	B 3/4 3-1a
-----	B 3/4 3-1b
-----	B 3/4 3-1c
-----	B 3/4 3-9

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 109 TO FACILITY OPERATING LICENSE NO. NPF-85

PECO ENERGY COMPANY

LIMERICK GENERATING STATION, UNIT 2

DOCKET NO. 50-353

1.0 INTRODUCTION

In response to Generic Letter 94-02, "Long-Term Solutions and Upgrade of Interim Operating Recommendations for Thermal-Hydraulic Instabilities in Boiling-Water Reactors (BWRs)," PECO Energy Company (PECO, the licensee) proposed design modifications to the power range neutron monitor (PRNM) in the Limerick Generating Station, Units 1 and 2. Subsequently, by letter dated October 14, 1999, as supplemented by letter dated February 11, 2000, the licensee proposed license amendments to revise the Technical Specifications (TSs) for both Limerick units. Amendment No. 141 to Facility Operating License No. NPF-39, Limerick Unit 1, was issued on April 12, 2000, to change the TSs for Unit 1 since the plant modification was scheduled to be installed first, i.e., during the March 2000 refueling outage. By letters dated September 22, and October 18, 2000, the licensee transmitted a supplement for TS changes to Unit 2. The proposed TS changes will enable the licensee to install the proposed design modification on Unit 2. This modification will upgrade the existing analog PRNM, excluding the associated detectors and cables, with a General Electric (GE) Company, Nuclear Measurement Analysis and Control (NUMAC) PRNM. This NUMAC PRNM will also include an oscillating power range monitor (OPRM) to detect and suppress reactor power instabilities and provide an automatic trip function. The OPRM is called Option III stability trip function in the staff-approved Licensing Topical Report (LTR) NEDO-31960, "BWR Owner's [BWROG] Group Long-Term Stability Solution Licensing Methodology," dated July 1993. The February 11, September 22, and October 18, 2000, letters provided clarifying information that did not change the initial proposed no significant hazards consideration determination or expand the scope of the original *Federal Register* notice.

By letter dated September 5, 1995, the U.S. Nuclear Regulatory Commission (NRC) staff approved GE LTR NEDC-32410P, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC-PRNM) Retrofit Plus Option III Stability Trip Function." This LTR addressed the full scope of the modification to replace the power range monitoring portion of an analog neutron monitoring system in GE BWRs with a GE NUMAC-PRNM including an OPRM. In this LTR, the NRC staff approved proposed TS changes for average power range monitor (APRM) reactor trip and rod-block protective functions. By letter dated August 15, 1997, the staff approved Supplement 1 to NEDC-32410P, which includes TS requirements for an OPRM and clarifies issues related to the APRM.

Enclosure

The licensee's proposed TS changes reflect only the PRNM portion of the modification affecting the reactor protection system (RPS) and the rod-block monitor (RBM) functions of the APRM instrumentation and will be implemented following installation of the NUMAC-PRNM. The licensee will submit a separate license amendment request for the proposed TS changes to reflect the OPRM portion of the modification after the first operating cycle following installation of the NUMAC-PRNM in each Limerick unit. During this period, the OPRM trip function will not be connected to the plant RPS in order to evaluate the performance of the OPRM algorithms. Until implementation of the TS requirements for the OPRM operability, PECO will continue to implement the interim corrective actions specified in NRC Bulletin 88-7, Supplement 1, "Power Oscillations in Boiling Water Reactors (BWRs)," to detect and suppress power oscillations.

2.0 EVALUATION

The NRC staff's safety evaluation report (SER) of the LTR NEDC-32410P-A states that those licensees that reference LTR NEDC-32410P for the installation of the NUMAC-PRNM, should provide plant-specific revised TSs for the PRNM functions consistent with Appendix H of the topical report. The NRC staff's SER also asked the licensees to provide clarification and reconcile differences between the specific plant design and the topical report design descriptions. In their submittal dated October 14, 1999, the licensee stated that the proposed TS changes are consistent with NRC-approved GE Topical Report NEDC-32410P, with some minor deviations. However, the licensee did not provide the plant-specific response for the required utility actions specified in the topical report. The staff's review of the licensee's justification for various deviations resulted in a request for additional information. The licensee responded to the staff's request in its letter of February 11, 2000, which also included a plant-specific response required by the topical report.

