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Docket Nos. 50-321
50-366

HL-5054

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Edwin I. Hatch Nuclear Plant
Request to Revise Technical Specifications:
Power Range Neutron Monitor Retrofit
and
Oscillation Power Range Monitor

Gentlemen:

In accordance with the provisions of 10 CFR 50.90, as required by 10 CFR 50.59(c)(1), Georgia Power Company (GPC) hereby proposes changes to the Technical Specifications for Plant Hatch Units 1 and 2, Appendix A to Operating Licenses DPR-57 and NPF-5, respectively. The proposed changes are associated with the installation of a digital Power Range Neutron Monitoring (PRNM) system and the incorporation of long-term stability solution hardware.

In response to Generic Letter 94-02, "Thermal-Hydraulic Instabilities in Boiling Water Reactors" (Ref. 1), GPC selected General Electric (GE) Option III as the long-term stability solution. Option III detects core instabilities and provides a reactor scram signal to the Reactor Protection System (RPS). The long-term stability solution, GE Option III, is supported by the BWR Owners' Group Topical Report NEDO-31960-A (Ref. 5) submitted to the NRC for approval in May 1991, and NEDO-31960-A, Supplement 1 (Ref. 5) submitted to the NRC for approval in March 1992. The NRC issued a Safety Evaluation Report (SER) for NEDO-31960-A and Supplement 1 in July 1993 (Ref. 6). BWR Owners' Group Topical Report NEDO 32465 (Ref. 7), submitted to the NRC in June 1995, provides additional analysis for the detection and suppression methodology (Option III).

As a platform to execute the stability solution software, the Average Power Range Monitor (APRM) and Rod Block Monitor (RBM) electronics will be replaced with a PRNM system based on digital GE Nuclear Measurements Analysis and Control NUMAC modules. Implementation of the PRNM affects the RPS and Control Rod Block Technical

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Specifications. The Local Power Range Monitor (LPRM) detectors require no hardware changes, only reassignment of the detectors to the APRMs.

Installation of the PRNM system and Oscillation Power Range Monitor (OPRM) Function is supported by GE Licensing Topical Report NEDC-32410P-A (Ref. 2), which was submitted to the NRC for approval in March 1995. The NRC issued the associated SER in September 1995 (Ref. 3). Proposed Technical Specifications changes associated with implementation of the OPRM Function were submitted to the NRC in NEDC-32410P, Supplement 1 (Ref. 4), dated May 1996.

The PRNM system is scheduled for implementation during the Unit 1 Fall 1997 refueling outage and the Unit 2 Spring 1997 refueling outage (Ref. 8). For the first 6 months of the operating cycle of each unit, the OPRM Function will be placed in a monitoring mode to assess the performance in an operating environment. During the test period, the interim corrective actions (ICAs) will remain in plant procedures. However, once the Option III OPRM Scram Function is enabled, GPC may remove some or all of the ICAs at its discretion.

Enclosure 1A provides a detailed description of the proposed changes associated with the PRNM retrofit, the bases for the proposed changes, and a comparison to the enclosed changes with NEDC-32410P-A. Enclosure 1B provides a detailed description of the proposed changes associated with the OPRM installation, and the bases for the proposed changes. Enclosure 2 details the bases for GPC's determination the proposed changes do not involve a significant hazards consideration pursuant to 10 CFR 50.92 and thus, will not adversely affect the environment.

Enclosure 3A contains page change instructions for incorporating the PRNM system retrofit proposed changes. The revised Technical Specifications pages and the corresponding marked-up pages follow Enclosure 3A. The associated revised Bases pages and the corresponding marked-up pages are included in Enclosure 4A. The revised Bases pages will be made effective concurrently with the Technical Specifications changes.

Enclosure 3B contains page change instructions for incorporating the OPRM Function proposed changes. The revised Technical Specifications pages and the corresponding marked-up pages follow Enclosure 3B. The associated revised Bases pages and the corresponding marked-up pages are included in Enclosure 4B. The revised Bases will be made effective concurrently with the Technical Specifications changes.

Georgia Power Company requests that the revised Unit 1 and Unit 2 Technical Specifications associated with the PRNM retrofit be approved and issued by February 15, 1997, to support the Unit 2 refueling outage scheduled to begin March 15, 1997. However the Unit 1 amendment will not be implemented until startup from the Fall 1997 refueling outage. GPC also requests that the Unit 1 and Unit 2 Technical Specifications associated with the OPRM be approved prior to September 1, 1997, to support enabling the Unit 2 OPRM Trip Function. The Unit 1 Technical Specifications amendment will not be implemented until 6 months after startup from the Fall 1997 refueling outage.

