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Exelon Nuclear

10CFR 50.59, 10CFR 72.48

January 8, 2007

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

Peach Bottom Atomic Power Station (PBAPS), Units 1, 2 and 3
PBAPS Independent Spent Fuel Storage Installation (ISFSI)
Facility Operating License Nos. DPR-12, DPR-44 and DPR-56
NRC Docket Nos. 50-171, 50-277, 50-278, and 72-29 (ISFSI)

Subject: Biennial 10CFR 50.59, 10CFR 72.48 and Commitment Revision Reports for the Period 1/1/2005 through 12/31/06

Enclosed are the 2005-2006 Biennial 10CFR 50.59, 10CFR 72.48 and Commitment Revision Reports as required by 10CFR 50.59 (d)(2), 10CFR 72.48, and SECY-00-0045 (NEI 99-04). As required to be reported by Off-site Dose Calculation Manual Specification 3.9.2, there were no major changes to radioactive waste systems at PBAPS during the reporting period.

There are no regulatory commitments contained in this transmittal.

If you have any questions or require additional information, please contact D. J. Foss at 717-456-4311.

Sincerely,

Robert C. Braun
Site Vice President
Peach Bottom Atomic Power Station

cc: Fred Bower, Senior Resident Inspector, USNRC, PBAPS
R. R. Janati, Commonwealth of Pennsylvania
Document Control Desk, USNRC, Washington DC

RCB/djf

CCN: 07-14000

Attachments

IE47
NMSS01

Exelon Nuclear
Peach Bottom Atomic Power Station

Docket Nos. 50-171
50-277
50-278
72-29

2005-2006
BIENNIAL 10CFR 50.59, 10CFR 72.48 AND COMMITMENT REVISION REPORTS

These reports are issued pursuant to reporting requirements for Peach Bottom Atomic Power Station Units 1, 2 and 3. These reports address tests and changes to the facility and procedures as they are described in the Peach Bottom Final Safety Analysis Report and Independent Fuel Storage Safety Analysis Report for the TN-68 Spent Fuel Cask. These reports consist of those tests and changes that were implemented between January 1, 2005 and December 31, 2006. Also, this report identifies commitments that were revised during the same time period and require reporting in accordance with the guidelines of NEI 99-04, Managing Regulatory Commitments Made By Power Reactor Licensees to the NRC Staff endorsed by SECY-00-0045.

PEACH BOTTOM ATOMIC POWER STATION
UNIT 1, 2 AND 3
DOCKET NOS. 50-171, 50-277, 50-278, 72-29
BIENNIAL 10CFR 50.59, 10CFR 72.48 AND COMMITMENT REVISION REPORTS

TABLE OF CONTENTS

EXELON NUCLEAR
PEACH BOTTOM ATOMIC POWER STATION
UNIT 1, 2 AND 3
DOCKET NOS. 50-171, 50-277, and 50-278

BIENNIAL 10CFR 50.59 REPORT

JANUARY 1, 2005 THROUGH DECEMBER 31, 2006

EVALUATION SUMMARIES

Title: Use of Lead Use Assemblies in the Peach Bottom Unit 3 Cycle 16 Reactor Core

Units Affected: 3

Year Implemented: 2005

Brief Description: This activity is for the use of four GNF2 Lead Use Assemblies (LUAs) in the Peach Bottom Unit 3 Cycle 16 core. The GNF2 LUAs are manufactured by Global Nuclear Fuel – Americas, LLC (GNF). The activity involves the receipt, handling, operation, inspection, and licensing of the four GNF2 LUAs. The GNF2 fuel assemblies differ in terms of mechanical, nuclear, and thermal-hydraulic design from the GNF fuel assemblies used for past reload applications.

Summary of Evaluation:

The GNF2 LUAs are similar to past GNF fuel types in terms of mechanical, nuclear, and thermal-hydraulic design. The 10CFR 50.59 Evaluation demonstrated that the proposed activity does not have the potential to cause accidents or malfunctions whose effects are not bounded by the UFSAR analyses. The activity does not physically alter any equipment, system performance, or operator actions that could affect any of the accidents in UFSAR Section 14.0, "Plant Safety Analysis". The current UFSAR analyses remain bounding. The activity does not alter any fuel or plant design, material, or construction standard. The activity does not affect overall performance of any system that could more than minimally increase the frequency of occurrence of any accident. The activity does not cause any SSC to be operated outside its design or testing limit, or change any SSC design function. Although a different design, the GNF2 LUAs are mechanically, neutronically, and thermal-hydraulically similar to the GE14 reload fuel. The LUAs do not have a significantly different interface with any plant SSC, do not have any significant impact on plant operational characteristics, abnormal operational occurrences, or accidents, and therefore do not affect the frequency or initiators of any accident. The proposed activity does not result in a change that would adversely affect any system parameter associated with a fission product barrier. Therefore, the activity does not result in any design basis limit for a fission product barrier (DBLFPB) as described in the UFSAR being exceeded or altered. The primary fuel design bases and associated limits are specified by the fuel vendor GNF in NEDE-24011-P-A-14, "General Electric Standard Application for Reactor Fuel" (GESTAR-II). The GNF2 LUAs have been verified to be compliant with all design bases related to fuel cladding integrity (limiting fuel rod power density, maintaining nucleate boiling, and minimizing cladding damage following a LOCA). All other UFSAR DBLFPBs are satisfied as described in GE-NE-0000-0039-9767-00, "Technical Evaluation to Support Introduction of GNF2 Lead Use Assemblies (LUA) in Peach Bottom Atomic Power Station, Unit 3".

