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10CFR50.90

May 24, 2002

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Peach Bottom Atomic Power Station, Units 2 & 3
Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: License Amendment Request 01-01190
Power Uprate Request for Appendix K Measurement Uncertainty Recapture

Pursuant to 10CFR50.90, Exelon Generation Company (Exelon), LLC proposes changes to Appendix A, Technical Specifications (TS), of the Peach Bottom Atomic Power Station (PBAPS), Units 2 & 3, Facility Operating Licenses. This license amendment request (LAR) proposes to increase the licensed Rated Thermal Power (RTP) level by approximately 1.62% (from 3458 MWt to 3514 MWt). These changes result from improved feedwater flow measurement achieved by installing high accuracy, ultrasonic flow measurement instrumentation. This instrumentation will be installed for PBAPS Unit 2 during the upcoming refueling outage in September 2002 and for PBAPS Unit 3 during the next refueling outage in September 2003.

The proposed changes have been reviewed by the Plant Operations Review Committee and approved by the Nuclear Safety Review Board. This information is being submitted under unsworn declaration.

We are notifying the State of Pennsylvania of this application for changes to the TS and Operating Licenses by transmitting a copy of this letter and its attachments to the designated state officials.

Exelon requests approval of the proposed amendment by September 15, 2002 for Unit 2 and by September 1, 2003 for Unit 3.

Once approved, this amendment shall be implemented within 60 days of issuance.
This proposed amendment request is subdivided as follows.

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1. Attachment 1 provides a description of the proposed changes, Technical Analysis, and No Significant Hazards Consideration (NSHC) determination.

2. Attachment 2 includes the General Electric Topical Safety Analysis Report for Peach Bottom Atomic Power Station Units 2 & 3, NEDC-33064P.

3. Attachment 3 provides the marked-up Technical Specification pages.

4. Attachment 4 provides the camera-ready Technical Specification pages.

5. Attachment 5 provides the list of commitments resulting from this proposed change.

If you have any questions or require additional information, please contact me at (610) 765- 5664.

I declare under penalty of perjury that the foregoing is true and correct.

Respectfully,

Executed on 05-29-02

Michael P. Gallagher
Director, Licensing and Regulatory Affairs
Mid-Atlantic Regional Operating Group

Enclosures:
- Attachment 1: Description of Proposed Changes, Technical Analysis , and No Significant Hazards Determination
- Attachment 2: GE Topical SAR for PBAPS Units 2 & 3, NEDC-33064P
- Attachment 3: Marked-up TS Pages
- Attachment 4: Camera-ready TS pages
- Attachment 5: List of Commitments

cc:
- H. J. Miller, Administrator, Region I, USNRC
- A. C. McMurtray, USNRC Senior Resident Inspector, PBAPS
- J. Boska, Senior Project Manager, USNRC (by FedEx)
- R. R. Janati - Commonwealth of Pennsylvania

ATTACHMENT 1

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

License Amendment Request (LAR) 01-01190
"PBAPS Measurement Uncertainty Recapture Power Uprate"

Description of Proposed Changes, Technical Analysis, & No Significant Hazards Consideration

1.0 INTRODUCTION

This letter is a request to amend Facility Operating License(s) DPR-44 and DPR-56 for Peach Bottom Atomic Power Station (PBAPS), Units 2 & 3.

Exelon Generation Company, LLC (Exelon) is proposing that the PBAPS Facility Operating Licenses be amended to reflect an increase in the rated thermal power (RTP) level from 3458 MWt to 3514 MWt (an approximate 1.62% increase). The increase in RTP, evaluated and justified herein, is obtained by installation of a more accurate feedwater flow measuring system. The Leading Edge Flow Meter CheckPlus (LEFM√+ ™) supplied by Caldon, Inc., will be installed in both PBAPS Units 2 & 3.

The increased accuracy of the LEFM√+ ™ instrumentation results in an increased accuracy of the core thermal power uncertainty calculation (< ± 0.38 percent of core thermal power) versus the previously assumed uncertainty of < ± 2.0 percent of core thermal power. This reduction in uncertainty in the core thermal power calculation allows operation at the proposed increased RTP with no decrease in the confidence level that the actual operating power level is less than the power level required to be assumed in the Emergency Core Cooling Systems (ECCS) accident analyses by 10 CFR50, Appendix K, "ECCS Evaluation Models".

The improved core thermal power measurement accuracy obviates the need for the full 2 percent power margin required to be assumed in the Appendix K analyses, thereby allowing an increase in thermal power available for electrical generation.

2.0 DESCRIPTION OF PROPOSED AMENDMENT

The proposed license amendment would revise the PBAPS Facility Operating License and Technical Specifications to increase rated thermal power (RTP) by 1.62%. The proposed changes are indicated on the marked up pages in Attachment 3 and are described below:

1. Paragraph 2.C.1, of Facility Operating Licenses DPR-44 & DPR-56, is revised to authorize operation at a steady state reactor core power level not in excess of 3514 megawatts.

2. The definition of RATED THERMAL POWER in Technical Specification (TS) Section 1.1 is revised to reflect the increase from 3458 MWt to 3514 MWt.

3. The allowable value of Function 2.b, Average Power Range Monitors (APRM) Simulated Thermal Power – High, in TS Table 3.3.1.1-1, is revised to:
   - "≤0.65 W + 63.7%" from "≤0.66 W + 64.9%" for two loop operation and
   - "≤0.65 W + 63.7% - 0.65 (delta W)" from "≤0.66 W + 64.9% - 0.66 (delta W)" for single loop operation

4. The percentage Rated Thermal Power (RTP) is revised to "29.5" from "30" in TS Table 3.3.1.1-1, Applicable Modes or Other Specified Conditions of Functions 8 and 9.

5. The percentage RTP is revised to "29.5" from "30" in TS Section 3.3.1.1, Required Action E.1.

6. The percentage RTP is revised to "29.5" from "30" in TS SR 3.3.1.1.13.

7. The percentage RTP is revised to "29.5" from "30" in TS 3.3.4.2 Applicability, Required Action C.2, and SR 3.3.4.2.4.

8. Figure 3.4.1-1, Thermal Power Versus Core Flow Stability Regions, is replaced.

Proposed changes 1 and 2 recognize the impact on RTP of installing higher accuracy feedwater flow instrumentation. Based on a rule change to 10CFR50 Appendix K, "ECCS Evaluation Models", dated June 1, 2000, this increased accuracy may be used to support a measurement uncertainty recovery power uprate.

Proposed change 3 revises the APRM Simulated Thermal Power flow-biased scram equations to maintain the setpoints at the same absolute values of core thermal power.

Proposed changes 4 to 7 rescale the power level at which the Turbine Stop Valve and Turbine Control Valve Fast Closure, and the Trip Oil Pressure Low scrams are enabled to maintain the enabled regions at the same absolute values of core thermal power.

Proposed change 8 replaces the "Thermal Power Versus Core Flow Stability Regions" map with one rescaled to reflect the new 100% power level of 3514 MWt.

3.0 BACKGROUND

On June 1, 2000, a revision to 10CFR50, Appendix K was issued to be effective on July 31, 2000. The stated objective of this rulemaking was to reduce an unnecessarily burdensome regulatory requirement. Appendix K was originally issued to ensure an adequate performance margin of the Emergency Core Cooling System (ECCS) in the event a design-basis Loss of Coolant Accident (LOCA) was to occur. The margin is provided by conservative features, requirements of the evaluation models, and by the ECCS performance criteria. The original regulation did not require the power measurement uncertainty be demonstrated, but rather mandated a 2% margin. The new rule allows licensees to justify a smaller margin for power measurement uncertainty. Because there will continue to be substantial conservatism in other Appendix K requirements, sufficient margin to ECCS performance in the event of a LOCA will be preserved.

However, the final rule, by itself, did not allow increases in licensed power levels. Because the licensed power level for a plant is a Facility Operating License limit, proposals to raise the licensed power level must be reviewed and approved under the license amendment process. This license amendment request includes a justification (see Attachment 2) of the reduced power measurement uncertainty and the basis for the modified ECCS analysis.

PBAPS was originally licensed at 3293 MWt and was uprated by 5% to the current licensed thermal power (CLTP) level of 3458 MWt (Reference 1). The CLTP of 3458 MWt includes a 2% margin in the ECCS evaluation model to allow for uncertainties in core thermal power measurement as was previously required by 10CFR50, Appendix K. Appendix K has since been revised to permit licensees to use an assumed power level less than 1.02 times the licensed power level. This reduction in power measurement uncertainty does not constitute a significant change to the emergency core cooling system (ECCS) evaluation model as defined

in 10CFR50.46(a)(3)(i). The analyses performed at 102% of CLTP remain applicable at the proposed higher RTP, because the 2% margin in the ECCS evaluation model previously required by Appendix K, is effectively reduced by the improvement in the FW flow measurements.

PBAPS will install a Caldon LEFM CheckPlus™ (LEFM√+™) System for feedwater flow measurement. Installation for Unit 2 is scheduled for the upcoming refueling outage in September 2002, and for Unit 3 in the following refueling outage in September 2003. Use of the LEFM√+™ System will reduce the core thermal power uncertainty to < ± 0.38%. Based on this, Exelon is proposing to reduce the power measurement uncertainty previously required by 10CFR50, Appendix K to permit an increase of 1.62% in the licensed power level.