In accordance with the requirements of 10 CFR 50.91, the designated State official will be sent a copy of this letter and all applicable enclosures.

Mr. J. T. Beckham, Jr. states he is Vice President of Georgia Power Company and is authorized to execute this oath on behalf of Georgia Power Company, and to the best of his knowledge and belief, the facts set forth in this letter are true.

Sincerely,

J. T. Beckham, Jr.

Sworn to and subscribed before me this 29 *day of* October, *1996.*

Notary Public

My Commission Expires: 4-19-97

TWM/eb

Enclosures:

1A. PRNM Basis for Change Request
1B. OPRM Basis for Change Request
2. 10 CFR 50.92 Evaluation
3A. PRNM Page Change Instructions and Revised Pages
3B. OPRM Page Change Instructions and Revised Pages
4A. PRNM Bases Changes and Associated Markups
4B. OPRM Bases Changes and Associated Markups

References:

1. GPC letter HL-4684 to NRC, "Response to Generic Letter 94-02," dated September 8, 1994.

2. "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC-PRNM) Retrofit Plus Option III Stability Trip Function," NEDC-32410P-A, General Electric Company, October 1995.

3. NRC Safety Evaluation Report, "Acceptance of Licensing Topical Report NEDC-32410P, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC-PRNM) Retrofit Plus Option III Stability Trip Function," dated September 5, 1995.

4. "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC-PRNM) Retrofit Plus Option III Stability Trip Function," NEDC-32410P, Supplement 1, General Electric Company, May 1996.

5. "BWR Owners' Group Long-Term Stability Solutions Licensing Methodology," NEDO-31960-A, and Supplement 1, November 1995.

6. NRC Safety Evaluation Report, "Acceptance for Referencing of Topical Reports NEDO-31960 and NEDO-31960 Supplement 1, BWR Owners' Group Long-Term Stability Solutions Licensing Methodology," dated July 12, 1993.

7. "BWR Owners' Group Reactor Stability Detect and Suppress Solutions Licensing Basis Methodology and Reload Applications," NEDO-32465, May 1995.

8. GPC letter HL-5081 to NRC, "Revision to Implementation Schedule Relative to Generic Letter 94-02," dated December 11, 1995.

cc: (See next page.)

cc: *Georgia Power Company*
Mr. H. L. Sumner, Nuclear Plant General Manager
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.
Mr. K. Jabbour, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II
Mr. S. D. Ebneter, Regional Administrator
Mr. B. L. Holbrook, Senior Resident Inspector - Hatch

State of Georgia
Mr. J. D. Tanner, Commissioner - Department of Natural Resources

Enclosure 1A

Edwin I. Hatch Nuclear Plant
Request to Revise Technical Specifications:
Power Range Neutron Monitor Retrofit

Basis for Change Request

Background

The proposed Unit 1 and Unit 2 Technical Specifications changes reflect replacing the existing Average Power Range Monitor (APRM) and Rod Block Monitor (RBM) electronics with a Power Range Neutron Monitor (PRNM) system based on digital electronic modules which are consistent with General Electric Licensing Topical Report (LTR) NEDC-32410P-A, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC-PRNM) Retrofit Plus Option III Stability Trip Function," dated October 1995. GPC conformance to NEDC-32410P-A is presented in the attachment to this enclosure. The bases for the proposed changes are extracted from the LTR.

The existing six analog APRMs on Units 1 and 2 are being replaced with four digital NUMAC modules in which a two-out-of-four trip logic provides trip signals to the Reactor Protection System (RPS) trip channels.

The PRNM system retrofit is divided into four APRM channels and four two-out-of-four voter channels. Each APRM channel provides inputs to each of the four voter channels which are divided into two equal groups, with each group providing input to one RPS trip system. The PRNM system is designed to allow one APRM channel, but no voter channel, to be bypassed. A trip from any one unbypassed APRM channel will result in a half-trip in all four voter channels, but no trip input to either RPS trip system. A trip from any two unbypassed APRM channels will result in a full-trip in each of the four voter channels, which in turn results in a full-trip in each RPS trip system. Three of the four APRM channels and all four voter channels are required to be OPERABLE to ensure no single failure will preclude a scram on a valid signal. In addition, to provide adequate coverage of the entire core, consistent with the design bases for the APRM Functions, at least 17 LPRM inputs, with at least three LPRM inputs from each of the four axial levels at which the LPRMs are located, must be OPERABLE for each APRM channel.

