

10 CFR 50
10 CFR 51
10 CFR 54

October 9, 2019

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001Peach Bottom Atomic Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278**Subject:** Supplement No. 9 - Changes to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application

References:

1. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated July 10, 2018, "Application for Subsequent Renewed Operating Licenses"
2. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated September 14, 2018, "Changes to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application" (Supplement No. 1)
3. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated January 23, 2019, "Changes to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application" (Supplement No. 2)
4. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated February 11, 2019, "Changes to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application" (Supplement No. 3)
5. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated March 18, 2019, "Changes to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application" (Supplement No. 4)
6. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated June 12, 2019, "Changes to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application" (Supplement No. 5)
7. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated July 1, 2019, "First 10 CFR 54.21(b) Annual Amendment to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application" (Supplement No. 6)
8. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated July 12, 2019, "Changes to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application" (Supplement No. 7)

9. Letter from Michael P. Gallagher, Exelon Generation Company, LLC (Exelon) to NRC Document Control Desk, dated July 25, 2019, "Changes to the Peach Bottom Atomic Power Station, Units 2 and 3, Subsequent License Renewal Application" (Supplement No. 8)
10. Letter from Joseph E. Donoghue, USNRC to Michael P. Gallagher, Exelon Generation Company, LLC (Exelon), dated October 7, 2019, "Safety Evaluation Report Related to the Subsequent License Renewal of Peach Bottom Atomic Power Station, Units 2 and 3"

In Reference 1, Exelon submitted the Subsequent License Renewal Application (SLRA) for the Peach Bottom Atomic Power Station, Units 2 and 3 (PBAPS). In References 2, 3, 4, 5, 6, 7, 8, and 9, Exelon submitted Supplement Nos. 1, 2, 3, 4, 5, 6, 7, and 8 to the SLRA for PBAPS. The purpose of this letter is to provide Supplement No. 9 to the SLRA for PBAPS. Supplement No. 9 includes one change to the SLRA which provides additional information in the SLRA to address the NRC Safety Evaluation Report Confirmatory Item No. 3.0.3.2.3-1 (Reference 10) regarding the BWR Vessel Internals Program.

Enclosure A to this letter provides a description of the changes, and corresponding mark-ups to the affected portions of the SLRA, thereby supplementing the PBAPS SLRA.

Enclosure B to this letter provides an update to the License Renewal Commitment List (LRA Appendix A, Section A.5). There are no other new or revised regulatory commitments contained in this letter.

This submittal has been discussed with the NRC License Renewal Senior Project Manager for the PBAPS Subsequent License Renewal project.

If you have any questions, please contact Mr. David Distel, Licensing Lead, Exelon License Renewal Projects, at 610-765-5517.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 9th day of October 2019.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael P. Gallagher", is written over a horizontal line.

Michael P. Gallagher
Vice President - License Renewal and Decommissioning
Exelon Generation Company, LLC

Enclosures: A. Changes to the PBAPS Subsequent License Renewal Application
B. PBAPS Subsequent License Renewal Commitment List Update

cc: Regional Administrator – NRC Region I
NRC Senior Project Manager (Safety Review), NRR-DMLR
NRC Project Manager (Environmental Review), NRR-DMLR
NRC Project Manager, NRR-DORL – Peach Bottom Atomic Power Station
NRC Senior Resident Inspector, Peach Bottom Atomic Power Station
R.R. Janati, Pennsylvania Bureau of Radiation Protection
D.A. Tancabel, State of Maryland

Enclosure A

Changes to the PBAPS Subsequent License Renewal Application

Introduction

This Enclosure contains one change that is being made to the Subsequent License Renewal Application (SLRA) that was identified after submittal of the SLRA. For this item, the change is described and the affected page number(s) and portion(s) of the SLRA is provided. For clarity, entire sentences or paragraphs from the SLRA are provided with deleted text highlighted by ~~strikethroughs~~ and inserted text highlighted by ***bolded italics***.

Change #1 – Revision to BWR Vessel Internals Program Enhancement 1

Affected SLRA Sections: Section 3.1.2.2.14, Appendix A, Section A.2.1.7, Appendix A, Section A.5, Appendix B, Section B.2.1.7, Appendix C

SLRA Page Numbers: 3.1-27, A-14, A-88, B-43, B-44, B-47, and C-5

Description of Change:

The BWR Vessel Internals (B.2.1.7) aging management program, Enhancement #1 is being revised to add specific actions to be taken for SLR with respect to the core plate rim hold-down bolts by using BWRVIP-25, Revision 1 guidance. The revised enhancement is, "In accordance with BWRVIP-25, Revision 1, install core plate wedges, or inspect core plate rim hold-down bolts for stress corrosion cracking, or demonstrate via analysis that the installation of wedges and inspections of the core plate rim hold-down bolts are not required, no later than six months prior to the second period of extended operation, or before the end of the last refueling outage prior to the second period of extended operation, whichever occurs later."