The licensee has proposed to revise the following changes and clarifications to the TSs:

PRNM System

A. APRM Related RPS Instrumentation Functions

A.1 Functions

The "APRM Neutron Flux - Upscale, Setdown" scram function will be retained with a slight name change to "APRM Neutron Flux - Upscale (Setdown)".

The "APRM Flow Biased Neutron Flux - Upscale" scram function and "APRM High Flow Clamped Neutron Flux - Upscale" scram function will be replaced with the "APRM Simulated Thermal Power - Upscale" and "APRM Neutron Flux - Upscale" scram functions.

The "APRM Downscale" scram interlock will be eliminated.

The "APRM Inop" trip function will be retained but will be changed somewhat to reflect the new NUMAC PRNM System equipment and to delete the minimum LPRM detector count from this trip. The minimum LPRM detector count will be retained in the Trouble alarm and administratively controlled as to when to declare the APRM inoperable.

A new "pseudo" APRM trip function entitled "2-Out-Of-4 Voter" will be added.

A.2 Minimum Number of Operable APRM Channels

The required minimum number of operable APRM channels will change from four to three channels.

A new requirement for minimum number of 2-out-of-4 voter channels will be added; all four 2-out-of-4 voter channels must be operable.

The minimum number of operable LPRMs per APRM channel required for APRM channel operability will increase from 14 to 20 per APRM channel and from 2 to 3 for each of the four LPRM axial levels per APRM channel.

A new requirement for the maximum number of LPRMs per APRM channel that may become inoperable (and bypassed) between APRM gain calibrations will be added; the new limit is 9 LPRMs per APRM channel. This aspect will be managed administratively.

A.3 Applicable Modes of Operation

APRM Neutron Flux--Upscale (Setdown)

The requirement to be operable in OpCons [Operating Conditions] 3(HOT SHUTDOWN) and 5 (REFUEL) will be eliminated.

APRM Simulated Thermal Power--Upscale

This new scram function will be required to be operable in OpCon 1 (RUN) only.

APRM Neutron Flux--Upscale

This new scram function will be required to be operable in OpCon 1 (RUN) only.

APRM Inop

The requirement to be operable in OpCons 3(HOT SHUTDOWN) and 5 (REFUEL) will be eliminated.

APRM 2-Out-Of-4 Voter

This new scram function will be required to be operable in OpCons 1 (RUN) and 2 (STARTUP).

A.4 Channel Check Surveillance Requirements

APRM Neutron Flux--Upscale (Setdown)

The requirement will be changed from a frequency of every 12 hours to every 24 hours.

APRM Simulated Thermal Power--Upscale

The requirement for this new scram function will be a frequency of every 24 hours.

APRM Neutron Flux--Upscale

The requirement for this new scram function will be a frequency of every 24 hours.

APRM Inop

There will be no Channel Check requirements (i.e., no change).

APRM 2-Out-Of-4 Voter

The requirement for this new scram function will be a frequency of every 24 hours.

A.5 Channel Functional Test Surveillance Requirements

APRM Neutron Flux--Upscale (Setdown)

The requirement will be changed from a frequency of every 92 days to every 184 days (6 months). A note will be added allowing operation for up to 12 hours prior to test after entering Mode 2 (startup) from Mode 1 (run). The Channel Functional Test shall include both the APRM channels and the 2-out-of-4 voter channels.

APRM Simulated Thermal Power--Upscale

The requirement for this new scram function will be a frequency of every 184 days (6 months) (without any specific requirement related to startup or shutdown). The Channel Functional Test shall include both the APRM channels and the 2-out-of-4 voter channels plus the flow input function, excluding the flow transmitters.

