R.5.0 SECOND LICENSE RENEWAL COMMITMENT LIST

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
1	ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD	Existing program is credited.	Ongoing	Section R.2.1.1
2	Water Chemistry	Existing program is credited.	Ongoing	Section R.2.1.2
3	Reactor Head Closure Stud Bolting	Existing program is credited.	Ongoing	Section R.2.1.3
4	BWR Vessel ID Attachment Welds	Existing program is credited.	Ongoing	Section R.2.1.4
5	BWR Stress Corrosion Cracking	Existing program is credited.	Ongoing	Section R.2.1.5
6	BWR Penetrations	Existing program is credited.	Ongoing	Section R.2.1.6
7	BWR Vessel Internals	BWR Vessel Internals is an existing program that will be enhanced to: 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. 2. Perform a VT-3 inspection of the jet pump inlet mixer and beam regions every refuel cycle after a fluence value of 1.3E+20 n/cm^2 (51 EFPY for Unit 2 and 63 EFPY for Unit 3) is reached at the jet pump holddown beam.	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 R.2.1.7 Exelon Letter PBAPS SLRA Supplement No. 9, dated October 9, 2019

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		3. Perform periodic visual inspections of the PBAPS Westinghouse (Nordic style) stainless steel steam dryers for the aging effects of loss of material and cracking at a frequency not exceeding 10 years, with the first inspections performed prior to the second period of extended operation, as described below. The inspection guidance contained in BWRVIP-139-A does not address the Westinghouse (Nordic style) steam dryers installed in PBAPS Unit 2 and Unit 3 and therefore is not directly applicable. However, the general principles and conclusions from BWRVIP-139-A, "BWR Vessel and Internals Project: Steam Dryer Inspection and Flaw Evaluation Guidelines", BWRVIP-181-R1-A, "BWR Vessel and Internals Project: Steam Dryer Repair Design Criteria", and Regulatory Guide 1.20, "Comprehensive Vibration Assessment Program for Reactor Internals During Preoperational and Initial Startup Testing" were applied to the inspection plan described in WCAP-17635-P, "Peach Bottom Atomic Power Station Unit 2 and Unit 3 Replacement Steam Dryer Comprehensive Vibration Assessment Program (CVAP)". WCAP-17635-P also includes manufacturer's recommendations based on relevant operating experience. The scope of the inspection will include the items listed in Table 1 below. The steam dryer inspections are based on the BWRVIP-139-A and WCAP-17635-P guidelines to identify loss of material (wear) and cracking using appropriate visual examination techniques (e.g., VT-1, VT-3) and qualified inspectors. The examination procedures identify the type and location of examination required for each dryer component as well as the reason for inspection. Acceptance criteria are consistent with BWRVIP-139-A and are described in procedures and work instructions. Flaws and abnormal indications identified will be entered into the corrective action program for engineering evaluation. The evaluations will consider increasing inspection frequency and scope as appropriate. Identified degradation left in the as found condition will be reinspected as required by the engineering evaluation.		

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

<table>
<tr><th>NO.</th><th>PROGRAM OR TOPIC</th><th>COMMITMENT</th><th>IMPLEMENTATION SCHEDULE*</th><th>SOURCE</th></tr>
<tr><td></td><td></td><td>
The repair design criteria contained in BWRVIP-181-R1-A and BWRVIP-139-A will be used for any future repairs of the steam dryers. Repairs to the steam dryer will be inspected as specified in the repair design package.

Table 1

Steam Dryer Inspection Program for the Second Period of Extended Operation in accordance with WCAP-17635-P
<table>
<tr><th>Inspection Location</th><th>Basis for Selection</th></tr>
<tr><td>1. Overall General Inspection of Outside of the Replacement Steam Dryer (to include outside of skirt)</td><td>Industry Operating Experience (BWRVIP-139-A, Section 1.1, Section 2.4.2)
General Inspection for evidence of damage</td></tr>
<tr><td>2. Lifting Rods Top Ends (Unit 3 only)</td><td>Surfaces in contact during operation
RG 1.20 Sec 2.3 (1)(b,d)</td></tr>
<tr><td>3. Hold Down Rods Top Ends (Unit 2 only)</td><td>Surfaces in contact during operation
RG 1.20 Sec 2.3 (1)(b,d)</td></tr>
<tr><td>4. Support Ring Bottom Surface</td><td>RG 1.20 Sec 2.3 (1)(b,d) Surfaces in contact during operation</td></tr>
<tr><td>5. Outer hood (welds on outer surface)</td><td>Industry Operating Experience (BWRVIP-139-A, Section 1.1, Section 2.4.2)
Higher stressed area identified in analysis (RG 1.20 Sec 2.3 (1)(e))
Inspection for evidence of IGSCC (weld not solution annealed)</td></tr>
</table>
</td><td></td><td></td></tr>
</table>