The eight recirculation flow transmitters are being retrofitted with digital "smart" transmitters that provide flow signals to the PRNM system and an analog signal to the APRMs for processing the high flux flow-biased trip signal.

Technical Specifications Proposed Changes

Each proposed Technical Specifications change is described below, followed by the basis for the change. Unless otherwise noted, the proposed changes are the same for each unit. Proposed Changes 2 through 8 address the revisions reflected in Technical Specifications Table 3.3.1.1-1 (Technical Specifications pages 3.3-7 and 3.3-8). The changes indicated in Table 3.3.1.1-1 are reflected in the corresponding text pages, as appropriate.

PROPOSED CHANGE 1

In Technical Specification 3.3.1.1, the following Note is added to Required Action A.2 and Condition B: "Not applicable for Functions 2.a, 2.b, 2.c, and 2.d."

Basis for Proposed Change 1

Required Action A.2, "Place associated trip system in trip," is not applicable, since each of the four APRM channels provides signals to both RPS trip systems. Condition B is not applicable for these Functions, since each APRM channel provides signals to both RPS trip systems.

PROPOSED CHANGE 2

In Table 3.3.1.1-1 (page 1 of 3), APRM Function 2.a:

A. The Function "Neutron Flux - High" is changed to "Neutron Flux - High (Setdown)."

B. The Number of Required Channels per Trip System is increased from "2" to "3," and the following footnote is added: "(c) Each APRM channel provides inputs to both trip systems."

C. SRs 3.3.1.1.4 and 3.3.1.1.15 are deleted from Function 2.a, and SR 3.3.1.1.13 is added to the Surveillance Requirements (SRs) applicable to Function 2.a.

Basis for Proposed Change 2

The Function, Applicable Modes, Conditions, and Allowable Value for APRM Function 2.a remain the same. Function 2.a is renamed "Neutron Flux - High (Setdown)" to achieve standardized terminology and consistency with Improved Technical Specifications terminology.

The minimum Number of Required Channels per RPS Trip System is three APRM channels out of a total of four. The outputs of the three required APRM channels are shared by each RPS trip system via the four independent two-out-of-four voter channels. The minimum number of required two-out-of-four voter channels per RPS trip system is two. For the current six APRM configuration, to accomplish a plant scram, one APRM is required to operate in each RPS trip system. The current requirement of two channels minimum per RPS trip system assures the safety function is accomplished in the event of a single failure of any one APRM. In the proposed four APRM channel configuration, any two APRM channels and one two-out-of-four voter in each RPS trip system are required to function for the APRM Safety Trip Function to be accomplished. Therefore, three APRM channels ensure at least two APRM trip inputs are made to each of the two-out-of-four voters in the event a single APRM channel failure occurs and one APRM channel is bypassed.

The CHANNEL CALIBRATION for the APRM is performed per SR 3.3.1.1.13, which is applied to the two-out-of-four voter channels. The Frequency is extended from 184 days to 18 months. The calibration interval was generally determined by drift of analog components, the number of which is significantly reduced in the PRNM system. The only analog components that remain for the main signal processing are input isolation amplifiers (one per LPRM and one per flow input), a sample-and-hold circuit, and an analog-to-digital (A/D) converter (one on each of two automatic signal processor modules contained in each APRM chassis). The subject analog components are highly reliable and very stable, having virtually no drift. In addition, the sample-and-hold circuit and the A/D converters are tested as part of the automatic self-test.

The PRNM system replaces all analog processing hardware, including the hardware used in the current design for flow processing, with digital processing software having no drift. In the current design, all trip comparators implemented with analog hardware in the current design are replaced by digital logic. One of the most sensitive signals, the flow processing signal, is automatically compared between channels. Any digital failures will be identified by the automatic self-test, the CHANNEL CHECK, and in very rare cases, the CHANNEL FUNCTIONAL TEST.

