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July 12, 2019

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

Peach 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. 7 - 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)

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, and 7, Exelon submitted Supplement Nos. 1, 2, 3, 4, 5, and 6 to the SLRA for PBAPS. The purpose of this letter is to provide Supplement No. 7 to the SLRA for PBAPS. Supplement No. 7 includes three changes to the SLRA which provide additional information and clarification in the SLRA to address the NRC Safety Review Audit information needs.

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.

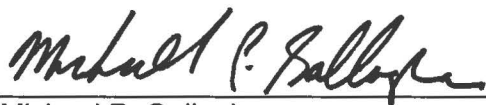
This letter contains no new regulatory commitments.

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 12th day of July 2019.

Respectfully submitted,



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

Enclosure: A. Changes to the PBAPS Subsequent License Renewal Application

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 three changes that are being made to the Subsequent License Renewal Application (SLRA) that were identified after submittal of the SLRA. For each 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***. Revisions to SLRA tables are shown by providing excerpts from the affected tables.

Change # 1 - Shrinkage not identified as an aging effect for elastomer fire barrier penetration seals

Affected SLRA Sections: Section 3.3.2.1.14, Table 3.3.1, Table 3.3.2-14

SLRA Page Numbers: 3.3-20, 3.3-87, 3.3-252

Description of Changes:

SLRA Table 3.3.1, Item 3.3.1-057 states hardening, loss of strength, and shrinkage for elastomer fire barrier penetration seals exposed to air and condensation will be managed by the Fire Protection program. SLRA Table 3.3.2-14 for the Fire Protection System cites hardening and loss of strength for elastomer fire barrier penetration seals exposed to uncontrolled indoor air but does not cite shrinkage which is an applicable aging effect for this component type, material, and environment combination.

Accordingly, SLRA Section 3.3.2.1.14, Table 3.3.1, and Table 3.3.2-14 are revised to include the aging effect of shrinkage.

SLRA Section 3.3.2.1.14, Fire Protection System on page 3.3-20 is revised as shown below:

3.3.2.1.14 Fire Protection System

Aging Effects Requiring Management

The following aging effects associated with the Fire Protection System components require management:

- Change in Material Properties
- Cracking
- Cumulative Fatigue Damage
- Flow Blockage
- ~~Hardening and Loss of Strength~~ **Hardening, Loss of Strength, Shrinkage**
- Long-Term Loss of Material
- Loss of Coating or Lining Integrity
- Loss of Material
- Loss of Preload

SLRA Table 3.3.1, Summary of Aging Management Evaluations for the Auxiliary Systems, Item Number 3.3.1-057, on page 3.3-87 is revised as shown below:

Table 3.3.1 Summary of Aging Management Evaluations for the Auxiliary Systems					
Item Number	Component	Aging Effect/ Mechanism	Aging Management Programs	Further Evaluation Recommended	Discussion
3.3.1-057	Elastomer fire barrier penetration seals exposed to air, condensation	Hardening, loss of strength, shrinkage due to elastomer degradation	AMP XI.M26, "Fire Protection"	No	Consistent with NUREG-2191. The Fire Protection (B.2.1.16) program will be used to manage hardening and loss of strength hardening, loss of strength, shrinkage of the elastomer fire barriers exposed to air-indoor uncontrolled in the Fire Protection System.

SLRA Table 3.3.2-14, Fire Protection System Summary of Aging Management Evaluation on page 3.3-252 is revised as shown below:

Table 3.3.2-14 Fire Protection System

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-2191 Item	NUREG-2192 Table 1 Item	Notes
Fire Barriers-penetration seals	Fire Barrier	Elastomer	Air - Indoor Uncontrolled (External)	Hardening and Loss of Strength Hardening, Loss of Strength, Shrinkage	Fire Protection (B.2.1.16)	VII.G.A-19	3.3.1-057	A

Change # 2 - Loss of material not identified as an aging effect for cementitious fireproofing and grout fire barriers

Affected SLRA Sections: Table 3.3.2-14

SLRA Page Numbers: 3.3-251, 3.3-252

Description of Change:

SLRA Table 3.3.2-14 cites cracking for cementitious fireproofing and grout fire barriers but does not cite loss of material which is an applicable aging effect for this component type, material, and environment combination.

Accordingly, SLRA Table 3.3.2-14 is revised to include the aging effect of loss of material

SLRA Table 3.3.2-14, Fire Protection System Summary of Aging Management Evaluation on pages 3.3-251 and 3.3-252 is revised as shown below:

Table 3.3.2-14 Fire Protection System

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-2191 Item	NUREG-2192 Table 1 Item	Notes
Fire Barriers (For Steel Components)	Fire Barrier	Cementitious Fireproofing	Air - Indoor Uncontrolled (External)	Cracking	Fire Protection (B.2.1.16)			F, 2
								F, 2
				<i>Loss of Material</i>	<i>Fire Protection (B.2.1.16)</i>			<i>F, 2</i>