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		6. Outer Ring Top Cage: Higher stressed area identified in analysis (RG 1.20 Sec 2.3 (1)(e)); Inspection for evidence of IGSCC (weld not solution annealed) 7. Weld attachments between the brackets to the lifting rod and hold down rod and weld attachments between the brackets to top plate (lifting rod, Unit 3 only): Industry Operating Experience (BWRVIP-139-A, Section 2.4.8); Higher stressed area identified in analysis (RG 1.20 Sec 2.3 (1)(e)); Inspection for evidence of IGSCC (weld not solution annealed)		
8	Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS)	Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS) aging management program is a new condition monitoring program that will provide assurance that reactor coolant pressure boundary CASS components (i.e., Class 1 piping and pump casings) with the potential for significant thermal aging embrittlement meet their intended functions.	Program will be implemented no later than six months prior to the second period of extended operation.	Section R.2.1.8
9	Flow-Accelerated Corrosion	Flow-Accelerated Corrosion is an existing program that will be enhanced to: 1. Reassess infrequently used piping systems excluded from the scope of the program to ensure adequate bases exist to justify this exclusion for the second period of extended operation.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.9
10	Bolting Integrity	Bolting Integrity is an existing program that will be enhanced to: 1. Ensure that submerged carbon steel closure bolts on the ESW, HPSW, and fire protection pumps are inspected for loss of material and to confirm that the closure bolting is hand tight. A minimum of 19 bolt inspections shall be performed each 10-year period during the second period of extended operation for each unit. Inspection of closure bolting on these pumps during pump overhaul and replacement activities may be credited during each 10-year period in the second period of extended operation. 2. Ensure that submerged stainless steel mechanical bolts on the 2AS008, 2BS008, 3AS008, and 3BS008 Circulating Water Pump Structure intake	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.10 Exelon Letter PBAPS SLRA Supplement No. 2, dated January 23, 2019

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		traveling screens are inspected for loss of material and to confirm that the mechanical bolting is hand tight. A minimum of 19 bolt inspections shall be performed each 10-year period during the second period of extended operation for each unit. Inspection of mechanical bolting on these screens during overhaul and replacement activities may be credited during each 10-year period in the second period of extended operation. 3. Ensure that closure bolts on pressure-retaining components that contain air or gas are inspected for cracking and loss of material for the carbon steel/ air-indoor uncontrolled and the stainless steel/ air-indoor uncontrolled material and environment combinations. In addition, the inspections will confirm that this closure bolting is leak tight applying inspection techniques, such as soap bubble testing, thermography, acoustic testing, or verifying closure bolting is hand tight. A minimum of 19 bolt inspections shall be performed each 10-year period during the second period of extended operation for each unit. Opportunistic inspections during maintenance activities may be credited during the same 10-year period. 4. Ensure that closure bolts on pressure-retaining components that contain air or gas are inspected for loss of material for the carbon steel/ air-outdoor material and environment combination. In addition, the inspections will confirm that this closure bolting is leak tight applying inspection techniques, such as soap bubble testing, thermography, acoustic testing, or verifying closure bolting is hand tight. A minimum of 25 bolt inspections shall be performed each 10-year period during the second period of extended operation for both Units 2 and 3. Opportunistic inspections during maintenance activities may be credited during the same 10-year period. 5. Revise site walkdown procedures to specify proper lighting and appropriate distances to adequately identify visible component leakage, evidence of past leakage, or other age-related degradation on pressure-retaining bolted joints that contain fluids such as water, oil, or steam. Cameras and video equipment may be used to supplement these inspections.		