The automatic self-test checks the performance and accuracy of the sample-and-hold circuits, the A/D converters, and the related processing. Self-test logic periodically tests the input amplifiers and processing for accuracy. In addition, the CHANNEL FUNCTIONAL TEST includes an automated "cal check" to verify the performance of all analog amplifiers and the entire processing loop. The combined improvement justifies the extended calibration interval, particularly since the calibration will actually be checked by the CHANNEL FUNCTIONAL TEST and self-test frequencies. The elimination of the separate analog flow processing hardware and replacement with primarily digital processing hardware justify the calibration for the flow channels the same as the APRM channels.

The CHANNEL FUNCTIONAL TEST Frequency is extended from 7 days to 184 days. The extensive self-test will detect at hourly intervals most hardware failures. Failures not checked by the self-test will most likely be detected by the CHANNEL CHECK, which includes confirmation the self-test function is operating. All Functions will be accomplished using the same hardware and processing paths so that one set of tests will effectively test all APRM Functions. All processing is digital; thus, a failure not detected by the automatic self-test or CHANNEL CHECK is very unlikely. Part of the self-test includes a voter confirmation that the APRM signals will continue to meet dynamic encoding requirements. The signals are processed and returned to one of the APRM channels to provide a closed loop monitor of the voter channels. The combination of the automatic self-test feature and the CHANNEL CHECK provides confidence that a minimum number of OPERABLE channels will continue to operate or failures will be detected between CHANNEL FUNCTIONAL TEST intervals.

The LOGIC SYSTEM FUNCTIONAL TEST (SR 3.3.1.1.15) is deleted from Function 2.a. since this portion of the system is thoroughly tested during the CHANNEL FUNCTIONAL TEST.

PROPOSED CHANGE 3

In Table 3.3.1.1-1 (page 1 of 3), APRM Function 2.b:

A. The Function "Flow Biased Simulated Thermal Power - High" is changed to "Simulated Thermal Power - High."

B. The number of Required Channels per Trip System is increased from "2" to "3" and, the following footnote is added: "(c) Each APRM channel provides inputs to both trip systems."

C. SRs 3.3.1.1.3 and 3.3.1.1.14 are deleted from the Technical Specifications. SRs 3.3.1.1.9 and 3.3.1.1.15 (and SR 3.3.1.16 for Unit 2 only) are deleted from Function 2.b, and SR 3.3.1.1.13 is added to the Surveillance Requirements applicable to Function 2.b.

   Since SRs 3.3.1.1.3 and 3.3.1.1.14 are deleted in entirety from the Technical Specifications, the deletions are indicated by inserting the words "(Not used.)," thereby retaining continuity and consistency with the Improved Technical Specifications format. (See p. 3.3-3 and 3.3-5.)

Basis for Proposed Change 3

The Function, Applicable Mode, Conditions, and Allowable Value for Function 2.b remain the same. Function 2.b is renamed "Simulated Thermal Power - High" to achieve standardized terminology and consistency with Improved Technical Specifications

terminology. The minimum Number of Required Channels per RPS Trip System is the same as discussed in Proposed Change 2; that is, three APRM channels out of a total of four.

The basis for the CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST Surveillance Requirements is the same as discussed in the Basis for Proposed Change 2.

Deleting SR 3.3.1.1.3 from APRM Function 2.b eliminates the requirement to adjust the channel to conform to a calibrated flow signal. Flow comparison between channels is accomplished as part of the digital process. Since this Function is also part of the automatic self-test, the need to adjust the channel every 7 days to conform to a calibrated flow signal is deleted.

Deleting SR 3.3.1.1.14 eliminates the requirement to verify the APRM Flow Biased Simulated Thermal Power - High time constant is within the limits specified in the CORE OPERATING LIMITS REPORT. In the current design, the nominal 6-second time constant used to determine simulated thermal power is determined by analog components. In the replacement design, the 6-second time constant is determined digitally, the accuracy of which is dependent only upon the "clock" used by the processor. The clock that generates the reference time base for all timed processes in the APRM is part of the calibration process and the automatic self-test, and is monitored by "comparison" to other independent clocks in the system. Once correct design performance is verified and validated, no further action, other than confirming the accuracy of the time base, is required to confirm the 6-second time constant for the simulated thermal power calculation. Therefore, deleting the separate requirement to check the 6-second time constant is justified.