APRM Neutron Flux--Upscale

The requirement for this new scram function will be a frequency of every 184 days (6 months) (without any specific requirement related to startup or shutdown). The channel functional test shall include both the APRM channels and the 2-out-of-4 voter channels.

APRM Inop

The requirement will be changed from a frequency of every 92 days to 184 days (6 months) (without any specific requirement related to startup or shutdown). The channel functional test shall include both the APRM channels and the 2-out-of-4 voter channels.

APRM 2-Out-Of-4 Voter

The requirement for this new scram function will be a frequency of every 184 days (6 months).

A.6 Channel Calibration Surveillance Requirements

APRM Neutron Flux--Upscale (Setdown)

The Channel Calibration frequency will be changed from every 184 days (6 months) to every 24 months.

APRM Simulated Thermal Power--Upscale

The Channel Calibration frequency for this new scram function will be weekly and every 24 months. The weekly Channel Calibration will consist of APRM adjustments and the 24 month Channel Calibration will consist of equipment calibration. The Channel Calibration at each 24-month interval will include the calibration of the flow input function.

APRM Neutron Flux--Upscale

The Channel Calibration frequency for this new scram function will be weekly and every 24 months. The weekly Channel Calibration will consist of APRM adjustments and the 24 month Channel Calibration will consist of equipment calibration.

APRM Inop

No change in requirement (i.e., no calibration applies).

APRM 2-Out-Of-4 Voter

There will be no Channel Calibration requirement for this new scram function.

A.7 Response Time Testing Surveillance Requirements

The LPRM detectors, APRM channels, and 2-out-of-4 Voter channels digital electronics are exempt from response time testing. The requirement for response time testing of the RPS logics and RPS contactors (50 ms) will be retained by including a response time testing requirement for the new 2-Out-Of-4 Voter function.

APRM Neutron Flux--Upscale (Setdown)

There will be no Response Time Testing requirements for this scram function (i.e., no change).

APRM Simulated Thermal Power--Upscale

There will be no Response Time Testing requirements for this new scram function.

APRM Neutron Flux--Upscale

There will be no Response Time Testing requirements for this new scram function.

APRM Inop

There will be no Response Time Testing requirements for this scram function (i.e., no change).

APRM 2-Out-Of-4 Voter

The Response Time Testing requirement for this new scram function will be ≤ 0.05 seconds. Response time will be measured from activation of the 2-Out-Of-4 Voter output relay.

A.8 Logic System Functional Testing (LSFT) Surveillance Requirements

There will be no LSFT requirements for the PRNM functions except the 2-Out-Of-4 Voter function. LSFT for that function will be required to be performed every 24 months.

A.9 Setpoints and Allowable Values

Where justified by the setpoint calculations and the improved equipment performance specifications, Allowable Values will be adjusted.

B. APRM Control Rod Block Functions

B.1 Functions

The "APRM Neutron Flux - Upscale, Startup" rod block will be replaced with the "APRM Simulated Thermal Power - Upscale (Setdown)" rod block.

The "APRM Flow Biased Neutron Flux - Upscale" rod block will be replaced with the "APRM Simulated Thermal Power - Upscale" rod block.

The "APRM Downscale" rod block will be retained but the name will be changed to "APRM Neutron Flux - Downscale" rod block.

The "APRM Inop" rod block will be retained as is.

The Reactor Coolant System Recirculation Flow "Inop" and "Comparator" rod blocks will be deleted. The Reactor Coolant System Recirculation Flow "Upscale" rod block will be made a subfunction of the APRM control rod blocks functions.

An APRM "LPRM Count Low" rod block function will be added.

B.2 Minimum Number of Operable APRM Channels

The required minimum number of operable APRM channels will change from four to three channels.

The minimum number of operable LPRMs per APRM channel required for APRM channel operability will increase from 14 to 20 per APRM channel and from 2 to 3 for each of the four LPRM axial levels per APRM channel.

A new requirement for the maximum number of LPRMs per APRM channel that may become inoperable (and bypassed) between APRM gain calibrations will be added; the new limit is 9 LPRMs per APRM channel. This aspect will be managed administratively.