Accordingly, SLRA Section 3.1.2.2.14; Appendix A, Section A.2.1.7; Appendix A, Section A.5; Appendix B, Section B.2.1.7; and Appendix C are revised.

SLRA Section 3.1.2.2.14, Loss of Preload Due to Thermal or Irradiation-Enhanced Stress Relaxation, 5th paragraph, page 3.1-27 is revised as shown below:

The BWR Vessel Internals (B.2.1.7) program is enhanced ***in accordance with BWRVIP-25, Revision 1*** to install core plate wedges, ~~for PBAPS Units 2 and 3 or inspect core plate rim hold-down bolts for stress corrosion cracking, or demonstrate via analysis that the installation of wedges and inspections of the core plate rim hold-down bolts are not required,~~ no later than six months prior to the second period of extended operation, or before the end of the last refueling outage prior to the second period of extended operation, whichever occurs later. ~~or, submit an inspection plan for the core plate rim hold-down bolts with a supporting analysis for NRC approval at least two years prior to entering the second period of extended operation. An additional option for management of loss of preload in core plate hold-down bolts is evaluation consistent with an NRC approved procedure documented in a revision to BWRVIP-25.~~

SLRA Appendix A, Section A.2.1.7, BWR Vessel Internals, Enhancement #1, page A-14 is revised as shown below:

1. ***In accordance with BWRVIP-25, Revision 1, install core plate wedges, or inspect core plate rim hold-down bolts for stress corrosion cracking, or demonstrate via analysis that the installation of wedges and inspections of the core plate rim hold-down bolts are not required,*** no later than six months prior to the second period of extended operation, or before the end of the last refueling outage prior to the second period of extended operation, whichever occurs later. ~~or, submit an inspection plan for the core plate rim hold-down bolts with a supporting analysis for NRC approval at least two years prior to entering the second period of extended operation.~~

SLRA Appendix B, Section B.2.1.7, BWR Vessel Internals, Program Description, 6th paragraph, page B-43 and B-44 are revised as shown below:

Core Plate: The BWRVIP recommendation to document deviation from BWRVIP-25 inspection guidelines of the core plate rim hold-down bolts is currently being implemented for PBAPS. The BWRVIP recognizes that it is not possible to implement meaningful inspections using the inspection methods recommended in BWRVIP-25. The BWRVIP is in the process of developing revised guidance. A BWRVIP deviation disposition is in place until revised BWRVIP guidance, or some other NRC-approved solution is implemented. The program is enhanced ***in accordance with BWRVIP-25, Revision 1*** to require installation of core plate wedges, ***or inspect core plate rim hold-down bolts for stress corrosion cracking, or demonstrate via analysis that the installation of wedges and inspections of the core plate rim hold-down bolts are not required***, no later than six months prior to the second period of extended operation, or before the end of the last refueling outage prior to the second period of extended operation, whichever occurs later. ~~;- prior to entering the second period of extended operation, or submittal of an inspection plan for the core plate rim hold-down bolts with a supporting analysis for NRC approval at least two years prior to entering the second period of extended operation. The installation of core plate wedges would eliminate the need to inspect the core plate rim hold-down bolts. The repair design criteria in BWRVIP-50-A would be utilized in preparing a repair plan for the core plate.~~

SLRA Appendix B, Section B.2.1.7, BWR Vessel Internals, Enhancement #1, page B-47 is revised as shown below:

1. ***In accordance with BWRVIP-25, Revision 1, install core plate wedges, or inspect core plate rim hold-down bolts for stress corrosion cracking, or demonstrate via analysis that the installation of wedges and inspections of the core plate rim hold-down bolts are not required***, no later than six months prior to the second period of extended operation, or before the end of the last refueling outage prior to the second period of extended operation, whichever occurs later. ~~;- or, submit an inspection plan for the core plate rim hold-down bolts with a supporting analysis for NRC approval at least two years prior to entering the second period of extended operation.~~ **Program Elements Affected: Scope of Program (Element 1) and Parameters Monitored or Inspected (Element 3)**

SLRA Appendix C, BWRVIP-25 Core Plate Inspection and Flaw Evaluation Guidelines, BWRVIP-25 (5) Peach Bottom Response, applicable section of page C-5 is revised as shown below:

BWRVIP-25 Core Plate Inspection and Flaw Evaluation Guidelines	
<p>BWRVIP-25 (5)</p> <p>Until such time as an expanded technical basis for not inspecting the rim hold-down bolts is approved by the staff, applicants referencing the BWRVIP-25 report for license renewal should continue to perform inspections of the rim hold-down bolts.</p>	<p>The BWRVIP recognizes that it is not possible to implement meaningful inspections using the inspection methods recommended in BWRVIP-25. The BWRVIP is addressing this issue and intends to develop revised guidance. The BWRVIP recommendation to document deviation from BWRVIP-25 inspection guidelines of the core plate hold down bolts is currently being implemented. A BWRVIP Deviation Disposition is in place until revised guidance for core plate bolting inspection within BWRVIP, or some other NRC-approved solution is implemented.</p> <p>BWR Vessel Internals (B.2.1.7) aging management program Enhancement 1 requires, <i>in accordance with BWRVIP-25, Revision 1</i>, installation of core plate wedges, <i>or inspection of core plate rim hold-down bolts for stress corrosion cracking, or analysis that demonstrates the installation of wedges and inspections of the core plate rim hold-down bolts are not required, no later than six months prior to the second period of extended operation, or before the end of the last refueling outage prior to the second period of extended operation, whichever occurs later.</i> no later than six months prior to entering the second period of extended operation, or submittal of an inspection plan for the core plate rim hold-down bolts with a supporting analysis for NRC approval at least two years prior to entering the second period of extended operation. The installation of core plate wedges would eliminate the need to inspect the core plate rim hold-down bolts.</p>

SLRA Appendix A, Section A.5, Commitment 7, BWR Vessel Internals, Item #1, beginning on page A-88 is revised as shown below:

A.5 SECOND LICENSE RENEWAL COMMITMENT LIST

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
7	BWR Vessel Internals	<p>BWR Vessel Internals is an existing program that will be enhanced to:</p> <ol style="list-style-type: none"> <i>In accordance with BWRVIP-25, Revision 1, install core plate wedges, or inspect core plate rim hold-down bolts for stress corrosion cracking, or demonstrate via analysis that the installation of wedges and inspections of the core plate rim hold-down bolts are not required,</i> no later than six months prior to the second period of extended operation, or before the end of the last refueling outage prior to the second period of extended operation, whichever occurs later. or, submit an inspection plan for the core plate rim hold-down bolts with a supporting analysis for NRC approval at least two years prior to entering the second period of extended operation. Perform a VT-3 inspection of the jet pump inlet mixer and beam regions every refuel cycle after a fluence value of $1.3\text{E}+20$ n/cm² (51 EFPY for Unit 2 and 63 EFPY for Unit 3) is reached at the jet pump holddown beam. Perform periodic visual inspections of the PBAPS Westinghouse (Nordic style) stainless steel steam dryers for the aging effects of loss of material 	Program will be enhanced in accordance with the schedule described within the commitments. Initial steam dryer inspections will be completed no later than six months prior to the second period of extended operation, or no later than the last refueling outage prior to the second period of extended operation.	Section A.2.1.7 <i>Exelon Letter PBAPS SLRA Supplement No. 9, dated October 9, 2019</i>

Enclosure B

PBAPS Subsequent License Renewal Commitment List Update

Introduction

This Enclosure identifies commitments made in this document and is an update to the PBAPS SLRA Appendix A, Section A.5 License Renewal Commitment List. Any other actions discussed in the submittal represent intended or planned actions. They are described to the NRC for the NRC's information and are not regulatory commitments.

Changes to the PBAPS SLRA Appendix A, Section A.5 License Renewal Commitment List are as a result of this SLRA Supplement.

These Enclosure B pages are the same as the corresponding PBAPS SLRA Appendix A, Section A.5 pages included in Enclosure A.

To facilitate understanding, relevant portions of the previously submitted License Renewal Commitment List have been repeated in this Enclosure, with revisions indicated. Previously submitted information is shown in normal font. Additions due to this submittal are highlighted with ***bolded italics*** for inserted text, and ~~strikethroughs~~ for deleted text.

SLRA Appendix A, Section A.5, Commitment 7, BWR Vessel Internals, Item #1, beginning on page A-88 is revised as shown below:

A.5 SECOND LICENSE RENEWAL COMMITMENT LIST

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
7	BWR Vessel Internals	<p>BWR Vessel Internals is an existing program that will be enhanced to:</p> <ol style="list-style-type: none"> <i>In accordance with BWRVIP-25, Revision 1, install core plate wedges, or inspect core plate rim hold-down bolts for stress corrosion cracking, or demonstrate via analysis that the installation of wedges and inspections of the core plate rim hold-down bolts are not required,</i> no later than six months prior to the second period of extended operation, or before the end of the last refueling outage prior to the second period of extended operation, whichever occurs later. or, submit an inspection plan for the core plate rim hold-down bolts with a supporting analysis for NRC approval at least two years prior to entering the second period of extended operation. Perform a VT-3 inspection of the jet pump inlet mixer and beam regions every refuel cycle after a fluence value of $1.3\text{E}+20$ n/cm² (51 EFPY for Unit 2 and 63 EFPY for Unit 3) is reached at the jet pump holddown beam. Perform periodic visual inspections of the PBAPS Westinghouse (Nordic style) stainless steel steam dryers for the aging effects of loss of material 	Program will be enhanced in accordance with the schedule described within the commitments. Initial steam dryer inspections will be completed no later than six months prior to the second period of extended operation, or no later than the last refueling outage prior to the second period of extended operation.	Section A.2.1.7 <i>Exelon Letter PBAPS SLRA Supplement No. 9, dated October 9, 2019</i>