Uncertainty in feedwater flow measurement is the most significant contributor to core power measurement uncertainty. Use of the LEFM√+™ System provides a more accurate measurement of feedwater flow than the instrumentation originally installed at PBAPS. Caldon Topical Report ER-80P (Reference 2), as supplemented by Engineering Report ER-157P (Reference 4), documents the theory, design and operating features of the system and its ability to achieve increased accuracy of flow measurement. In a Safety Evaluation dated March 8, 1999 (Reference 3), the NRC approved ER-80P for referencing in license applications for power uprate. On December 20, 2001, the NRC issued a Safety Evaluation (Reference 5) approving ER-157P.

4.0 TECHNICAL ANALYSIS

Each Peach Bottom Atomic Power Station (PBAPS) Unit is presently licensed for a Rated Thermal Power (RTP) limit of 3458 MWt. Through the use of more accurate feedwater flow measurement equipment, approval is sought to increase licensed core power level by 1.62% to 3514 MWt. Exelon has evaluated the impact of the proposed core power uprate on nuclear steam supply system (NSSS) systems and components, balance of plant (BOP) systems, and safety analyses. The results of Exelon's evaluation are summarized in Attachment 2 of this submittal. The results of all analyses and evaluations performed demonstrate that all acceptance criteria will continue to be met.

4.1 GENERAL APPROACH FOR PLANT ANALYSES USING PLANT POWER LEVEL

The core thermal power uncertainty calculation described in section 4.3 below indicates that with the LEFM CheckPlus ™ (LEFM√+ ™) system installed, the power measurement uncertainty is < ± 0.38%. Thus, plant safety, component, and system analyses for which rated thermal power is an input only need to reflect a 0.38% power measurement uncertainty. Accordingly, the existing 2% uncertainty can be allocated such that 1.62% is applied to provide sufficient margin to address the uprate to 3514 MWt, and 0.38% is retained in the analysis to still account for the power measurement uncertainty.

Rated thermal power is used as an input to most plant safety, component, and system analyses. Analyses for which a 2% or greater increase was applied to the initial power level do not need to be re-performed for the 1.62% uprate conditions. This is based on the fact that the sum of the increased core power level (1.62%) and the decreased power measurement uncertainty (± 0.38%) fall within the previously analyzed conditions. Core and fuel performance analyses described in Attachment 2 will be reanalyzed or reevaluated on a cycle-specific basis. Other analyses performed at a nominal power

level have either been evaluated or re-performed for the 1.62% increased power level. The results demonstrate that the applicable analysis acceptance criteria continue to be met at the 1.62% uprate conditions.

4.2 DISPOSITION OF CRITERIA SPECIFIED BY THE NRC IN SAFETY EVALUATION DATED MARCH 8, 1999 APPROVING CALDON TOPICAL REPORT ER-80P (REFERENCE 3)

1. The Licensee should discuss the maintenance and calibration procedures that will be implemented with the incorporation of the LEFM. These procedures should include processes and contingencies for inoperable LEFM instrumentation and the effect on thermal power measurement and plant operation.

   PBAPS Response:

   Calibration & Maintenance
   Implementation of the power uprate license amendment will include developing the necessary procedures and documents required for operation, maintenance, calibration, testing, and training at the uprated power level with the new LEFM system. Plant maintenance and calibration procedures will be revised to incorporate Caldon's maintenance and calibration requirements prior to declaring the LEFM system operable and raising power above 3458 MWt. The incorporation of, and continued adherence to, these requirements will assure that the LEFM system is properly maintained and calibrated.

   LEFM Inoperability
   The redundancy inherent in the two measurement planes of an LEFM√+ ™ makes the system resistant to component failures. The system features automatic self-checking. A continuously operating on-line test is provided to verify that the digital circuits are operating correctly and within the specified accuracy envelope. The on-line monitoring and diagnostics tests include the acoustic processing unit transmitters, timing circuits, signal quality, path sound velocity, hydraulic profile as represented by path velocities, and active computation as reported by watchdog timers. The system provides display and storage of verification test results. Failure messages are generated if system failure events are detected.

   The LEFM√+™ feedwater mass flow and temperature inputs will also be used to adjust or calibrate the feedwater flow nozzle-based signals. If the LEFM√+™ system, or a portion of the system becomes inoperable, control room operators are promptly alerted by control room computer indications. Feedwater flow input to the core thermal power calculation would then be provided by the existing flow nozzles, or a combination of flow nozzle(s) and LEFM flow data. Power level will be adjusted as required to reflect the accuracy of the equipment in service. Calculations have been performed to support the uncertainty of different combinations of LEFM and flow nozzle inputs to the core thermal power calculation. In addition, if the flow nozzles are calibrated to the last available data from the LEFM system, it will be acceptable to remain at 3514 Mwt for up to 72 hours to enact LEFM system repairs. The administrative controls described above will be added to the PBAPS Technical Requirements Manual.

2. For plants that currently have LEFMs installed, the licensee should provide an evaluation of the operational and maintenance history of the installation and confirm that the installed instrumentation is representative of the LEFM system and bounds the analysis and assumptions set forth in Topical Report ER-80P.

   PBAPS Response:
   PBAPS does not have any LEFMs installed, so this criterion is not applicable.

3. The licensee should confirm that the methodology used to calculate the uncertainty of the LEFM in comparison to the current feedwater instrumentation is based on accepted plant setpoint methodology (with regard to the development of instrument uncertainty). If an alternative methodology is used, the application should be justified and applied to both flow nozzle and ultrasonic flow measurement instrumentation installations for comparison.

   PBAPS Response:
   The core thermal power uncertainty calculation uses an approach consistent with ASME PTC-19.1 (1985), ISA 67.04.01-2000 for non-safety-related instrumentation, and Caldon Topical Reports ER-80P as supplemented by ER-157P. The combination of errors within instrument loops is accomplished in accordance with plant and NRC-approved GE Setpoint Methodology as described in NEDC-31336, Class III (October 1986), "General Electric Instrument Setpoint Methodology".

4. Licensees for plant installations where the ultrasonic meter (including LEFM) was not installed with flow elements calibrated to a site specific piping configuration (flow profiles and meter factors not representative of the plant specific installation), should provide additional justification for use. This justification should show that the meter installation is either independent of the plant specific flow profile for the stated accuracy, or that the installation can be shown to be equivalent to known calibrations and plant configurations for the specific installation including the propagation of flow profile effects at higher Reynolds numbers. Additionally, for previously installed calibrated elements, the licensee should confirm that the piping remains bounding for the original LEFM installation and calibration assumptions.

   PBAPS Response:
   Criterion 4 does not apply to PBAPS. The calibration factor for the PBAPS spool pieces will be established by tests of these spools at Alden Research Laboratory in May 2002. These will include tests of a full-scale model of the PBAPS hydraulic geometry and tests in a straight pipe. An Alden data report for these tests and a Caldon engineering report evaluating the test data will be on file. The calibration factor used for the LEFM CheckPlus at PBAPS will be based on these reports. The uncertainty in the calibration factor for the spools will be based on the Caldon engineering report. The site-specific uncertainty analysis will document these analyses. This document will be maintained on file, as part of the technical basis for the PBAPS uprate.

   Final acceptance of the site-specific uncertainty analyses will occur after the completion of the commissioning process. The commissioning process verifies bounding calibration test data (See Appendix F of ER-80P). This step provides final

positive confirmation that actual performance in the field meets the uncertainty bounds established for the instrumentation. Final commissioning is expected to be completed in October 2002 for Unit 2 and October 2003 for Unit 3.

4.3 UNCERTAINTY DETERMINATION METHODOLOGY

A core thermal power uncertainty calculation was developed for this proposed uprate. Design inputs to the uncertainty calculation are consistent with the information contained in Topical Report ER-80P as supplemented by Engineering Report ER-157P. The core thermal power uncertainty calculation supports an overall uncertainty in the reactor power measurement of 0.36%. This supports a TPO uprate of up to 1.64% power or 3514.7 MWt. For conservatism, this license amendment request proposes a power increase to 3514 MWt (1.62% increase in RTP).

LEFM√+™ System operating procedures will ensure that the assumptions and requirements of the core thermal power uncertainty calculation remain valid.

See Attachment 2, Section 1.4, "Basis for TPO Uprate", for information regarding PBAPS calculation of the total power measurement uncertainty. This section identifies all parameters and their individual contribution to the power uncertainty at the plant.

4.4 MONITORING, VERIFICATION AND ERROR REPORTING

Although use of the LEFM√+™ System for this application is non-safety related, the system is designed and manufactured under the vendor's standard quality control program, which provides for configuration control, deficiency reporting and correction, and maintenance. However, system software and laboratory calibration tests are required to meet the requirements under Caldon's 10CFR50, Appendix B program.