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		6. Revise existing repetitive tasks to provide guidance for proper lighting and appropriate inspection distances to adequately identify loss of material in submerged environments. Cameras and video equipment may be used to supplement these inspections. 7. Ensure no fewer than five additional bolts are inspected for each sample based inspection that does not meet acceptance criteria, or 20 percent of the total bolt population of each applicable material, environment, and aging effect combination; whichever is less. If these subsequent inspections do not meet acceptance criteria, an extent of condition and extent of cause analysis are performed to determine the further extent of inspections. These additional inspections will be completed within the inspection interval for which the original sample based inspections are conducted. 8. Revise engineering procedures to require volumetric examination in accordance with ASME Code Section XI, Table IWB-2500-1, Examination Category B-G-1, regardless of the code classification of the bolting, should high strength bolting greater than 2 inches in diameter be installed. 9. Clarify that the recommended guidance for proper selection of bolting material and lubricants, and appropriate installation torque or tension to prevent or minimize loss of bolting preload and cracking of high-strength bolting is a requirement at Peach Bottom in accordance with the guidelines provided in EPRI NP-5067 and TR-104213. Clarify that the recommended requirements for storage, lubricant selection, and bolting and coating material selection to include the recommendations in Section 2 of Research Council on Structural Connections (RCSC) publication "Specification for Structural Joints Using High Strength Bolts," are a requirement at Peach Bottom.		

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
11	Open-Cycle Cooling Water System	Open-Cycle Cooling Water System is an existing program that will be enhanced to: 1. Provide procedural direction to perform additional inspections if the cause of the aging effect for each applicable material and environment combination is not corrected by repair or replacement for all components constructed of the same material and exposed to the same environment. These additional inspections will be conducted if any of the inspections do not meet acceptance criteria. No fewer than five additional inspections will be performed for each inspection that does not meet acceptance criteria, or 20 percent of each applicable material, environment, and aging effect combination, whichever is less. 2. Perform a minimum of 20 inspections for recurring internal corrosion in the raw water cooling water systems every 24 months until the rate of recurring internal corrosion occurrences no longer meets the criteria for recurring internal corrosion as defined in SLRA Section 3.3.2.2.7. The selected inspection locations will be periodically reviewed to validate their relevance and usefulness and adjusted as appropriate. Evaluation of the inspection results will include (1) a comparison to the nominal wall thickness or previous wall thickness measurements to determine rate of corrosion degradation; (2) a comparison to the design minimum allowable wall thickness to determine the acceptability of the component for continued use; and (3) a determination of reinspection interval. 3. Provide procedural direction to require the use of a mill tolerance of 12.5% for added conservatism when determining corrosion rates at new inspection locations if corrosion rates from other locations with nearly identical operating conditions, material, size, and configuration cannot be used.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.11 Exelon Letter PBAPS SLRA RAI Response, dated May 2, 2019
12	Closed Treated Water Systems	Closed Treated Water Systems is an existing program that will be enhanced to: 1. Perform condition monitoring including opportunistic visual inspections and sample-based periodic inspections using techniques (visual, surface, or volumetric) capable of detecting loss of material, cracking, and fouling, as appropriate to verify the effectiveness of water chemistry control to mitigate aging effects in each 10-year period during the second period of extended operation. The rate of identified degradation will be projected	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.12

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		until the next scheduled inspection. Additional sample-based inspections will be performed if aging effects are identified. If those inspections identify aging effects, the corrective action program will be used to determine the extent of condition and extent of cause to determine the further extent of inspections.		
13	Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems	Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems is an existing program that will be enhanced to: 1. Provide additional guidance to include inspection of crane-related bridges, structural members, and structural components for deformation, cracking, and loss of material due to corrosion or wear; and associated bolted connections for loss of material, cracking, and indications of loss of preload. 2. Provide procedural direction to document deficiencies identified during inspection activities within the corrective action program. 3. Provide site-specific procedural direction to evaluate and repair visual indication of loss of material, deformation, or cracking, and any visual sign of loss of bolting preload in accordance with ASME B30.2 or other applicable industry standard in the ASME B30 series.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.13
14	Compressed Air Monitoring	Compressed Air Monitoring is an existing program that will be enhanced to: 1. Perform daily inspection of instrument nitrogen after dryer desiccant for signs of moisture. Results will be recorded and reviewed to determine if corrective actions are required. 2. Perform opportunistic visual inspections of component internal surfaces exposed to a dry air environment for signs of loss of material due to corrosion.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.14
15	BWR Reactor Water Cleanup System	Existing program is credited.	Ongoing	Section R.2.1.15