Unit 2 SR 3.3.1.1.16, RPS RESPONSE TIME testing, is deleted from APRM Function 2.b. System response time is determined entirely by digital processing that remains virtually constant. As long as the time base in the equipment remains within limits, system response times will be met. The time base in the equipment is part of the CHANNEL CALIBRATION which is performed at 18-month intervals (SR 3.3.1.1.13), which is the same interval as currently required for RESPONSE TIME testing. Also, automatic self-test functions will compare the independent APRM clocks and detect any significant change in frequency. For both units, Response Time Testing is required for the two-out-of-four voter channel outputs to the RPS. Justification to eliminate Response Time Testing, with the exception of RPS outputs, is based on the reliability of the digital processing and the self-test features.

PROPOSED CHANGE 4

In Table 3.3.1.1-1 (page 2 of 3), APRM Function 2.c:

A. The Function "Fixed Neutron Flux - High" is changed to "Neutron Flux - High."

B. The minimum Number of Required Channels per Trip System is changed from "2" to "3," and the following footnote is added: "(c) Each APRM channel provides inputs to both trip systems."

C. SRs 3.3.1.1.9 and 3.3.1.1.15 (and SR 3.3.1.1.16 for Unit 2 only) are deleted from APRM Function 2.c, and SR 3.3.1.1.13 is added to the Surveillance Requirements applicable to Function 2.c.

Basis for Proposed Change 4

The Function, Applicable Mode, Conditions, and Allowable Value for Function 2.c remain the same. The minimum Number of Required Channels per RPS Trip System is the same as discussed in Proposed Changes 2 and 3; that is, three APRM channels out of a total of four.

The basis for CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST, and LOGIC SYSTEM FUNCTIONAL TEST Surveillance Requirements is the same as discussed in the Basis for Proposed Changes 2 and 3. The basis for deleting Unit 2 SR 3.3.1.1.16, RPS RESPONSE TIME TESTING, from Function 2.c is the same as discussed in Proposed Change 3.

PROPOSED CHANGE 5

In Table 3.3.1.1-1 (page 2 of 3), the APRM Downscale Function (current 2.d) is deleted.

Basis for Proposed Change 5

The trip from an APRM Downscale signal while in the Run Mode, coincident with an associated Intermediate Range Monitor (IRM) Flux - High or Inop signal, is deleted. The accident analysis does not take credit for the APRM Downscale interlock to enable the companion IRM High Flux or Inop Trip in the Run Mode. The primary purpose of the APRM interlock is to help assure the APRM Trip Functions are OPERABLE and available when the Mode Switch is moved to the Run Mode. Technical Specifications require APRMs to be OPERABLE during Startup and in the Run Mode. Plant Hatch procedures require confirmation that APRMs are on scale prior to switching to the Run Mode. The replacement NUMAC APRMs include automatic self-test features interlocked directly with an Inop trip, making it highly unlikely APRMs will be inoperable and not

have a trip or alarm. The combination of NUMAC reliability and operator confirmation provides adequate assurance the APRM Trip Functions will be available without the need for the automatic Downscale interlock with coincident trip from the associated IRM.

PROPOSED CHANGE 6

In Table 3.3.1.1-1 (page 2 of 3), APRM Inop Function 2.e:

A. The Function number is changed from "2.e" to "2.d."

B. The minimum Number of Required Channels per RPS Trip System is changed from "2" to "3," and the following footnote is added: "(c) Each APRM channel provides inputs to both trip systems."

C. SRs 3.3.1.1.8, 3.3.1.1.9, and 3.3.1.1.15 are deleted, and SR 3.3.1.1.10 is added to the Surveillance Requirements for the APRM Inop Function.

Basis for Proposed Change 6

The Function, Applicable Mode, Conditions, and Allowable Value for the APRM Inop Function remain the same. The Function is renumbered from "2.e" to "2.d", because of the deletion of the Downscale Function discussed in Proposed Change 5. The minimum Number of Required Channels per RPS Trip System is the same as discussed in Proposed Changes 2, 3, and 4; that is, three APRM channels out of a total of four.

The basis for the CHANNEL FUNCTIONAL TEST Surveillance Requirement is the same as discussed in the Basis for Proposed Change 2 (replace SR 3.3.1.1.9 with SR 3.3.1.1.10). SR 3.3.1.1.8, calibrate LPRMs, is not applicable to the Inop Function and should not be a current Surveillance Requirement regardless of the PRNM modification. The basis for deleting the LOGIC SYSTEM FUNCTIONAL TEST Surveillance Requirement is the same as discussed in Proposed Change 2.