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Title: Alternate Seismic Evaluation Method to Qualify New and Replacement Equipment for Certain Applications

Units Affected: 2 & 3

Year Implemented: 2005

Brief Description: This change allows for an alternate means to qualify new and replacement equipment for use at PBAPS, in those plant locations where the Seismic Qualification Utilities Group (SQUG) criteria were applied during resolution of NRC Unresolved Safety Issue (USI) A-46.

Summary of Evaluation:

The Seismic Qualification Utilities Group (SQUG) has developed a standardized method for seismic qualification of equipment. This method was originally developed as a means for older plants to evaluate equipment to satisfy USI A-46, and has since been endorsed by the NRC as an acceptable method for use beyond USI A-46, on a continuing basis, as allowed by each site's specific license commitments. This activity allows for the use of Revision 3A of the SQUG Generic Implementation Procedure (GIP-3A) for the seismic design and verification of modified, new, and replacement equipment as an alternative to the methods currently specified in the UFSAR for the seismic design of Seismic Category I equipment. This provides an alternate means to qualify new and replacement equipment for use at PBAPS, in those plant locations where the SQUG criteria were applied during resolution of USI A-46. Previously acceptable methods for meeting the UFSAR seismic design criteria will still be considered acceptable and remain part of the plant's licensing basis. Typically, the elements of these different methods would not be mixed or combined for evaluating the seismic adequacy for any single item of equipment unless a specific analysis justifies such an approach. No physical changes to the plant are being made by this activity. The new methodology for seismic qualification of equipment has been accepted by the industry and the NRC, and it provides a conservative approach to ensure that equipment will perform under seismic loading conditions, based on past experience data and test data. The UFSAR states that empirical methods, consisting of testing and experience, are used for the design of complex equipment for which simple stress analysis can be impractical. The SQUG methodology utilizes testing and experience data, applied under a strict and conservative set of rules, to demonstrate the seismic adequacy of equipment in bounded applications. The NRC has reviewed the SQUG methodology in GIP-2, and has generically approved it for use beyond the resolution of USI A-46, pending review of site-specific licensing requirements. In particular, the NRC Safety Evaluation Report issued to Peach Bottom regarding the resolution of USI A-46, Supplement No. 1 to Generic Letter 87-02, states that the licensee may revise its licensing basis to incorporate GIP-2, in accordance with 10CFR50.59 and 10CFR50.90 as required.

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Title:	Use of Reactor Cavity Work Platform to Support Work Associated with Refueling Outages (Revision 0 and Revision 1)
Units Affected:	2 & 3
Year Implemented:	2005 (Unit 3) and 2006 (Unit 2)
Brief Description:	This activity involves the usage of the Reactor Cavity Work Platform (RCWP) during Outages at PBAPS. The platform will be placed in the reactor cavity above the open Reactor Pressure Vessel (RPV) and rest, slightly submerged into the reactor cavity water. The use of this platform is intended to facilitate the performance of various in-service inspection and maintenance activities while refueling operations are in progress. The RCWP improves the ability to perform concurrent maintenance activities during outages. Revision 1 of the 10CFR 50.59 Review evaluated the dose rates in the RCWP baskets which would be confirmed by an in-situ test prior to simultaneous use of the RCWP and fuel handling / Control Rod Blade (CRB) movement.