Table 3.3.2-14 Fire Protection System

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-2191 Item	NUREG-2192 Table 1 Item	Notes
Fire Barriers-penetration seals	Fire Barrier	Grout	Air - Indoor Uncontrolled (External)	Cracking	Fire Protection (B.2.1.16)	VII.G.A-90	3.3.1-060	A
					Structures Monitoring (B.2.1.34)	VII.G.A-90	3.3.1-060	A
					Fire Protection (B.2.1.16)	VII.G.A-90	3.3.1-060	A
					Structures Monitoring (B.2.1.34)	VII.G.A-90	3.3.1-060	A
				Loss of Material	Fire Protection (B.2.1.16)	VII.G.A-90	3.3.1-060	A
				Structures Monitoring (B.2.1.34)	VII.G.A-90	3.3.1-060	A	

Change # 3 – Additional aging effect for fire penetration seals constructed of aluminum silicate

Affected SLRA Sections: 3.3.2.1.14, Table 3.3.2-14, B.2.1.16

SLRA Page Numbers: 3.3-20, 3.3-252, 3.3-272, B-96, B-98

Description of Change:

Fire barrier penetration seals in the Fire Protection system which are constructed of aluminum silicate material are shown in SLRA Table 3.3.2-14 as being subject to aging effects of cracking and change in material properties, and monitored by the Fire Protection program. Cracking is a relevant aging effect for this material. Although change in material properties is an indicator of degradation, loss of material is a more relevant aging effect, and is one of the parameters monitored by the Fire Protection program for fire barrier penetration seals.

Accordingly, SLRA Section 3.3.2.1.14, Table 3.3.2-14, and Appendix B Section B.2.16 are revised to change the aging effect for aluminum silicate fire barrier penetration seals from change in material properties to loss of material.

SLRA Section 3.3.2.1.14, page 3.3-20, is revised as shown below:

3.3.2.1.14 Fire Protection System

Aging Effects Requiring Management

The following aging effects associated with the Fire Protection System components require management:

- ~~Change in Material Properties~~
- Cracking
- Cumulative Fatigue Damage
- Flow Blockage
- Hardening and Loss of Strength
- Long-Term Loss of Material
- Loss of Coating or Lining Integrity
- Loss of Material
- Loss of Preload

SLRA Table 3.3.2-14, page 3.3-252, is revised as shown below:

Table 3.3.2-14 Fire Protection System (Continued)

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-2191 Item	NUREG-2192 Table 1 Item	Notes
Fire Barriers-penetration seals	Fire Barrier	Aluminum Silicate	Air - Indoor Uncontrolled (External)	Change in Material Properties	Fire Protection (B.2.1.16)			F, 3
				Cracking	Fire Protection (B.2.1.16)			F, 3
				Loss of Material	Fire Protection (B.2.1.16)			F, 3

SLRA Table 3.3.2-14 is also revised on page 3.3-272, as shown below:

Plant Specific Notes:

1. Subliming Compound with and without Reinforcement are fire-resistant insulation and coating materials potentially subject to cracking and loss of material. The Fire Protection (B.2.1.16) program manages the aging of these materials.
2. Cementitious Fireproofing materials are fire-resistant insulation and coating materials potentially subject to cracking and loss of material. The Fire Protection (B.2.1.16) program manages the aging of these materials.
3. Aluminum Silicate is a **ceramic fiber** fire barrier material potentially subject to cracking and ~~change in material properties~~**loss of material**. The Fire Protection (B.2.1.16) program manages the aging of these materials. **Blistering is not an applicable aging effect.**
4. The TLAA designation in the Aging Management Program column indicates that fatigue of this component is evaluated in Section 4.3.

SLRA Section B.2.1.16 is revised in two locations as shown below:

Page B-96, second paragraph:

The Fire Protection program monitoring methods are effective in detecting the applicable aging effects and the frequency of monitoring is adequate to prevent significant degradation. The program utilizes visual inspections of fire barrier penetration seals for signs of degradation such as loss of material, cracking/shrinking, wear, seal separation from walls and components, **and** separation of layers of material, ~~and changes in material properties~~ through periodic inspection. The program specifies visual examinations of the fire barrier walls, ceilings, and floors in structures within the scope of license renewal for signs of degradation such as loss of material and cracking/spalling. Periodic visual inspections and functional tests are used to manage the aging effects of fire doors and fire damper assemblies. Inspection and testing frequencies are consistent with the Technical Requirements Manual. These inspections and tests are implemented through station procedures and recurring task work orders. Personnel performing inspections are qualified and trained to perform the inspection activities. Unacceptable conditions are entered into the corrective action program for proper disposition.

Paragraph beginning at the bottom of page B-98:

The operating experience relative to the Fire Protection program did not identify an adverse trend in performance. The inspection methods and frequency of inspections being implemented by the program have been proven effective in detecting aging effects including ~~change in material properties~~, cracking, hardening and loss of strength, shrinkage, and loss of material (spalling, scaling, corrosion). Appropriate guidance for evaluation, repair, or replacement is provided for locations where degradation is found. Periodic assessments of the Fire Protection program are performed to identify the areas that need improvement to maintain effective performance of the program. Internal Fire Protection program audits by Exelon Nuclear Oversight and external Fire Protection program inspections by the NRC have indicated that the fire barrier inspection program is effective. The program is informed and enhanced when necessary through the systematic and ongoing review of both plant-specific and industry operating experience. Therefore, there is confidence that implementation of the Fire Protection program will effectively manage the effects of aging and initiate corrective actions prior to loss of intended function during the second period of extended operation.