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16	Fire Protection	Fire Protection is an existing program that will be enhanced to: 1. Perform periodic visual inspection every 18 months for identification of corrosion that may lead to loss of material on the external surfaces of the low pressure carbon dioxide fire suppression systems. 2. Perform periodic visual inspection of combustible liquid spill retaining curbs every 24 months.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.16
17	Fire Water System	Fire Water System is an existing program that will be enhanced to: 1. Revise flow test procedures to include: a. Inspector test flush acceptance criteria for wet pipe sprinkler systems that currently do not include the requirement to record time to flow from the opened test valve. b. Acceptance criteria for wet pipe main drain tests. Flowing pressures from test to test will be monitored to determine if there is a 10 percent reduction in full flow pressure when compared to previously performed tests. An issue report shall be generated in the corrective action program to determine the cause and corrective actions. c. If flow test acceptance criteria are not met, perform an investigation within the corrective action program that includes review for increased testing and perform at least two successful additional tests. Additional tests shall be completed within the interval in which the original test was conducted. If acceptance criteria are not met during follow-up testing, an extent of condition and extent of cause analysis shall be conducted to determine the further extent of tests which includes testing on the same system, on the other unit. 2. Perform air flow tests on the hydrogen seal oil and reactor building water curtains every two years to ensure deluge piping and nozzles are unobstructed and there are no flow blockages. 3. Increase the frequency of air flow tests through the standby gas treatment and recombiner system deluge piping and nozzles to every two years to ensure piping and nozzles are unobstructed and there are no flow blockages.	Program will be enhanced no later than six months prior to the second period of extended operation. Inspections that are to be completed prior to the second period of extended operation 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 R.2.1.17 Exelon Letter PBAPS SLRA Supplement No. 2, dated January 23, 2019 Exelon Letter PBAPS SLRA RAI Response, dated May 2, 2019 Exelon Letter PBAPS SLRA Revised Fire Water System RAI Response, dated May 30, 2019

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		4. Revise procedures to improve guidance for external visual inspections of the in scope sprinkler systems piping and sprinklers at least every two years to inspect for corrosion, loss of material, leaks, and proper sprinkler orientation. Corroded, leaking or damaged sprinklers shall be replaced. 5. Perform external visual inspections of the in scope above ground fire main piping every two years to identify excessive corrosion, loss of material, leaks, and physical damage. 6. Perform internal visual inspections of sprinkler and deluge system piping to identify internal corrosion, foreign material, and obstructions to flow. Follow-up volumetric wall thickness examinations will be performed if internal visual inspections detect an unexpected level of degradation due to corrosion and corrosion product deposition. If organic or foreign material, or internal flow blockage that could result in failure of system function is identified, then an obstruction investigation will be performed within the corrective action program that includes removal of the material, an extent of condition determination, review for increased inspections, extent of follow-up examinations, and a flush in accordance with NFPA 25 Appendix D.5, Flushing Procedures. The internal visual inspections will consist of the following: a. Wet pipe sprinkler systems - 50 percent of the wet pipe sprinkler systems in scope for license renewal will have visual internal inspections of piping by removing a hydraulically remote sprinkler, performed every five years, consistent with NFPA 25, 2011 Edition, Section 14.2. During the next five-year inspection period, the alternate systems previously not inspected shall be inspected. b. Pre-action sprinkler systems - pre-action sprinkler systems in scope for license renewal will have visual internal inspections of piping by removing a hydraulically remote nozzle, performed every five years, consistent with NFPA 25, 2011 Edition, Section 14.2. c. Deluge systems - Yard transformer deluge systems in scope for license renewal will have visual internal inspections of piping by removing a hydraulically remote nozzle, performed every five years, consistent with NFPA 25, 2011 Edition, Section 14.2.		

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		7. Perform a one-time volumetric wall thickness inspection, prior to the second period of extended operation, on a sample of the original yard transformer deluge system supply piping that was not replaced during transformer replacements and is periodically subjected to flow during functional testing. 8. Revise service water bay inspection procedures to include inspection of the motor driven fire pump intake strainer. 9. Perform flow tests for hose stations at the hydraulically most limiting locations for each zone of the system on a five-year frequency to demonstrate the capability to provide the design pressure at required flow. 10. Flush deluge system mainline supply basket strainers until clear, following functional testing of yard deluge systems. 11. Perform a one-time inspection of the auxiliary boiler fuel oil storage tank internal foam nozzle and deflector, prior to the second period of extended operation, to ensure proper configuration and orientation and no indication of flow blockage. 12. Perform an internal inspection of the auxiliary boiler oil storage tank foam system foam concentrate tank every 10 years to ensure it is free of corrosion, debris, or foreign material that could cause flow blockage, and to ensure there are no cracks or leaks and it is in good condition. 13. Revise restoration procedures for the hydrogen seal oil and reactor building water curtain systems to utilize low point drains following control valve actuations to ensure there is no trapped water in the system. 14. Revise restoration procedures for the yard transformer deluge systems to utilize low point drains after functional testing. 15. Revise the fire hydrant inspection and flush test procedure to include a minimum flow duration of one (1) minute after the hydrant valve is fully open to remove all foreign material. 16. Revise the underground fire main flow test to utilize the corrective action program to determine an increased test frequency when established test criteria is not met or when significant degraded trends that could adversely affect system intended function are identified. When test		