Summary of Evaluation:

This activity involves the usage of the Reactor Cavity Work Platform (RCWP) during Outages at PBAPS. The platform will be placed in the reactor cavity above the open Reactor Pressure Vessel (RPV) and rest,

slightly submerged into the reactor cavity water. It will be supported by the refuel floor operating deck. The RCWP is an octagonal shaped work platform with four (4) personnel work-baskets supported by eight radial legs, which support the platform during in-vessel inspection and maintenance activities. The platform legs have the capability to both extend/retract and rotate in order to avoid obstructions such as the electrical pits and refuel bridge gearbox, which are present on the operating deck. The platform has a 30 degree refueling opening in the direction of the fuel pool to allow for refuel bridge mast and fuel bundle movement while performing in vessel inspections. The platform was also designed to accommodate a specially designed jib crane. Based on the jib crane capacity and design features, the jib crane cannot be used to handle irradiated fuel assemblies. The 10CFR50.59 review concluded that the design, analysis, load testing, rigging / handling and NDE inspection of RCWP activity satisfies the requirements of NUREG-0612 and ANSI N14.6-1978. The change is bounded by other design events analysis for refueling accidents. It does not require a Technical Specification or Operating License Change. The installation of the RCWP does not affect the fuel pool flow paths or capability for cooling of the spent fuel or reactor components within the cavity during shutdown/outage activities. New rigging & assembly procedures will facilitate assembly, disassembly and movement of the platform. Refuel procedures will be revised to allow use of the platform. The UFSAR will be revised to include a description of the RCWP and the associated requirements/controls, and to annotate how the water coverage over the top of active fuel during fuel movement are met when the RCWP is installed, in use, and removed. The rigging/refuel procedures shall have Safe Load Path(s) figures and rigging hardware identified for the RCWP components to satisfy the requirements of NUREG-0612. This activity does not more than minimally increase the potential for accidents or malfunctions of equipment important to safety, does not create any new accidents of malfunctions of equipment important to safety and does not change any methodologies or design basis limits for fission product barriers described in the UFSAR.

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Title:	10CFR 50.59 Evaluation for Core Operating Limits Report Methodology Change for Reactor Stability Analysis
Units Affected:	2 & 3
Year Implemented:	2006
Brief Description:	This activity addresses the acceptability of applying Transient Reactor Analysis Code – GE Version 4 (TRACG04) for the purpose of performing reload stability analysis as documented in the Peach Bottom Core Operating Limits Report (COLR). TRACG04 is a modification of the NRC approved TRACG02 code and has not been specifically approved by the NRC. Therefore, applying TRACG04 to the reload analysis constitutes a change in methodology. TRACG04 supports the application of the NRC approved PANAC11 kinetics code.

Summary of Evaluation:

This activity addresses the acceptability of applying TRACG04 for the purpose of performing reload stability analysis as documented in the Peach Bottom Core Operating Limits Report (COLR). TRACG04 is a modification of the NRC approved TRACG02 code and has not been specifically approved by the NRC. Therefore, applying TRACG04 to the reload analysis constitutes a change in methodology. TRACG04 supports the application of the NRC approved PANAC11 kinetics code. The Core Reload Fuel Change Package addresses the core and control blade loading pattern, the COLR, and the core monitoring system databank. These three items are used to ensure that the plant is configured and operated in accordance with the GESTAR II requirements. Operation in accordance with the parameters contained in the Peach Bottom COLR will assure that all aspects of the plant safety analysis are met and consequences of all analyzed events are acceptable as defined in the UFSAR. Evaluation of the

applicability of TRACG04 ensures that the above requirements are met. The TRACG04 calculated Delta CPR/Initial CPR vs. Oscillation Magnitude (DIVOM) results are within the uncertainty of the DIVOM analysis when compared to the TRACG02 results (the TRACG04 results are slightly more conservative). Therefore, the results are essentially the same as supported by General Electric (GE) in GE-NE-0000-0052-5690-R0, "TRACG04 DIVOM 10 CFR 50.59 Evaluation Basis," dated April 2006. The TRACG04 DIVOM values are calculated at the limiting reactor conditions and are bounding. The stability protection settings in the COLR will continue to ensure that the Safety Limit Minimum Critical Power Ratio (SLMCPR) is not exceeded if a reactor instability event were to occur. Therefore, the change in stability analysis method (TRACG04) will not result in more than a minimal increase in the consequences of an accident previously evaluated in the UFSAR. The application of TRACG04 does not alter the capability of the stability protection system to suppress any postulated instability event. The change in stability analysis method (TRACG04) will not result in a design basis limit for a fission product barrier as described in the UFSAR being exceeded or altered. The Reload Core Fuel Change Package identifies the physical changes to plant configuration to be made during a refueling outage and is performed to document compliance of the new reload design with GESTAR II. Additionally, the core operating limit values contained in the COLR are generated using NRC-approved codes and methodologies and were designed to meet all fuel design/licensing criteria, which will continue to limit operation of the fuel to within the UFSAR analyses. The 10CFR 50.59 evaluation has determined that the TRACG04 code produces results that are 'essentially the same' as the NRC approved TRACG02 code.

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There were no 10CFR 50.59 Evaluation Reports performed / implemented for Unit 1 during this reporting period.