4.5 ADDITIONAL INFORMATION REGARDING IMPLEMENTATION OF THE LEFM√+™ SYSTEM

1. Maintaining calibration

   The plant instruments that provide input into the heat balance are calibrated and maintained by either preventive maintenance activities and/or by surveillance activities. Instrumentation sensing the following parameters are input to the heat balance: reactor pressure, feedwater flow, CRD flow, feedwater temperature, recirculation pump power, and Reactor Water Cleanup system temperature and flow.

   Preventive Maintenance activities are defined as those activities that extend equipment service life or prevent equipment failure and are based on engineering judgment and manufacturer's recommendations. Surveillance activities are those activities that are performed to satisfy Technical Specification or Technical Requirements Manual requirements.

   For the subject instruments, loop calibrations are scheduled and performed in accordance with the PBAPS Surveillance Testing and Preventative Maintenance

Program, and the assumptions contained in the core thermal power uncertainty calculation.

2. Controlling software and hardware configuration

   Controlling Software Configuration

   The LEFM software configuration is controlled via a combination of processes that consists of the following:

   - The Exelon Process Computer Software Quality Assurance program and referenced lower tier instructions to manage the software design, configuration, and control of Supplier services.

   - The Exelon configuration control process controls the system design, configuration changes, and installation.

   Controlling Hardware Configuration

   The Exelon configuration control process controls the system design, configuration changes, and installation. This program addresses the establishment and conformance with PBAPS design and licensing requirements, the PBAPS physical configuration, and associated documentation. These programs are applied to the equipment that affects the total power uncertainty described in our power uprate application.

3. Performing corrective actions

   Exelon implements a deficiency control program (Condition Report Process) that is focused on prompt identification, documentation and correction of conditions adverse to quality or safety. The program contains provisions for tracking and trending conditions, and for identifying and analyzing precursors to conditions adverse to quality. This program identifies and prioritizes the need for corrective actions. The corrective actions as deemed necessary are implemented in accordance with the appropriate plant programs. This program is applied to the equipment that affects the total power uncertainty described in this license amendment request (LAR).

4. Reporting deficiencies to the manufacturer

   Part/equipment deficiencies identified at PBAPS are documented using the Condition Report Process described above. The work group responsible for resolving the Condition Report will, as part of the investigation, contact the manufacturer as required.

   The Condition Report Process includes process steps which require evaluation for reportability concerns. The reportability evaluation process includes the consideration for 10CFR21 reporting. This program is applied to the equipment that affects the total power uncertainty described in this LAR.

5. Receiving and addressing manufacturer deficiency reports.

   Exelon implements a comprehensive Operating Experience Program (OPEX). The program's purpose is to evaluate lessons learned from the rest of the nuclear industry, to preclude similar events from occurring at PBAPS. Notices such as those received from the NRC, 10CFR21 reports, manufacturer / vendor notices, etc. are evaluated for applicability to PBAPS.

   If the OPEX program determines that the notice is applicable to PBAPS, the Condition Report Process (described previously) is entered and utilized to control the evaluation, priority and tracking of any warranted corrective actions. This program is applied to the equipment that affects the total power uncertainty described in this LAR.

6. Operating Procedure Revisions

   PBAPS operating procedures will be revised to ensure that the plant never intentionally exceeds the proposed RTP of 3514 Mwt. PBAPS will continue to maintain current shift power average and power excursion guidelines to maintain RTP within the licensed steady state thermal power limit. This approach is consistent with existing operating procedures.

5.0 REGULATORY ANALYSIS

5.1 APPLICABLE REGULATORY REQUIREMENTS/CRITERIA

The proposed changes have been evaluated to determine whether applicable regulations and requirements continue to be met. As described in Section 3.0 above and Attachment 2, the analyses performed at 102% or greater of CLTP remain applicable at the proposed higher RTP, because the 2% margin in the ECCS evaluation model previously required by Appendix K, is effectively reduced by the improvement in the FW flow measurements. Core and fuel performance analyses described in Attachment 2 will be reanalyzed or reevaluated on a cycle-specific basis. Other analyses performed at a nominal power level have either been evaluated or re-performed for the 1.62% increased power level. The results demonstrate that the applicable analysis acceptance criteria continue to be met at the 1.62% uprate conditions.

Exelon has determined that the proposed changes do not require any exemptions or relief from any regulatory requirements, and do not affect conformance with any General Design Criteria differently than described in the PBAPS UFSAR.

5.2 NO SIGNIFICANT HAZARDS CONSIDERATION

Exelon Generation Company, LLC (Exelon) is proposing that the Peach Bottom Atomic Power Station Units 2 & 3 Facility Operating Licenses be amended to reflect an increase in the rated thermal power (RTP) level from 3458 MWt to 3514 MWt. The increase in RTP will be achieved by installation of the Leading Edge Flow Meter CheckPlus (LEFM√+ ™) supplied by Caldon, Inc. The LEFM√+ ™ provides improved feedwater flow measurement accuracy and thus improved operational power level certainty.

Exelon has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10CFR50.92, "Issuance of Amendment," as discussed below:

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

   Response: No.

   The comprehensive analytical efforts performed to support the proposed uprate conditions included a review and evaluation of all components and systems that could be affected by this change. Evaluation of accident analyses confirmed the effects of the proposed uprate are bounded by the current dose analyses. All systems will function as designed, and all performance requirements for these systems have been evaluated and found acceptable.

   The primary loop components (reactor vessel, reactor internals, control rod drive housings, piping and supports, recirculation pumps, etc.) continue to comply with their applicable structural limits and will continue to perform their intended design functions. Thus, there is no increase in the probability of a structural failure of these components.

   All of the NSSS systems will still perform their intended design functions during normal and accident conditions. The balance of plant systems and components continue to meet their applicable structural limits and will continue to perform their intended design functions. Thus, there is no increase in the probability of a structural failure of these components. All of the NSSS/BOP interface systems will continue to perform their intended design functions. The safety relief valves and containment isolation valves meet design sizing requirements at the uprated power level.

   Because the integrity of the plant will not be affected by operation at the uprated condition, it is concluded that all structures, systems, and components required to mitigate a transient remain capable of fulfilling their intended functions. The reduced uncertainty in the flow input to the core thermal power uncertainty measurement allows most of the current safety analyses to be used, with small changes to the core operating limits, to support operation at a core power of 3514 megawatts thermal (MWt). Other analyses performed at a nominal power level have either been evaluated or re-performed for the 1.62% increased power level. The results demonstrate that the applicable analysis acceptance criteria continue to be met at the 1.62% uprate conditions. As such, all PBAPS Updated Final Safety Analysis Report (UFSAR) Chapter 14 accident analyses continue to demonstrate compliance with the relevant event acceptance criteria. Those analyses performed to assess the effects of mass and energy releases remain valid. The source terms used to assess radiological consequences have been reviewed and determined to bound operation at the 1.62% uprated condition.

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

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

Response: No.

No new accident scenarios, failure mechanisms, or limiting single failures are introduced as a result of the proposed changes. All systems, structures, and components previously required for the mitigation of a transient remain capable of fulfilling their intended design functions. The proposed changes have no adverse effects on any safety-related system or component and do not challenge the performance or integrity of any safety related system.

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

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

Operation at the uprated power condition does not involve a significant reduction in a margin of safety. Analyses of the primary fission product barriers have concluded that all relevant design criteria remain satisfied, both from the standpoint of the integrity of the primary fission product barrier and from the standpoint of compliance with the required acceptance criteria. As appropriate, all evaluations have been performed using methods that have either been reviewed and approved by the NRC, or that are in compliance with regulatory review guidance and standards.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Conclusion
Based on the above, Exelon concludes that the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10CFR50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.3 INFORMATION SUPPORTING AN ENVIRONMENTAL ASSESSMENT

The proposed amendment does 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 amendment meets the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 PRECEDENCE

Similar amendment requests have been approved for:

Facility	Amendment(s)	Approval Date
Susquehanna	194, 169	July 6, 2001
San Onofre 2 & 3	180, 171	July 6, 2001
Watts Bar	31	January 19, 2001

7.0 REFERENCES

1. US NRC to Mr. George A. Hunger (PECO Energy Company), "Safety Evaluation for Revised Maximum Authorized Thermal Power Limit", dated October 18, 1994.
2. Caldon, Inc., Engineering Report 80P, "Improving Thermal Power Accuracy and Plant Safety While Increasing Operating Power Level Using the LEFM√™ System," Revision 0, March 1997
3. Letter from US NRC to C. L. Terry (Texas Utilities Electric), "Comanche Peak Steam Electric Station, Units 1 & 2 – Review of Caldon Engineering Topical Report ER 80P, "Improving Thermal Power Accuracy and Plant Safety While Increasing Power Level Using the LEFM√™ System"," dated March 8, 1999.
4. Caldon Inc., Engineering Report ER-157P, "Supplement to Topical Report ER-80P: Basis for a Power Uprate With the LEFM√™ or LEFM CheckPlus™ System," Revision 5, dated May 2000.
5. Letter from US NRC to M. A. Krupa (Entergy Operations, Inc.), "Waterford Steam Electric Station, Unit 3; River Bend Station and Grand Gulf Nuclear Station – Review of Caldon, Inc., Engineering Report ER-157P," dated December 20, 2001.