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		results pass the established test criteria, the test frequency may be extended to a five (5) year frequency IAW NFPA 25. 17. Perform at least five additional ultrasonic test inspections on the fire water supply piping for each Fire Water System pipe wall inspection that does not meet acceptance criteria. 18. Provide procedural direction to require the use of a mill tolerance of 12.5% for added conservatism when determining corrosion rates at new inspection locations if corrosion rates from other locations with nearly identical operating conditions, material, size, and configuration cannot be used.		
18	Outdoor and Large Atmospheric Metallic Storage Tanks	Outdoor and Large Atmospheric Metallic Storage Tanks is an existing program that will be enhanced to: 1. Perform a visual inspection of the sealant at the perimeter of the condensate storage tanks and refueling water storage tank bases for signs of degradation every two years. The visual inspections of sealant and caulking are supplemented with physical manipulation to detect degradation. 2. Perform a pre-inspection review of the previous two inspections of the internal tank coatings, when available, that includes review of results of inspections and any subsequent repair activities. 3. Conduct training and qualification of individuals involved in internal coating or lining inspections and evaluating degraded conditions in accordance with an ASTM International standard endorsed in RG 1.54. 4. Perform volumetric inspection of Unit 2 and 3 condensate storage tanks and refueling water storage tank bottoms at least once during the 10-year period prior to the second period of extended operation, and at least once every 10 years during the second period of extended operation. Volumetric inspections are performed at representative sample locations to include 25 one square foot locations or 20 percent coverage conducted in different locations unless the program states the basis for why repeated inspections are conducted in the same location (i.e. previous findings). Additionally, a minimum of 10 of the random one square foot sample locations will be performed within the 30-inch band at the perimeter of the	Program will be enhanced no later than six months prior to the second period of extended operation, unless a more specific schedule is described within the enhancement (i.e., Enhancement 4). Inspections that are to be completed prior to the second period of extended operation 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 R.2.1.18

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		shell. The scope of subsequent examinations may be adjusted based upon the results of previous examinations.		
19	Fuel Oil Chemistry	Fuel Oil Chemistry is an existing program that will be enhanced to: 1. Perform periodic internal inspection of the diesel fire pump fuel oil storage tank (00T041) and the diesel fire pump day tank (00T543) at least once during the 10-year period prior to the second period of extended operation, and at least once every 10 years during the second period of extended operation. Each diesel fuel tank will be drained and cleaned, the internal surfaces visually inspected (if physically possible), and, if evidence of degradation is observed during inspections, or if visual inspection is not possible, these diesel fuel tanks will be volumetrically inspected. 2. Perform periodic (quarterly) removal of water collected at the bottom of the diesel fire pump fuel oil storage tank (00T041) and the diesel fire pump day tank (00T543). 3. Perform receipt testing of new fuel oil for particulate concentration and the levels of microbiological organisms for the diesel generator fuel oil day tanks (0A(B,C,D)T040), diesel generator fuel oil storage tanks (0A(B,C,D)T038), and diesel fire pump fuel oil storage tank (00T041). 4. Perform periodic (quarterly) sampling and analysis for water and sediment content, particulate concentration, and the levels of microbiological organisms for the diesel generator fuel oil day tanks (0A(B,C,D)T040). Sampling activities will include a sampling methodology that includes a representative sample from the lowest point in the tank. 5. Perform periodic (quarterly) sampling and analysis for water and sediment and the levels of microbiological organisms for the diesel generator fuel oil storage tanks (0A(B,C,D)T038). 6. Perform periodic (quarterly) sampling and analysis for particulate concentration and the levels of microbiological organisms for the diesel fire pump fuel oil storage tank (00T041) and the diesel fire pump day tank (00T543).	Program will be enhanced no later than six months prior to the second period of extended operation unless a more specific schedule is described within the enhancement (i.e., Enhancement 1). Inspections that are to be completed prior to the second period of extended operation 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 R.2.1.19