B.3 Applicable Modes of Operation

APRM Simulated Thermal Power--Upscale (Setdown)

This new rod block function will be required to be operable in OpCon 2 (STARTUP) only.

APRM Simulated Thermal Power--Upscale

This new rod block function will be required to be operable in OpCon 1 (RUN) only.

APRM Inop

The requirement for operability in OpCon 5 (REFUELING) will be deleted.

APRM Neutron Flux - Downscale

This rod block function will be required to be operable in OpCon 1 (i.e., no change).

APRM Recirculation Flow - Upscale

This rod block function will be required to be operable in OpCon 1 (i.e., no change).

APRM LPRM Count Low

This rod block function will be required to be operable in OpCon 1 and OpCon 2.

B.4 Channel Check Surveillance Requirements

There will be no Channel Check requirements (i.e., no change).

B.5 Channel Functional Test Surveillance Requirements

APRM Simulated Thermal Power--Upscale (Setdown)

The frequency for this new rod block function will be every 184 days (6 months).

APRM Simulated Thermal Power--Upscale

The frequency for this new rod block function will be every 184 days (6 months).

APRM Inop

The frequency will be changed from every 92 days to 184 days (6 months).

APRM Neutron Flux - Downscale

The frequency will be changed from every 92 days to 184 days (6 months).

APRM Recirculation Flow - Upscale

The frequency will be changed from every 92 days to 184 days (6 months).

APRM LPRM Count Low

The frequency of this new rod block function will be every 184 days (6 months).

B.6 Channel Calibration Surveillance Requirements

APRM Simulated Thermal Power--Upscale (Setdown)

The frequency for this new rod block function will be every 24 months.

APRM Simulated Thermal Power--Upscale

The frequency for this new rod block function will be every 24 months.

APRM Inop

There will be no channel calibration requirements (i.e., no change).

APRM Neutron Flux - Downscale

The frequency will be changed from every 184 days (6 months) to 24 months.

APRM Recirculation Flow - Upscale

The frequency will be changed from every 184 days (6 months) to 24 months.

APRM LPRM Count Low

The frequency of this new rod block function will be every 24 months.

B.7 Response Time Testing Surveillance Requirements

N/A [Not Applicable]

B.8 Logic System Functional Testing (LSFT) Surveillance Requirements

N/A

B.9 Setpoints and Allowable Values

Where justified by the setpoint calculations and the improved equipment performance specifications, Allowable Values will be adjusted.

C. Recirculation System

The reference to the APRM scram and rod block will be modified to include "Simulated Thermal Power - Upscale".

D. PRNM Related RPS Technical Specification 3.3.1 Clarifications

The following Technical Specification changes augment those described for the PRNM implementation. These clarifications have already been incorporated in the plants that have Improved Technical Specifications.

D.1 Provision for channel surveillance to demonstrate channel operability

A new "Note (n)" will be added to Table 3.3.1-1. Reference to the note is added along with the "note (a)" reference in the "MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM" column heading in Table 3.3.1-1. The note will allow returning a channel or trip system to the untripped condition under administrative control for up to two hours to perform the required surveillance tests provided trip capability is maintained. This note will apply to all functions in the Table.

D.2 IRM operability requirements in Modes 3, 4 and 5

Table 3.3.1-1 and Table 4.3.1-1 IRM operability and surveillance requirements in Modes 3 and 4 will be deleted. IRM operability and surveillance requirements in Mode 5 will be modified by adding a reference to the existing "Note (i)" which will require operability only if a control rod is withdrawn with an exception to this requirement for control rods withdrawn per Specification 3.9.10.1 and 3.9.10.2. Table 3.3.1-1 Action 2 will be deleted.

D.3 NMS shorting link removal requirements

Table 3.3.1-1 Note (c) will be deleted along with the "*" footnote referencing Specifications 3.9.10.1 and 3.9.10.2.