ATTACHMENT 2

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

License Amendment Request (LAR) 01-01190
"PBAPS Measurement Uncertainty Recapture Power Uprate"

General Electric
Topical Safety Analysis Report for Peach Bottom Atomic Power Station Units 2 & 3,
NEDC-33064P

GE Nuclear Energy

175 Curtner Ave., San Jose, CA 95125

NEDC-33064P
DRF-0000-0000-5735
Class III
May 2002

GE PROPRIETARY INFORMATION

SAFETY ANALYSIS REPORT
FOR
PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 & 3
THERMAL POWER OPTIMIZATION

Prepared by: E. D. Schrull

Approved by: _____
Michael Dick, Project Manager
General Electric Company

Approved by: _____
Michael Baker, Project Manager
Exelon Generation, LLC

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IMPORTANT NOTICE REGARDING CONTENTS OF THIS REPORT

PLEASE READ CAREFULLY

The only undertakings of the General Electric Company (GE) respecting information in this document are contained in the contract between Exelon Generation, LLC (Exelon) and GE, Purchase Order No. 01038065, effective October 26, 2001, and nothing contained in this document shall be construed as changing the contract. The use of this information by anyone other than Exelon, or for any purpose other than that for which it is intended, is not authorized; and, with respect to any unauthorized use, GE makes no representation or warranty, express or implied, and assumes no liability as to the completeness, accuracy, or usefulness of the information contained in this document, or that its use may not infringe privately owned rights.

General Electric Company

AFFIDAVIT

I, George B. Stramback, state as follows:

(1) I am Project Manager, Regulatory Services, General Electric Company ("GE") and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.

(2) The information sought to be withheld is contained in the GE proprietary report NEDC-33064P, *Safety Analysis Report for Peach Bottom Atomic Power Station Units 2 & 3 Thermal Power Optimization,* Class III (GE Proprietary Information), dated May 2002. This document, taken as a whole, constitutes a proprietary compilation of information, some of it also independently proprietary, prepared by the General Electric Company. The independently proprietary elements are delineated by bars marked in the margin adjacent to the specific material.

(3) In making this application for withholding of proprietary information of which it is the owner, GE relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4), 2.790(a)(4), and 2.790(d)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions also qualify under the narrower definition of "trade secret", within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).

(4) Some examples of categories of information which fit into the definition of proprietary information are:

   a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by General Electric's competitors without license from General Electric constitutes a competitive economic advantage over other companies;

b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

c. Information which reveals cost or price information, production capacities, budget levels, or commercial strategies of General Electric, its customers, or its suppliers;

d. Information which reveals aspects of past, present, or future General Electric customer-funded development plans and programs, of potential commercial value to General Electric;

e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

Both the compilation as a whole and the marked independently proprietary elements incorporated in that compilation are considered proprietary for the reason described in items (4)a. and (4)b., above.

(5) The information sought to be withheld is being submitted to NRC in confidence. That information (both the entire body of information in the form compiled in this document, and the marked individual proprietary elements) is of a sort customarily held in confidence by GE, and has, to the best of my knowledge, consistently been held in confidence by GE, has not been publicly disclosed, and is not available in public sources. All disclosures to third parties including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.

(6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within GE is limited on a "need to know" basis.

(7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the manager of the cognizant marketing function (or his delegate), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GE are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.

(8) The information identified by bars in the margin is classified as proprietary because it contains detailed results and conclusions from these evaluations, utilizing analytical models and methods, including computer codes, which GE has developed, obtained NRC approval of, and applied to perform evaluations of transient and accident events in the GE Boiling Water Reactor ("BWR"). The development and approval of these system, component, and thermal hydraulic models and computer codes was achieved at a significant cost to GE, on the order of several million dollars.

The remainder of the information identified in paragraph (2), above, is classified as proprietary because it constitutes a confidential compilation of information, including detailed results of analytical models, methods, and processes, including computer codes, and conclusions from these applications, which represent, as a whole, an integrated process or approach which GE has developed, obtained NRC approval of, and applied to perform evaluations of the safety-significant changes necessary to demonstrate the regulatory acceptability of a given increase in licensed power output for a GE BWR. The development and approval of this overall approach was achieved at a significant additional cost to GE, in excess of a million dollars, over and above the very large cost of developing the underlying individual proprietary analyses.

To effect a change to the licensing basis of a plant requires a thorough evaluation of the effect of the change on all postulated accident and transient events, and all other regulatory requirements and commitments included in the plant's UFSAR. The analytical process to perform and document these evaluations for a proposed power uprate was developed at a substantial investment in GE resources and expertise. The results from these evaluations identify those BWR systems and components, and those postulated events, which are affected by the changes required to accommodate operation at increased power levels, and, just as importantly, those which are <u>not</u> so affected, and the technical justification for not considering the latter in changing the licensing basis. The scope thus determined forms the basis for GE's offerings to support utilities in both performing analyses and providing licensing consulting services. Clearly, the scope and magnitude of effort of any attempt by a competitor to effect a similar licensing change can be narrowed considerably based upon these results. Having invested in the initial evaluations and developed the solution strategy and process described in the subject document GE derives an important competitive advantage in selling and performing these services. However, the mere knowledge of the effect on each system and component reveals the process, and provides a guide to the solution strategy.

(9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GE's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GE's comprehensive BWR technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the

extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC-approved methods, including justifications for not including certain analyses in applications to change the licensing basis.

GE's competitive advantage will be lost if its competitors are able to use the results of the GE experience to avoid fruitless avenues, or to normalize or verify their own process, or to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions. In particular, the specific areas addressed by any document and submittal to support a change in the safety or licensing bases of the plant will clearly reveal those areas where detailed evaluations must be performed and specific analyses revised, and also, by omission, reveal those areas not so affected.

While some of the underlying analyses, and some of the gross structure of the process, may at various times have been publicly revealed, enough of both the analyses and the detailed structural framework of the process have been held in confidence that this information, in this compiled form, continues to have great competitive value to GE. This value would be lost if the information as a whole, in the context and level of detail provided in the subject GE document, were to be disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources, including that required to determine the areas that are not affected by a power uprate and are therefore blind alleys, would unfairly provide competitors with a windfall, and deprive GE of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing its analytical process.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Executed on this 23rd day of May 2002.

George B. Stramback
General Electric Company

ATTACHMENT 3

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

License Amendment Request (LAR) 01-01190
"PBAPS Measurement Uncertainty Recapture Power Uprate"

Marked-Up Technical Specification Pages

UNIT 2

FOL page 3
TS page 1.1-5
TS page 3.3-2
TS page 3.3-6 to 3.3-8
TS page 3.3-31a to 3.3-31c
TS page 3.4-5

UNIT 3

FOL page 3
TS page 1.1-5
TS page 3.3-2
TS page 3.3-6 to 3.3-8
TS page 3.3-31a to 3.3-31c
TS page 3.4-5

restriction to chemical or physical form for sample analysis or instrument calibration or when associated with radioactive apparatus or components;

(5) Exelon Generation Company, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

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

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the Peach Bottom Atomic Power Station, Unit 2, at steady state reactor core power levels not in excess of ~~3458~~ 3514 megawatts thermal. REPLACE

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 242, are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.

The Surveillance Requirements (SRs) listed in the licensee's letter dated August 4, 1995 are not required to be performed immediately upon implementation of Amendment No. 210. The SRs listed in the licensee's letter dated August 4, 1995 shall be successfully demonstrated prior to the time and condition specified below for each:

a) Those SRs listed as Category A SRs in the licensee's August 4, 1995 letter shall be completed within a period consistent with the implementation date for Amendment 210, the specified frequency for each SR and the allowance of SR 3.0.2;

b) Those SRs listed as Category B SRs in the licensee's August 4, 1995 letter shall be completed within a period consistent with the last completion date for the related existing SRs, the specified frequency for each SR and the allowance of SR 3.0.2.