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<tr><td></td><td></td><td>7. Perform periodic (quarterly) trending of water and sediment content, particulate concentration, and the levels of microbiological organisms for all fuel oil tanks within the scope of the program.
8. Evaluate the need for biocide or corrosion inhibitor addition if periodic testing indicates biological activity or evidence of corrosion.
9. Evaluate degradation identified during tank internal inspections against acceptance criteria to confirm that the timing of subsequent inspections will maintain the components' intended function throughout the second period of extended operation based on the projected rate of degradation.</td><td></td><td></td></tr>
<tr><td>20</td><td>Reactor Vessel Material Surveillance</td><td>Reactor Vessel Material Surveillance is an existing program that will be enhanced to:
1. Withdraw and test the Unit 2, 120 degree reconstituted capsule and the Unit 3, 120 degree capsule per the capsule withdrawal schedules below. A technical summary report containing the test results shall be submitted to the NRC per the requirements of 10 CFR Part 50, Appendix H. Any changes to the Reactor Vessel Material Surveillance program must be submitted for NRC review and approval in accordance with 10 CFR Part 50, Appendix H.
<table>
<tr><th colspan="3">Peach Bottom Unit 2 Capsule Withdrawal Schedule</th></tr>
<tr><td>Capsule</td><td>Capsule Lead Factor (0T/¼T)</td><td>Capsule Withdrawal EFPY</td></tr>
<tr><td>30°</td><td>0.95/1.38</td><td>Per BWRVIP-86-R1-A</td></tr>
<tr><td>120°</td><td>0.95/1.38</td><td>7.53 (actual)</td></tr>
<tr><td>120° Reconstituted</td><td>0.95/1.38</td><td>60 - 62(1)</td></tr>
<tr><td>300°</td><td>0.95/1.38</td><td>Per BWRVIP-86-R1-A</td></tr>
</table>
1. Capsule 120° was withdrawn, tested, and reconstituted after Cycle 7 and re-inserted after Cycle 8, therefore capsule EFPY is 1.21 EFPY less than plant operating EFPY.</td><td>Enhancement 1 will be implemented in accordance with the schedules defined in the commitment.</td><td>Section R.2.1.20</td></tr>
</table>

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<tr><td>Capsule</td><td>Capsule Lead Factor (0T/¼T)</td><td>Capsule Withdrawal EFPY</td></tr>
<tr><td>30°</td><td>0.95/1.38</td><td>7.57 (actual)</td></tr>
<tr><td>30° Reconstituted</td><td>0.95/1.38</td><td>Spare(1)</td></tr>
<tr><td>120°</td><td>0.95/1.38</td><td>60 - 62</td></tr>
<tr><td>300°</td><td>0.95/1.38</td><td>Spare(2)</td></tr>
</table>
1. Capsule 30° was withdrawn, tested, and reconstituted after Cycle 7 and re-inserted after Cycle 8, therefore capsule EFPY is 1.41 EFPY less than plant operating EFPY.
2. Capsule 300° was withdrawn after Cycle 7 and re-inserted after Cycle 8, therefore capsule EFPY is 1.41 EFPY less than plant operating EFPY.
</td><td></td><td></td></tr>
<tr><td>21</td><td>One-Time Inspection</td><td>One-Time Inspection aging management program is a new condition monitoring program consisting of a one-time inspection of selected components to verify: (a) the system-wide effectiveness of an AMP that is designed to prevent or minimize aging to the extent that it will not cause the loss of intended function during the second period of extended operation; (b) the insignificance of an aging effect; and (c) that long-term loss of material will not cause a loss of intended function for steel components exposed to environments that do not include corrosion inhibitors as a preventive action.</td><td>Program will be implemented no later than 10 years prior to the second period of extended operation. The one-time inspections are required to be performed within the 10 years prior to the second period of extended operation, and 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.</td><td>Section R.2.1.21</td></tr>
</table>

* The dates for the start of the respective second periods of extended operation for Peach Bottom Atomic Power Station, Units 2 and 3 are:

Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
22	Selective Leaching	Selective Leaching aging management program is a new condition monitoring program that will monitor components constructed of materials which are susceptible to selective leaching. The selective leaching program includes a one-time inspection for susceptible components exposed to closed cycle cooling water and treated water environment since plant-specific operating experience has not revealed selective leaching in these environments, as well as opportunistic and periodic inspections for susceptible components exposed to raw water, waste water, and soil (which may include groundwater) environments.	Program will be implemented no later than 10 years prior to the second period of extended operation. The one-time inspections and initial periodic inspections are required to be performed within the 10 years prior to the second period of extended operation, and 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 R.2.1.22