PROPOSED CHANGE 7

In Table 3.3.1.1-1 (page 2 of 3), "APRM Function 2.e, Two-out-of-Four Voter," is added. The Applicable Modes for this Function are MODES 1 and 2. The Number of Required Channels per Trip System is "2." The Condition referenced from Required Action D.1 is Condition G. The applicable Surveillance Requirements are SR 3.3.1.1.1, SR 3.3.1.1.10, SR 3.3.1.1.15, and SR 3.3.1.1.16. For Unit 1, a Note is added to SR 3.3.1.1.16, "Neutron detectors are excluded." There is no Allowable Value for this Function.

Basis for Proposed Change 7

A minimum of two voter channels per RPS trip system assures at least one voter will be OPERABLE in each RPS trip system, even in the event of a single voter failure. The voter units are designed for simplicity to assure very high reliability. The units also have the capability to detect loss of input signals from each of the four APRM channels. The provisions, combined with the highly reliable digital electronics implementing the APRM Functions and the on-line automatic self-test functions (including monitoring signals returned from the voter units), assure the replacement four APRM channel configurations will provide reliability equal to or greater than the current system relative to the safety trip functions. Since each APRM outputs to all four voters, each APRM is associated with both RPS trip systems.

The note, "Neutron detectors are excluded," is added to Unit 1 SR 3.3.1.1.16, because the LPRMs are not currently required to be RESPONSE TIME tested. Unit 2 currently contains the note for SR 3.3.1.1.16.

PROPOSED CHANGE 8

In SR 3.1.1.10, performance of the "CHANNEL CALIBRATION" is changed to a "CHANNEL FUNCTIONAL TEST," and Note 1, "Neutron detectors are excluded," is deleted.

Basis for Proposed Change 8

A CHANNEL FUNCTIONAL TEST is performed on each channel to ensure the entire channel will perform its intended function. This test supplements the automatic self-test functions that operate continuously in the APRM and voter channels. The APRM CHANNEL FUNCTIONAL TEST covers the APRM channels (including recirculation flow processing), the two-out-of-four voter channels, and the interface connections from the voter channels into the RPS trip systems.

The note, "Neutron detectors are excluded," is applicable to a CHANNEL CALIBRATION but not a CHANNEL FUNCTIONAL TEST and, therefore, is deleted.

PROPOSED CHANGE 9

In SR 3.3.2.1.1, the RBM CHANNEL FUNCTIONAL TEST interval is changed from "92 days" to "184 days."

Basis for Proposed Change 9

The NUMAC electronics that perform the recirculation flow processing, and the APRM and RBM Functions contain extensive self-testing that will detect most hardware failures. Failures that may not be detected by the automatic self-test are in components with limited impact on the function of highly reliable components (e.g., resistors, capacitors). All Functions are accomplished by using the same hardware and processing paths that are exercised or monitored by self-test; thus, one set of tests effectively tests all Functions. All processing is digital; therefore, it is very unlikely that a failure would not be detected by one or more self-tests. The CHANNEL CHECK will verify the self-test is functioning. Therefore, there is adequate confidence that either a sufficient number of channels will continue to operate between CHANNEL FUNCTIONAL TESTS, or failures will be detected by an automatic self-test.

PROPOSED CHANGE 10

In Table 3.3.2.1-1, RBM Function 1.f, Bypass Time Delay, is deleted.

Basis for Proposed Change 10

The RBM Bypass Time Delay is a sub-function in the RBM. The original RBM design was implemented in analog hardware and is, therefore, subject to both drift and component failure. In the replacement PRNM system, the time delay is accomplished digitally in the RBM's computer, and thus, once set, will not change unless the computer fails. The automatic self-test will quickly detect any computer failure. Therefore, deleting RBM Function 1.f from the Technical Specification does not decrease any safety margin.

PROPOSED CHANGE 11

In LCO 3.4.1.a, Recirculation Loops Operating, item 3 is changed to reflect the revised title for LCO 3.3.1.1, Function 2.b. "Average Power Range Monitors Flow-Biased Simulated Thermal Power - High" is changed to "Average Power Range Monitor Simulated Thermal Power - High."

Basis for Proposed Change 11

The technical basis for this editorial change is discussed in the Basis for Proposed Change 3.

PROPOSED CHANGE 12

In LCO 3.10.8, item a, and in SR 3.10.8.1, APRM Function 2.d is added.

Basis for Proposed Change 12

This change reflects the renumbering of the APRM Inop Function discussed in Proposed Change 6 and the addition of the APRM Two-out-of-Four Voter Function discussed in Proposed Change 7.