1.1 Definitions

PHYSICS TESTS (continued)	b. Authorized under the provisions of 10 CFR 50.59; or c. Otherwise approved by the Nuclear Regulatory Commission.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of ~~3458 MWt~~. 3514 REPLACE
REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from the opening of the sensor contact up to and including the opening of the trip actuator contacts.
SHUTDOWN MARGIN (SDM)	SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical assuming that: a. The reactor is xenon free; b. The moderator temperature is 68°F; and c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.
STAGGERED TEST BASIS	A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during *n* Surveillance Frequency intervals, where *n* is the total number of systems, subsystems, channels, or other designated components in the associated function.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more automatic Functions with RPS trip capability not maintained. OR Two or more manual Functions with RPS trip capability not maintained.	C.1 Restore RPS trip capability.	1 hour
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 Enter the Condition referenced in Table 3.3.1.1-1 for the channel.	Immediately
E. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	E.1 Reduce THERMAL POWER to < ~~30%~~ 29.5 RTP. REPLACE	4 hours
F. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	F.1 Be in MODE 2.	6 hours
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.13	Verify Turbine Stop Valve–Closure and Turbine Control Valve Fast Closure, Trip Oil Pressure–Low Functions are not bypassed when THERMAL POWER is ≥ ~~30~~% RTP. (29.5 REPLACE)	24 months
SR 3.3.1.1.14	Perform CHANNEL FUNCTIONAL TEST.	24 months
SR 3.3.1.1.15	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.1.1.16	Calibrate each radiation detector.	24 months
SR 3.3.1.1.17	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.1.1.18	Verify the RPS RESPONSE TIME is within limits.	24 months

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Wide Range Neutron Monitors					
a. Period-Short	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 13 seconds
	5(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.6 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 13 seconds
b. Inop	2	3	G	SR 3.3.1.1.5 SR 3.3.1.1.17	NA
	5(a)	3	H	SR 3.3.1.1.6 SR 3.3.1.1.17	NA
2. Average Power Range Monitors					
a. Neutron Flux-High (Setdown)	2	3(c)	G	SR 3.3.1.1.1 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 15.0% RTP
b. Simulated Thermal Power-High	1	3(c)	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	~~≤ 0.66 W + 64.9%~~ ≤ 0.65 W + 63.7% RTP(b) and ≤ 118.0% RTP REPLACE
c. Neutron Flux-High	1	3(c)	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 119.7% RTP
d. Inop	1,2	3(c)	G	SR 3.3.1.1.11	NA
e. 2-Out-Of-4 Voter	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18	NA

(continued)

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

(b) ~~0.66 W + 64.0% - 0.66 ΔW~~ RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating." 0.65 W + 63.7% - 0.65 ΔW REPLACE

(c) Each APRM channel provides inputs to both trip systems.

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3.	Reactor Pressure —High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 1085.0 psig
4.	Reactor Vessel Water Level —Low (Level 3)	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 1.0 inches
5.	Main Steam Isolation Valve —Closure	1	8	F	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 10% closed
6.	Drywell Pressure —High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 2.0 psig
7.	Scram Discharge Volume Water Level —High	1,2	2	G	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 50.0 gallons
		5(a)	2	H	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 50.0 gallons
8.	Turbine Stop Valve —Closure	≥ ~~30%~~ 29.5 RTP REPLACE	4	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 10% closed
9.	Turbine Control Valve Fast Closure, Trip Oil Pressure —Low	≥ ~~30%~~ RTP	2	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 500.0 psig
10.	Turbine Condenser —Low Vacuum	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 23.0 inches Hg vacuum
11.	Main Steam Line —High Radiation	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 15 X Full Power Background
12.	Reactor Mode Switch — Shutdown Position	1,2	1	G	SR 3.3.1.1.14 SR 3.3.1.1.17	NA
		5(a)	1	H	SR 3.3.1.1.14 SR 3.3.1.1.17	NA

(continued)

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

3.3 INSTRUMENTATION

3.3.4.2 End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

LCO 3.3.4.2 a. Two channels per trip system for each EOC-RPT instrumentation Function listed below shall be OPERABLE:

1. Turbine Stop Valve (TSV) – Closure; and

2. Turbine Control Valve (TCV) Fast Closure, Trip Oil Pressure – Low.

OR

b. The following limits are made applicable:

1. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," limits for inoperable EOC-RPT as specified in the COLR; and

2. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for inoperable EOC-RPT as specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ ~~30%~~ 29.5 RTP. REPLACE

ACTIONS

---NOTE---
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Restore channel to OPERABLE status.	72 hours
	OR	
	A.2 ---NOTE--- Not applicable if inoperable channel is the result of an inoperable breaker. --- Place channel in trip.	72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more Functions with EOC-RPT trip capability not maintained.	B.1 Restore EOC-RPT trip capability.	2 hours
C. Required Action and associated Completion Time not met.	C.1 Remove the associated recirculation pump from service. OR C.2 Reduce THERMAL POWER to < ~~30%~~ 29.5 RTP. REPLACE	4 hours 4 hours

SURVEILLANCE REQUIREMENTS

----------NOTE----------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains EOC-RPT trip capability.

SURVEILLANCE	FREQUENCY
SR 3.3.4.2.1 Perform CHANNEL FUNCTIONAL TEST.	92 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: TSV – Closure: ≤ 10% closed; and TCV Fast Closure, Trip Oil Pressure – Low: ≥ 500 psig.	24 months
SR 3.3.4.2.3	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 months
SR 3.3.4.2.4	Verify TSV – Closure and TCV Fast Closure, Trip Oil Pressure – Low Functions are not bypassed when THERMAL POWER is ≥ ~~30%~~ 29.5 REPLACE RTP.	24 months
SR 3.3.4.2.5	----------NOTE---------- Breaker interruption time may be assumed from the most recent performance of SR 3.3.4.2.6. ---------- Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.	24 months on a STAGGERED TEST BASIS
SR 3.3.4.2.6	Determine RPT breaker interruption time.	60 months

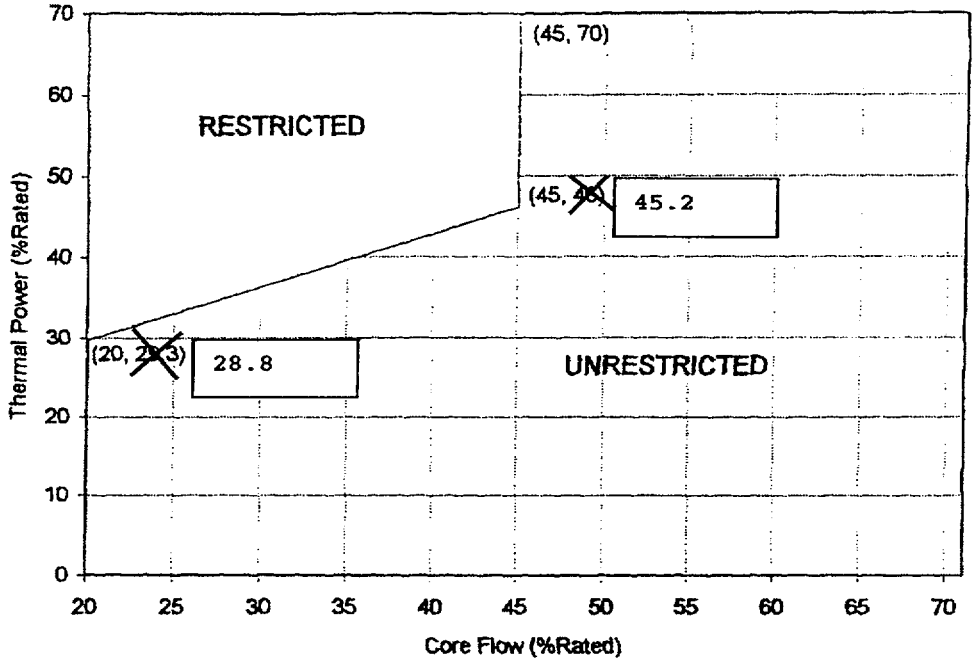

Figure 3.4.1-1 (page 1 of 1)

THERMAL POWER VERSUS CORE FLOW
STABILITY REGIONS

(5) Exelon Generation Company, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

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

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the Peach Bottom Atomic Power Station, Unit 3, at steady state reactor core power levels not in excess of ~~3458~~ 3514 megawatt thermal. REPLACE

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 246, are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.

The Surveillance Requirements (SRs) listed in the licensee's letter dated August 4, 1995 are not required to be performed immediately upon implementation of Amendment No. 214. The SRs listed in the licensee's letter dated August 4, 1995 shall be successfully demonstrated prior to the time and condition specified below for each:

a) Those SRs listed as Category A SRs in the licensee's August 4, 1995 letter shall be completed within a period consistent with the implementation date for Amendment 214, the specified frequency for each SR and the allowance of SR 3.0.2.

b) Those SRs listed as Category B SRs in the licensee's August 4, 1995 letter shall be completed within a period consistent with the last completion data for the related existing SRs, the specified frequency for each SR and the allowance of SR 3.0.2.