The NRC staff finds all changes to be consistent with the topical report, except for the changes described below:

a. RPS Limiting Condition for Operation (LCO) Action

The licensee has revised the Action Statements a and b and replaced them with Action Statements a, b, c, and d. The licensee made this change to incorporate the guidelines of BWROG-92102 for all RPS functions rather than just for the PRNM system. Action statement changes proposed in the TSs are consistent with the PRNM LTR-described changes for plants that have not applied improved standard TSs (ISTSSs) but have implemented NEDC-31851P-A changes. The wording of the RPS action statement has been changed somewhat to improve clarity and to ensure that allowable action times are correctly applied. The new action statements are in agreement with NEDC-30851P-A, BWROG-92102, and NEDC-32410P-A. The NRC staff has previously accepted similar proposed changes in an NRC letter dated April 9, 1993, which issued Amendment No. 71 to Facility Operating License NPF-62 for the Clinton Power Station. The revised wording does not change the intent of the accepted wording; therefore, the staff finds the proposed change acceptable.

b. RPS and control rod block (CRB) instrumentation trip setpoint and allowable values

In the proposed changes to the RPS and CRB instrumentation LCO TS Table 2.2.1-1 and TS Table 3.3.6-2 respectively, the licensee changed the instrument trip setpoint and allowable values for the APRM and RBM instrumentation. Allowable values and trip setpoints for the new APRM system have been recalculated by using the GE setpoint methodology documented in GE LTR NEDC-31336P-A. The NRC staff previously reviewed and approved this setpoint methodology in an NRC letter dated January 24, 1996, to the licensee issuing License Amendment No. 106 for Limerick Unit 1. These setpoints were calculated from the original Limerick analytical limits to take advantage of the improved performance characteristics of the replacement NUMAC system. The new setpoint for the APRM and RBM instrumentation maintains the same margin of safety to the design-basis limits. Based on this, the NRC staff finds the licensee's justification for the proposed trip setpoint and allowable values to be acceptable.

c. Addition of note n to TS Table 3.3.1-1

The licensee has added a new note n to TS Table 3.3.1-1 to allow a channel or trip system that has been placed in the trip condition to meet the LCO to return to the untripped condition under administrative control for up to 2 hours solely to perform testing required to demonstrate its operability or the operability of other equipment, provided Action a continues to be met. The licensee has requested to add this note because the rigorous interpretation of the current TS notes and LCOs can lead to the conclusion that for certain conditions, there is no allowed action that permits performing the surveillance tests required to demonstrate operability of a channel, or that permits performing such tests without causing a scram. The licensee's justification for this change is based on the fact that this condition will be invoked infrequently and the incremental effect of the addition of note n on RPS unavailability is negligible compared to the effects already considered in determining the allowed outage time (AOT) for the TS. Also, the addition of note n has a positive effect of eliminating the potential impact of unnecessary plant shutdowns that

might otherwise be necessary. This change is similar to the provision in the ISTS LCO 3.0.5. Based on the licensee's justification, the NRC staff finds the TS change to add note n to TS Table 3.3.1-1 acceptable.

d. Changes to TS Table 3.3.1-1, note e

GE LTR NEDC-32410P-A requires some administratively controlled operability limit on the maximum number of local power range monitors (LPRMs) that can be bypassed between APRM calibrations. The licensee has elected to put that limit in TS Table 3.3.1-1 under note e. Since this change is more conservative than required by the LTR, the NRC staff finds it acceptable.

e. Deletion of Operability Requirements for Intermediate Range Monitor (IRM) Channels In Modes 3 and 4, and in Mode 5 with No Control Rods Withdrawn