End of 10CFR 50.59 Report

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EXELON NUCLEAR
PEACH BOTTOM ATOMIC POWER STATION
INDEPENDENT SPENT FUEL STORAGE INSTALLATION
DOCKET NO. 72-29

BIENNIAL 10CFR 72.48 REPORT

JANUARY 1, 2005 THROUGH DECEMBER 31, 2006

10CFR 72.48 EVALUATION SUMMARIES

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There were no 10CFR 72.48 Evaluations performed / implemented during this reporting period.

End of 10CFR 72.48 Report

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EXELON NUCLEAR
PEACH BOTTOM ATOMIC POWER STATION
UNIT 1, 2 AND 3
DOCKET NOS. 50-171, 50-277, and 50-278

COMMITMENT REVISION REPORT

JANUARY 1, 2005 THROUGH DECEMBER 31, 2006

Letter Source: Licensee Event Report 2-93-16 dated 1/20/94

Exelon Tracking No.: T03418

Nature of Commitment: Preventive Maintenance to Ensure Instrument Lines are maintained to be Free of Debris

Summary of Justification:

This is a historical commitment. The corrective actions taken were performed and the station is in compliance with NRC requirements. Improved standards and practices within Maintenance practices have addressed this issue and are proceduralized within the Exelon standard documents. There is no longer a need to perform the preventive maintenance including back flushing of head chambers on instrument racks.

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Letter Source: NRC Safety Evaluation Report associated with the Conversion of Improved Technical Specifications dated 8/30/95

Exelon Tracking No.: T03803

Nature of Commitment: Issue an annual management directive letter to reinforce that the Shift Supervisor is responsible for command and control.

Summary of Justification:

Improved standards and practices within station Operations have addressed this issue and expectations are proceduralized within the Exelon standard documents. There is no longer a need for this commitment due to process expectation upgrades.

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Letter Source: Letter to NRC dated 6/13/93 Regarding the Performance of Routine Emergency Service Water Testing

Exelon Tracking No.: T01730

Nature of Commitment: Perform routine flow testing of the Emergency Service Water (ESW) system.

Summary of Justification:

This change was a one-time change to extend the frequency of ESW flow testing by 5 days beyond the test due date. This one-time change occurred in March 2006 and was not significant to system reliability and allowed for better coordination with post-maintenance testing involving the ESW system.

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Letter Source: Letter to NRC dated 4/24/87 in Response to NRC Inspection 86-25/25

Exelon Tracking No.: T00292

Nature of Commitment: The routine inspection of Emergency Diesel Generators (EDGs) was revised to include a daily check of space heater functionality.

Summary of Justification:

This commitment was deleted to reduce the potential of reduced EDG reliability due to unnecessary and excessive entry into electrical panel doors associated with the EDGs. The reliability of the equipment in the electrical panels has been proven to be highly reliable. Routine operator rounds on a weekly basis including a panel inspection will ensure high reliability of the equipment located within the electrical panels including any associated space heaters.

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Letter Source: Letter to NRC dated 5/22/92 in Response to NRC Notice of Violation 92-07-03

Exelon Tracking No.: T01981

Nature of Commitment: Revise the technical staff training for Inservice Inspection (ISI) / Inservice Testing (IST) to include the relationship between Technical Specifications, IST and system operability.

Summary of Justification:

This is a historical commitment. The corrective actions taken were effective and the station is in compliance with NRC requirements. Improved standards and practices within the operability determination process have addressed this issue and are proceduralized within the Exelon standard documents. There is no longer a need to track this commitment.

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Letter Source: Letter to NRC dated 5/30/84 in Response to Notice of Violation 84-09/09

Exelon Tracking No.: T03324

Nature of Commitment: Conduct a yearly training session to maintain proficiency of the radioactive material coordinator.

Summary of Justification:

This is a historical commitment. The corrective actions taken were effective and the station is in compliance with NRC requirements. Improved standards and practices within radioactive waste management training have addressed this issue and are proceduralized within the Exelon standard documents. The training program is in compliance with the applicable requirements of 49CFR. There is no longer a need to track this commitment.

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Letter Source: NRC Inspection 79-27/30 Involving Radioactive Material Disposal

Exelon Tracking No.: T03327

Nature of Commitment: Perform annual training for Operations department personnel regarding the requirements of radioactive material processing and disposal.

Summary of Justification:

This is a historical commitment. The corrective actions taken were effective and the station is in compliance with NRC requirements. Improved standards and practices within radioactive waste management training have addressed this issue and are proceduralized within the Exelon standard documents. The training program is in compliance with the applicable requirements of 49CFR. There is no longer a need to track this commitment.

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End of Commitment Revision Report

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