1.1 Definitions

PHYSICS TESTS (continued)	b. Authorized under the provisions of 10 CFR 50.59; or c. Otherwise approved by the Nuclear Regulatory Commission.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of ~~3458~~ MWt. 3514 REPLACE
REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from the opening of the sensor contact up to and including the opening of the trip actuator contacts.
SHUTDOWN MARGIN (SDM)	SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical assuming that: a. The reactor is xenon free; b. The moderator temperature is 68°F; and c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.
STAGGERED TEST BASIS	A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during *n* Surveillance Frequency intervals, where *n* is the total number of systems, subsystems, channels, or other designated components in the associated function.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more automatic Functions with RPS trip capability not maintained. OR Two or more manual Functions with RPS trip capability not maintained.	C.1 Restore RPS trip capability.	1 hour
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 Enter the Condition referenced in Table 3.3.1.1-1 for the channel.	Immediately
E. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	E.1 Reduce THERMAL POWER to < ~~30%~~ 29.5 RTP. REPLACE	4 hours
F. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	F.1 Be in MODE 2.	6 hours
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.13	Verify Turbine Stop Valve—Closure and Turbine Control Valve Fast Closure, Trip Oil Pressure—Low Functions are not bypassed when THERMAL POWER is ≥ ~~30~~ 29.5 % RTP. REPLACE	24 months
SR 3.3.1.1.14	Perform CHANNEL FUNCTIONAL TEST.	24 months
SR 3.3.1.1.15	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.1.1.16	Calibrate each radiation detector.	24 months
SR 3.3.1.1.17	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.1.1.18	Verify the RPS RESPONSE TIME is within limits.	24 months

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Wide Range Neutron Monitors					
a. Period-Short	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 13 seconds
	5(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.6 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 13 seconds
b. Inop	2	3	G	SR 3.3.1.1.5 SR 3.3.1.1.17	NA
	5(a)	3	H	SR 3.3.1.1.6 SR 3.3.1.1.17	NA
2. Average Power Range Monitors					
a. Neutron Flux-High (Setdown)	2	3(c)	G	SR 3.3.1.1.1 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 15.0% RTP
b. Simulated Thermal Power-High	1	3(c)	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	~~≤ 0.66 W + 64.9%~~ ≤ 0.65 W + 63.7% RTP(b) and ≤ 118.0% RTP REPLACE
c. Neutron Flux-High	1	3(c)	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 119.7% RTP
d. Inop	1,2	3(c)	G	SR 3.3.1.1.11	NA
e. 2-Out-Of-4 Voter	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18	NA

(continued)

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

(b) ~~0.66 W + 64.9% - 0.66 ΔW~~ 0.65 W + 63.7% - 0.65 ΔW REPLACE RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

(c) Each APRM channel provides inputs to both trip systems.

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3.	Reactor Pressure —High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 1085.0 psig
4.	Reactor Vessel Water Level —Low (Level 3)	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 1.0 inches
5.	Main Steam Isolation Valve —Closure	1	8	F	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 10% closed
6.	Drywell Pressure —High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 2.0 psig
7.	Scram Discharge Volume Water Level —High	1,2	2	G	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 50.0 gallons
		5(a)	2	H	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 50.0 gallons
8.	Turbine Stop Valve —Closure	≥ ~~30%~~ 29.5 RTP (REPLACE)	4	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 10% closed
9.	Turbine Control Valve Fast Closure, Trip Oil Pressure —Low	≥ ~~30%~~ RTP	2	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 500.0 psig
10.	Turbine Condenser —Low Vacuum	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 23.0 inches Hg vacuum
11.	Main Steam Line —High Radiation	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 15 X Full Power Background
12.	Reactor Mode Switch — Shutdown Position	1,2	1	G	SR 3.3.1.1.14 SR 3.3.1.1.17	NA
		5(a)	1	H	SR 3.3.1.1.14 SR 3.3.1.1.17	NA

(continued)

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

3.3 INSTRUMENTATION

3.3.4.2 End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

LCO 3.3.4.2 a. Two channels per trip system for each EOC-RPT instrumentation Function listed below shall be OPERABLE:

1. Turbine Stop Valve (TSV) – Closure; and

2. Turbine Control Valve (TCV) Fast Closure, Trip Oil Pressure – Low.

OR

b. The following limits are made applicable:

1. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," limits for inoperable EOC-RPT as specified in the COLR; and

2. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for inoperable EOC-RPT as specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ ~~30~~ 29.5 % RTP. REPLACE

ACTIONS

---NOTE---
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Restore channel to OPERABLE status.	72 hours
	OR	
	A.2 ---NOTE--- Not applicable if inoperable channel is the result of an inoperable breaker. --- Place channel in trip.	72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more Functions with EOC-RPT trip capability not maintained.	B.1 Restore EOC-RPT trip capability.	2 hours
C. Required Action and associated Completion Time not met.	C.1 Remove the associated recirculation pump from service. OR C.2 Reduce THERMAL POWER to < ~~30~~ 29.5 % RTP. REPLACE	4 hours 4 hours

SURVEILLANCE REQUIREMENTS

----------NOTE----------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains EOC-RPT trip capability.

SURVEILLANCE	FREQUENCY
SR 3.3.4.2.1 Perform CHANNEL FUNCTIONAL TEST.	92 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: TSV – Closure: ≤ 10% closed; and TCV Fast Closure, Trip Oil Pressure – Low: ≥ 500 psig.	24 months
SR 3.3.4.2.3	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 months
SR 3.3.4.2.4	Verify TSV – Closure and TCV Fast Closure, Trip Oil Pressure – Low Functions are not bypassed when THERMAL POWER is ≥ ~~30~~ 29.5 % RTP. REPLACE	24 months
SR 3.3.4.2.5	----------NOTE---------- Breaker interruption time may be assumed from the most recent performance of SR 3.3.4.2.6. ---------- Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.	24 months on a STAGGERED TEST BASIS
SR 3.3.4.2.6	Determine RPT breaker interruption time.	60 months

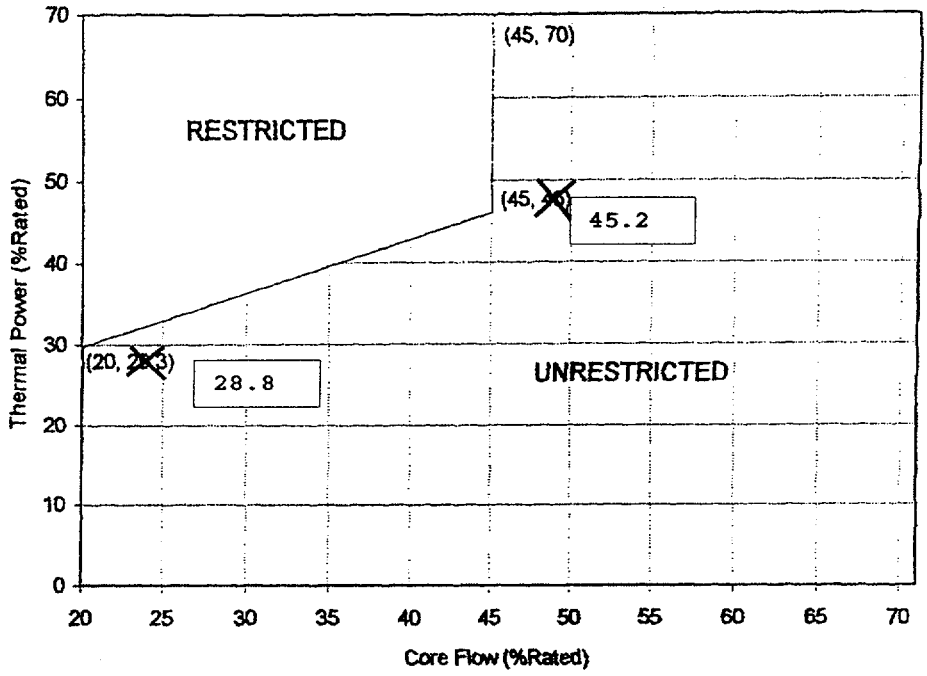

Figure 3.4.1-1 (page 1 of 1)

THERMAL POWER VERSUS CORE FLOW
STABILITY REGIONS

ATTACHMENT 4

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

License Amendment Request (LAR) 01-01190
"PBAPS Measurement Uncertainty Recapture Power Uprate"

Camera-Ready Technical Specification Pages

UNIT 2

FOL page 3
TS page 1.1-5
TS page 3.3-2
TS page 3.3-6 to 3.3-8
TS page 3.3-31a to 3.3-31c
TS page 3.4-5

UNIT 3

FOL page 3
TS page 1.1-5
TS page 3.3-2
TS page 3.3-6 to 3.3-8
TS page 3.3-31a to 3.3-31c
TS page 3.4-5

restriction to chemical or physical form for sample analysis or instrument calibration or when associated with radioactive apparatus or components;

(5) **Exelon Generation** Company, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

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

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the Peach Bottom Atomic Power Station, Unit 2, at steady state reactor core power levels not in excess of **3514** megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 242, are hereby incorporated in the license. **Exelon Generation** Company shall operate the facility in accordance with the Technical Specifications.

The Surveillance Requirements (SRs) listed in the licensee's letter dated August 4, 1995 are not required to be performed immediately upon implementation of Amendment No. 210. The SRs listed in the licensee's letter dated August 4, 1995 shall be successfully demonstrated prior to the time and condition specified below for each:

a) Those SRs listed as Category A SRs in the licensee's August 4, 1995 letter shall be completed within a period consistent with the implementation date for Amendment 210, the specified frequency for each SR and the allowance of SR 3.0.2;

b) Those SRs listed as Category B SRs in the licensee's August 4, 1995 letter shall be completed within a period consistent with the last completion date for the related existing SRs, the specified frequency for each SR and the allowance of SR 3.0.2.