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
23	ASME Code Class 1 Small-Bore Piping	ASME Code Class 1 Small-Bore Piping aging management program is a new condition monitoring program that augments the existing ASME Code, Section XI requirements and is applicable to ASME Code Class 1 small-bore piping and systems with a NPS diameter less than 4 inches and greater than or equal to 1 inch. This program provides for volumetric examination of a sample of full penetration (butt) welds and partial penetration (socket) welds in Class 1 piping to manage cracking due to stress corrosion cracking or thermal or vibratory fatigue loading. Volumetric examinations will employ techniques that have been demonstrated to be capable of detecting flaws and discontinuities in the examination volume of interest. The extent and schedule for volumetric examination is based on plant-specific operating experience and whether actions have been implemented that effectively mitigate the cause(s) of any past cracking. The program provides for a one-time inspection of a sample of the population of welds (butt welds or socket welds) for plants that have not experienced cracking or have experienced cracking but have implemented corrective actions, such as a design change, to effectively mitigate the cause(s) of the cracking. The program provides for periodic inspection of a sample of the population of welds (butt welds or socket welds) that have experienced cracking and have not implemented corrective actions to effectively mitigate the cause(s) of the cracking.	Program will be implemented no later than six years prior to the second period of extended operation. The one-time inspections are required to be performed within the six years prior to the second period of extended operation, and 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 R.2.1.23
24	External Surfaces Monitoring of Mechanical Components	External Surfaces Monitoring of Mechanical Components aging management program is a new condition monitoring program that will manage loss of material and cracking of metallic components, as well as loss of material, cracking, and hardening and loss of strength for elastomeric components, loss of preload for HVAC closure bolting, and reduced thermal insulation resistance. Periodic visual inspections, not to exceed a refueling outage interval, of metallic components, elastomers, and insulation jacketing (insulation when not jacketed) will be conducted.	Program will be implemented no later than six months prior to the second period of extended operation.	Section R.2.1.24

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
25	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components program is a new condition monitoring program that will manage loss of material and cracking of metallic components, as well as loss of material and hardening and loss of strength of elastomeric materials. Reduction of heat transfer will also be managed. This program will consist of visual inspections of all accessible internal surfaces of piping, piping components, ducting, heat exchanger components, and other mechanical components.	Program will be implemented no later than six months prior to the second period of extended operation.	Section R.2.1.25
26	Lubricating Oil Analysis	Existing program is credited.	Ongoing	Section R.2.1.26
27	Monitoring of Neutron-Absorbing Materials Other than Boraflex	Existing program is credited.	Ongoing	Section R.2.1.27
28	Buried and Underground Piping and Tanks	Buried and Underground Piping is an existing program that will be enhanced to: 1. Manage cracking for buried stainless steel piping, utilizing a method that has been demonstrated to be capable of detecting cracking, whenever coatings are removed exposing the base material. 2. Perform direct visual inspection of buried piping within the scope of license renewal in accordance with NUREG-2191, Table XI.M41-2, and sections 4.a and 4.b, during each 10-year period, beginning 10 years prior to the second period of extended operation. The number of inspections of buried piping will be based upon the as-found results of cathodic protection system availability and effectiveness. The length of piping for each inspection will be based on the recommendations in section 4.c. 3. Perform extent of condition inspections as follows: When measured pipe wall thickness, projected to the end of the second period of extended operation, does not meet the minimum pipe wall thickness requirements due to external environments, the number of inspections within the affected piping categories will be doubled or increased by five, whichever is smaller. If adverse indications are found in the expanded sample, an analysis will be conducted to determine the extent of condition and extent of cause. The size of the follow-up inspections will be determined based	Program will be enhanced no later than 10 years prior to the second period of extended operation, unless a more specific schedule is described within the enhancement (i.e., Enhancement 4). Inspections that are required to be performed in the 10-year period prior to the second period of extended operation will be completed no later than six months prior to the second period of extended operation, or no later than the last	Section R.2.1.28