TS Table 3.3.1-1 currently requires the IRM to be operable in Modes 2, 3, 4, and 5. However, no credit is taken for the IRM in any Limerick safety analysis for any event that initiates while the plant is in Modes 3 or 4, or in Mode 5 with no control rods withdrawn. If the LCO requirements of the IRM function are not met while the plant is in Mode 2, and operability cannot be restored within the allowed AOT, Action 1 of TS Table 3.3.1-1 requires the licensee to be in HOT SHUTDOWN within 12 hours. This action requires the plant to scram, which causes all the control rods to be inserted to the point that Action 2 is not required to ensure shutdown. Also, when the plant is in Modes 3 or 4, no more than one control rod can be withdrawn according to TS Table 1.2 or in accordance with TS Section 3.9.10.1. TS Table 4.3.1-1 requires the IRM surveillance to be current when entering Mode 2 from Mode 3 or 4, and TS LCO 3.0.4 prohibits entry into Mode 2 if the LCO conditions for IRM are not met. Therefore, the licensee is also proposing to delete Action 2 from TS Table 3.3.1-1.

Also, if the plant is in Mode 5 and no control rods are withdrawn, the IRM function is not needed. The licensee is proposing to add note i to the IRM function, which will eliminate unnecessary restrictions on the refueling operations. Note i will remove the operability requirements if the rods are removed in accordance with TS Section 3.9.10.1 or TS Section 3.9.10.2, as these TS sections adequately control the removal of control rods without creating a condition that could lead to local criticality. This change also aligns the Limerick TS with the ISTSs. Based on the licensee's justifications that there are no conditions under which IRM operability is required in Modes 3 and 4, or in Mode 5 with no control rods withdrawn, and the fact that these changes are in accordance with the ISTSs, the NRC staff finds the proposed change acceptable.

f. Deletion of Note c Along With the * Footnote From TS Table 3.3.1-1

Note c requires the removal of the shorting link from the RPS circuitry before and during the time any control rod is withdrawn and shutdown margin demonstrations are performed in accordance with TS Section 3.10.3. The shorting links are removed to connect a source range monitor (SRM) upscale trip into the RPS logic, and to put the SRM and the IRM in "non-coincident" mode so that a trip in any of the SRM or IRM channels results in a trip input to the RPS. This step results in more complete coverage of the core and the ability to detect localized criticality events quickly. However, the only localized event that

might be of concern during refueling is the incorrect withdrawal of a rod without adequate shutdown margin, and the Limerick safety analysis does not take any credit for the IRM "non-coincidence mode" function. TS Section 3.1.1, "Shutdown Margin," and TS Section 3.9.1, "Refuel Mode One-Rod-Out Interlock," are intended for prevention of these conditions. Also, when shutdown margin requirements are not met or are to be demonstrated by a test, applicable TS Sections 3.9.2 and 3.10.3 both include a specific requirement to remove the shorting links and to ensure that the SRM is operable. TS Section 3.9.2 is also invoked by TS Sections 3.9.10.1 and 3.9.10.2. It assures that no more than a single rod can be withdrawn at a time and that the shutdown margin is adequate or that the shorting links are removed when these TS requirements are met. The NRC staff finds the proposed change acceptable based on this justification, together with the fact that this change also aligns the Limerick TSs with the ISTSs.

g. Changes to TS Table 3.3.6-1

The licensee has deleted functions 6b and 6c related to reactor coolant system recirculation flow inoperative and comparator from TS Table 3.3.6-1. The licensee has also moved function 6a and relocated it as a subfunction of APRM in function 2 in TS Table 3.3.6-1. The licensee for the Limerick plant has already implemented APRM, RBM and the TS Improved Program (ARTS). In accordance with LTR NEDC-32410P-A, the plant that has ARTS can delete these functions. The licensee has also added an APRM LPRM low-count function in TS Table 3.3.6-1. The PRNM LTR does not commit to include either of these functions in the TSs. Based on this, the NRC staff finds the proposed change to the TSs acceptable.

3.0 SUMMARY

On the basis of this evaluation, the NRC staff finds that the proposed changes are consistent with the previously approved LTRs and NUREG-1433, Revision 1. The changes will allow safe operation with the modification to the PRNM system. The NRC staff, therefore, concludes that the proposed TS changes are acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change 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 change 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 (64 FR 67337). Accordingly, the amendments meet 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.

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) 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.

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