Amendment No. ~~14~~, ~~18~~, ~~53~~, ~~78~~, ~~135~~, ~~194~~, ~~199~~, ~~210~~, ~~215~~, 239

1.1 Definitions

PHYSICS TESTS (continued)	b. Authorized under the provisions of 10 CFR 50.59; or c. Otherwise approved by the Nuclear Regulatory Commission.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3514 MWt.
REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from the opening of the sensor contact up to and including the opening of the trip actuator contacts.
SHUTDOWN MARGIN (SDM)	SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical assuming that: a. The reactor is xenon free; b. The moderator temperature is 68°F; and c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.
STAGGERED TEST BASIS	A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during *n* Surveillance Frequency intervals, where *n* is the total number of systems, subsystems, channels, or other designated components in the associated function.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more automatic Functions with RPS trip capability not maintained. OR Two or more manual Functions with RPS trip capability not maintained.	C.1 Restore RPS trip capability.	1 hour
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 Enter the Condition referenced in Table 3.3.1.1-1 for the channel.	Immediately
E. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	E.1 Reduce THERMAL POWER to < 29.5% RTP.	4 hours
F. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	F.1 Be in MODE 2.	6 hours
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.13	Verify Turbine Stop Valve–Closure and Turbine Control Valve Fast Closure, Trip Oil Pressure–Low Functions are not bypassed when THERMAL POWER is ≥ 29.5% RTP.	24 months
SR 3.3.1.1.14	Perform CHANNEL FUNCTIONAL TEST.	24 months
SR 3.3.1.1.15	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.1.1.16	Calibrate each radiation detector.	24 months
SR 3.3.1.1.17	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.1.1.18	Verify the RPS RESPONSE TIME is within limits.	24 months

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Wide Range Neutron Monitors					
a. Period-Short	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 13 seconds
	5(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.6 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 13 seconds
b. Inop	2	3	G	SR 3.3.1.1.5 SR 3.3.1.1.17	NA
	5(a)	3	H	SR 3.3.1.1.6 SR 3.3.1.1.17	NA
2. Average Power Range Monitors					
a. Neutron Flux-High (Setdown)	2	3(c)	G	SR 3.3.1.1.1 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 15.0% RTP
b. Simulated Thermal Power-High	1	3(c)	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 0.65 W + 63.7% RTP(b) and ≤ 118.0% RTP
c. Neutron Flux-High	1	3(c)	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 119.7% RTP
d. Inop	1,2	3(c)	G	SR 3.3.1.1.11	NA
e. 2-Out-Of-4 Voter	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18	NA

(continued)

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

(b) 0.65 W + 63.7% - 0.65 ΔW RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

(c) Each APRM channel provides inputs to both trip systems.

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3.	Reactor Pressure –High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 1085.0 psig
4.	Reactor Vessel Water Level–Low (Level 3)	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 1.0 inches
5.	Main Steam Isolation Valve –Closure	1	8	F	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 10% closed
6.	Drywell Pressure–High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 2.0 psig
7.	Scram Discharge Volume Water Level–High	1,2	2	G	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 50.0 gallons
		5(a)	2	H	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 50.0 gallons
8.	Turbine Stop Valve–Closure	≥ 29.5% RTP	4	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 10% closed
9.	Turbine Control Valve Fast Closure, Trip Oil Pressure–Low	≥ 29.5% RTP	2	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 500.0 psig
10.	Turbine Condenser–Low Vacuum	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 23.0 inches Hg vacuum
11.	Main Steam Line –High Radiation	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 15 X Full Power Background
12.	Reactor Mode Switch – Shutdown Position	1,2	1	G	SR 3.3.1.1.14 SR 3.3.1.1.17	NA
		5(a)	1	H	SR 3.3.1.1.14 SR 3.3.1.1.17	NA

(continued)

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

3.3 INSTRUMENTATION

3.3.4.2 End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

LCO 3.3.4.2 a. Two channels per trip system for each EOC-RPT instrumentation Function listed below shall be OPERABLE:

1. Turbine Stop Valve (TSV)—Closure; and

2. Turbine Control Valve (TCV) Fast Closure, Trip Oil Pressure—Low.

OR

b. The following limits are made applicable:

1. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," limits for inoperable EOC-RPT as specified in the COLR; and

2. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for inoperable EOC-RPT as specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ 29.5% RTP.

ACTIONS

---NOTE---
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Restore channel to OPERABLE status.	72 hours
	OR	
	A.2 ---NOTE--- Not applicable if inoperable channel is the result of an inoperable breaker. --- Place channel in trip.	72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more Functions with EOC-RPT trip capability not maintained.	B.1 Restore EOC-RPT trip capability.	2 hours
C. Required Action and associated Completion Time not met.	C.1 Remove the associated recirculation pump from service. OR C.2 Reduce THERMAL POWER to < 29.5% RTP.	4 hours 4 hours

SURVEILLANCE REQUIREMENTS

----------NOTE----------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains EOC-RPT trip capability.

SURVEILLANCE	FREQUENCY
SR 3.3.4.2.1 Perform CHANNEL FUNCTIONAL TEST.	92 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: TSV–Closure: ≤ 10% closed; and TCV Fast Closure, Trip Oil Pressure–Low: ≥ 500 psig.	24 months
SR 3.3.4.2.3	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 months
SR 3.3.4.2.4	Verify TSV–Closure and TCV Fast Closure, Trip Oil Pressure–Low Functions are not bypassed when THERMAL POWER is ≥ 29.5% RTP.	24 months
SR 3.3.4.2.5	----------NOTE---------- Breaker interruption time may be assumed from the most recent performance of SR 3.3.4.2.6. ---------- Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.	24 months on a STAGGERED TEST BASIS
SR 3.3.4.2.6	Determine RPT breaker interruption time.	60 months

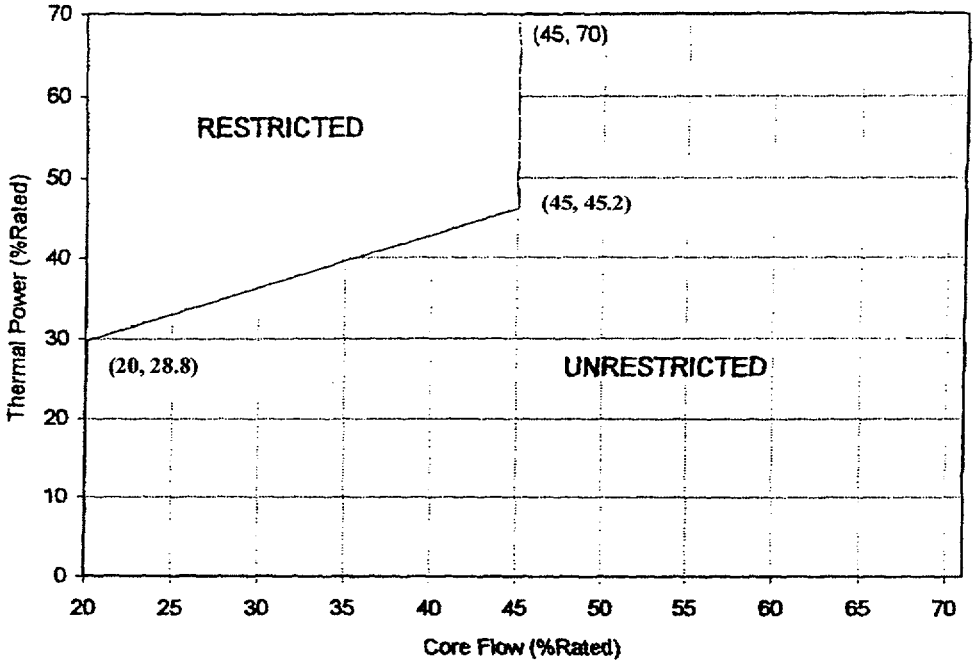

Figure 3.4.1-1 (page 1 of 1)

THERMAL POWER VERSUS CORE FLOW
STABILITY REGIONS

(5) **Exelon Generation** Company, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

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

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the Peach Bottom Atomic Power Station, Unit 3, at steady state reactor core power levels not in excess of **3514** megawatt thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 246, are hereby incorporated in the license. **Exelon Generation** Company shall operate the facility in accordance with the Technical Specifications.

The Surveillance Requirements (SRs) listed in the licensee's letter dated August 4, 1995 are not required to be performed immediately upon implementation of Amendment No. 214. The SRs listed in the licensee's letter dated August 4, 1995 shall be successfully demonstrated prior to the time and condition specified below for each:

a) Those SRs listed as Category A SRs in the licensee's August 4, 1995 letter shall be completed within a period consistent with the implementation date for Amendment 214, the specified frequency for each SR and the allowance of SR 3.0.2.

b) Those SRs listed as Category B SRs in the licensee's August 4, 1995 letter shall be completed within a period consistent with the last completion data for the related existing SRs, the specified frequency for each SR and the allowance of SR 3.0.2.

Amendment No. ~~17~~, ~~53~~, ~~138~~, ~~198~~, ~~201~~, ~~211~~, ~~214~~, 242
Corrected by letters dated December 13, 1995, and February 5, 2001

1.1 Definitions

PHYSICS TESTS (continued)	b. Authorized under the provisions of 10 CFR 50.59; or c. Otherwise approved by the Nuclear Regulatory Commission.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3514 MWt.
REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from the opening of the sensor contact up to and including the opening of the trip actuator contacts.
SHUTDOWN MARGIN (SDM)	SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical assuming that: a. The reactor is xenon free; b. The moderator temperature is 68°F; and c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.
STAGGERED TEST BASIS	A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during *n* Surveillance Frequency intervals, where *n* is the total number of systems, subsystems, channels, or other designated components in the associated function.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more automatic Functions with RPS trip capability not maintained. OR Two or more manual Functions with RPS trip capability not maintained.	C.1 Restore RPS trip capability.	1 hour
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 Enter the Condition referenced in Table 3.3.1.1-1 for the channel.	Immediately
E. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	E.1 Reduce THERMAL POWER to < 29.5% RTP.	4 hours
F. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	F.1 Be in MODE 2.	6 hours
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.13	Verify Turbine Stop Valve—Closure and Turbine Control Valve Fast Closure, Trip Oil Pressure—Low Functions are not bypassed when THERMAL POWER is ≥ 29.5% RTP.	24 months
SR 3.3.1.1.14	Perform CHANNEL FUNCTIONAL TEST.	24 months
SR 3.3.1.1.15	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.1.1.16	Calibrate each radiation detector.	24 months
SR 3.3.1.1.17	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.1.1.18	Verify the RPS RESPONSE TIME is within limits.	24 months

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Wide Range Neutron Monitors					
a. Period-Short	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 13 seconds
	5(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.6 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 13 seconds
b. Inop	2	3	G	SR 3.3.1.1.5 SR 3.3.1.1.17	NA
	5(a)	3	H	SR 3.3.1.1.6 SR 3.3.1.1.17	NA
2. Average Power Range Monitors					
a. Neutron Flux-High (Setdown)	2	3(c)	G	SR 3.3.1.1.1 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 15.0% RTP
b. Simulated Thermal Power-High	1	3(c)	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 0.65 W + 63.7% RTP(b) and ≤ 118.0% RTP
c. Neutron Flux-High	1	3(c)	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.12	≤ 119.7% RTP
d. Inop	1,2	3(c)	G	SR 3.3.1.1.11	NA
e. 2-Out-Of-4 Voter	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18	NA

(continued)

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

(b) 0.65 W + 63.7% - 0.65 ΔW RTP when reset for single loop operation per LCO 3.4.1, "Recirculation Loops Operating."

(c) Each APRM channel provides inputs to both trip systems.

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3.	Reactor Pressure—High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 1085.0 psig
4.	Reactor Vessel Water Level—Low (Level 3)	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 1.0 inches
5.	Main Steam Isolation Valve—Closure	1	8	F	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 10% closed
6.	Drywell Pressure—High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 2.0 psig
7.	Scram Discharge Volume Water Level—High	1,2	2	G	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 50.0 gallons
		5[a]	2	H	SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 50.0 gallons
8.	Turbine Stop Valve—Closure	≥ 29.5% RTP	4	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 10% closed
9.	Turbine Control Valve Fast Closure, Trip Oil Pressure—Low	≥ 29.5% RTP	2	E	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 500.0 psig
10.	Turbine Condenser—Low Vacuum	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.15 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 23.0 inches Hg vacuum
11.	Main Steam Line—High Radiation	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 15 X Full Power Background
12.	Reactor Mode Switch—Shutdown Position	1,2	1	G	SR 3.3.1.1.14 SR 3.3.1.1.17	NA
		5[a]	1	H	SR 3.3.1.1.14 SR 3.3.1.1.17	NA

(continued)

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

3.3 INSTRUMENTATION

3.3.4.2 End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

LCO 3.3.4.2 a. Two channels per trip system for each EOC-RPT instrumentation Function listed below shall be OPERABLE:

1. Turbine Stop Valve (TSV)—Closure; and

2. Turbine Control Valve (TCV) Fast Closure, Trip Oil Pressure—Low.

OR

b. The following limits are made applicable:

1. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," limits for inoperable EOC-RPT as specified in the COLR; and

2. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for inoperable EOC-RPT as specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ 29.5% RTP.

ACTIONS

---NOTE---
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more channels inoperable.	A.1	Restore channel to OPERABLE status.	72 hours
	OR		
	A.2	---NOTE--- Not applicable if inoperable channel is the result of an inoperable breaker.	
		Place channel in trip.	72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more Functions with EOC-RPT trip capability not maintained.	B.1 Restore EOC-RPT trip capability.	2 hours
C. Required Action and associated Completion Time not met.	C.1 Remove the associated recirculation pump from service. OR C.2 Reduce THERMAL POWER to < 29.5% RTP.	4 hours 4 hours

SURVEILLANCE REQUIREMENTS

----------NOTE----------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains EOC-RPT trip capability.

SURVEILLANCE	FREQUENCY
SR 3.3.4.2.1 Perform CHANNEL FUNCTIONAL TEST.	92 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: TSV—Closure: ≤ 10% closed; and TCV Fast Closure, Trip Oil Pressure—Low: ≥ 500 psig.	24 months
SR 3.3.4.2.3	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 months
SR 3.3.4.2.4	Verify TSV—Closure and TCV Fast Closure, Trip Oil Pressure—Low Functions are not bypassed when THERMAL POWER is ≥ 29.5% RTP.	24 months
SR 3.3.4.2.5	----------NOTE---------- Breaker interruption time may be assumed from the most recent performance of SR 3.3.4.2.6. ---------- Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.	24 months on a STAGGERED TEST BASIS
SR 3.3.4.2.6	Determine RPT breaker interruption time.	60 months

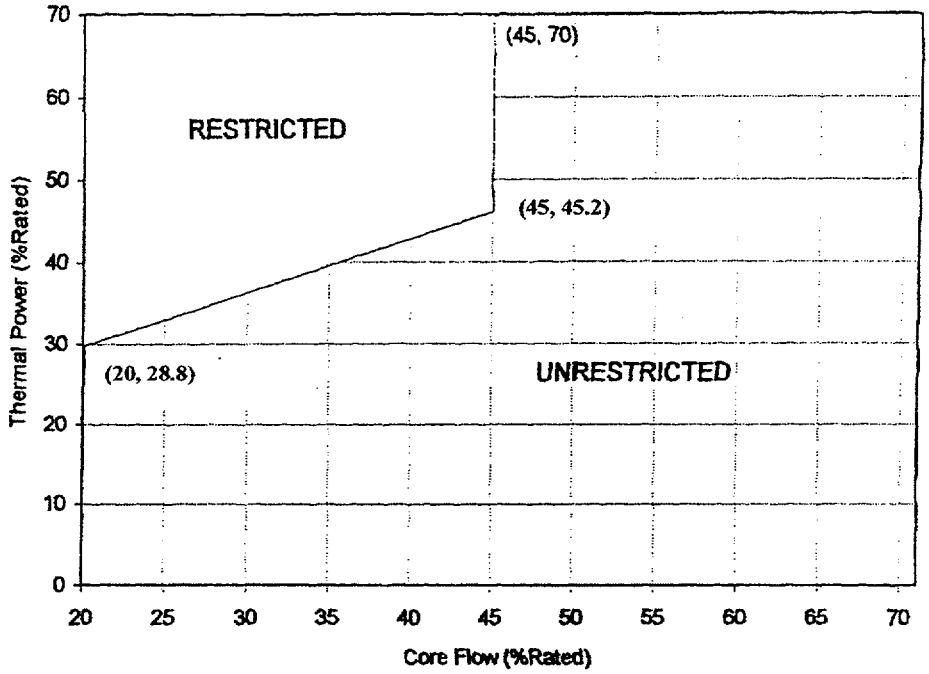

Figure 3.4.1-1 (page 1 of 1)

THERMAL POWER VERSUS CORE FLOW
STABILITY REGIONS

ATTACHMENT 5

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

License Amendment Request (LAR) 01-01190
"PBAPS Measurement Uncertainty Recapture Power Uprate"

List Of Commitments

The following table identifies those actions committed to by Exelon in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
The administrative controls will be added to the PBAPS Technical Requirements Manual for LEFM inoperability.		X	upon implementation
PCS (pressure control system) tests, will be performed during the power ascension phase (Section 10.4). (TSAR Section 5.2.1)	X		upon implementation
Per the guidelines of Appendix L of the TLTR, the performance of the FW/level control systems will be recorded at 95% and 100% of CLTP and confirmed at the TPO RTP during power ascension. These checks will demonstrate acceptable operational capability. (TSAR Section 5.2.2)	X		upon implementation
In preparation for operation at TPO uprated conditions, routine measurements of reactor and system pressures and flows, and vibration measurements on selective rotating equipment will be taken near 95% and 100% of CLTP, and retaken at 100% of TPO RTP. (TSAR Section 10.4)	X		upon implementation
Demonstration of acceptable fuel thermal margin will be performed prior to power ascension to the TPO RTP at the 100% CLTP steady-state heat balance point. Fuel thermal margin will be calculated for the TPO RTP point after the measurements taken at 95% and 100% of CLTP to project the estimated margin. (TSAR Section 10.4)	X		upon implementation
The response of the pressure and FW level control systems will be recorded at each steady-state point defined above to demonstrate acceptable operational capability. (TSAR Section 10.4)	X		upon implementation
A cycle-specific reload analysis will be performed prior to implementation of power uprate. This analysis will be submitted to the NRC for review, prior to operation at the uprated power level, if deemed necessary by the criteria of 10CFR50.59.	X		