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		on the analysis. Timing of any additional inspections will be based on the severity of the identified degradation and the consequences of leakage or loss of function. Any additional inspections will be performed within the same 10-year inspection interval in which the original degradation was identified, or within four years after the end of the 10-year interval if the degradation was identified in the latter half of the 10-year interval. Expansion of sample size may be limited by the extent of piping subject to the observed degradation mechanism or if the piping system or portion of the system is replaced or otherwise mitigated within the same 10-year inspection interval in which the original degradation was identified or within four years after the end of the 10-year interval, if the degradation was identified in the latter half of the 10-year interval. 4. Upgrade existing cathodic protection system no later than 5 years prior to the second period of extended operation, in accordance with NACE SP0169-2007, to ensure effective control of external corrosion of underground piping and tanks. 5. Perform examination of buried emergency diesel generator fuel oil tanks from the internal surface of the tank using volumetric techniques during each 10-year period, beginning 10 years prior to the second period of extended operation. A minimum of 25 percent coverage is required. 6. Perform annual system monitoring of the cathodic protection system to ensure effective protection of buried piping. 7. Apply coating to buried portions of the 10-inch diameter stainless steel line from the torus dewatering tank to the condensate transfer pump suction line in accordance with approved station specifications, during the 10-year period prior to the second period of extended operation.	refueling outage prior to the second period of extended operation.	

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
29	Internal Coatings/Linings for In-Scope Piping, Piping Components, Heat Exchangers, and Tanks	Internal Coatings/Linings for In-Scope Piping, Piping Components, Heat Exchangers, and Tanks aging management program is a new condition monitoring program that manages degradation of internal coatings/linings exposed to raw water, treated water, waste water, condensation, or lubricating oil that can lead to loss of material of base metals or downstream effects such as reduction in flow, pressure, or heat transfer when coatings/linings become debris.	Program will be implemented no later than 10 years prior to the second period of extended operation. Baseline inspections that may be required in the 10-year period prior to the second period of extended operation 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 R.2.1.29

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
30	ASME Section XI, Subsection IWE	ASME Section XI, Subsection IWE is an existing program that will be enhanced to: 1. Perform surface examinations on accessible portions of high temperature drywell mechanical penetrations, in addition to visual examinations, to detect cracking, once per 10-year interval during the second period of extended operation. 2. Clarify that the recommended guidance for proper selection of bolting material and lubricants, and appropriate installation torque or tension to prevent or minimize loss of bolting preload and cracking of high-strength bolting is a requirement at Peach Bottom in accordance with the guidelines provided in EPRI NP-5067 and TR-104213. Clarify that the recommended requirements for storage, lubricant selection, and bolting and coating material selection include the recommendations in Section 2 of Research Council on Structural Connections (RCSC) publication "Specification for Structural Joints Using High-Strength Bolts," are a requirement at Peach Bottom. 3. Implement a one-time supplemental volumetric examination of the containment metal shell surfaces that are inaccessible from one side, if triggered by plant-specific OE. The trigger for this supplemental examination is plant-specific occurrence or recurrence of measurable metal shell corrosion (base metal material loss exceeding 10 percent of nominal plate thickness) initiated on the inaccessible side or areas, identified since the date of issuance of the first renewed license. This supplemental volumetric examination consists of a sample of one-foot square locations that include both randomly-selected and focused areas most likely to experience degradation based on plant-specific OE and/or other relevant considerations such as environment. The sample size, locations, and any needed scope expansion (based on findings) for this one-time set of volumetric examinations should be determined on a plant-specific basis to demonstrate statistically with 95 percent confidence that 95 percent of the accessible portion of the containment liner is not experiencing corrosion degradation with greater than 10 percent loss of nominal thickness.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.30 Exelon Letter PBAPS SLRA Supplement No. 2, dated January 23, 2019

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

31	ASME Section XI, Subsection IWF	ASME Section XI, Subsection IWF is an existing program that will be enhanced to: 1. Perform periodic evaluations of the acceptability of inaccessible areas of supports (e.g., portions of supports encased in concrete, buried underground, or encapsulated by guard pipe), when conditions exist in accessible areas that could indicate the presence of, or result in, degradation to inaccessible areas of supports. Perform these evaluations once every 10 years during the second period of extended operation. 2. Perform a one-time inspection of an additional five percent of the currently inspected sample size specified in Table IWF-2500-1 for Class 1, 2, and 3 piping supports. Conduct the one-time inspection within the five years prior to entering the second period of extended operation. Select the additional supports from the remaining population of IWF piping supports. Ensure that the sample expansion includes components that are most susceptible to age-related degradation (i.e., based on factors such as time in service, material, and aggressiveness of the environment). 3. Perform VT-3 examinations of all ASTM A-490 bolting materials, used for the reactor vessel support skirts and for the core spray pump supports once per 10-year interval during the second period of extended operation. Perform volumetric examination comparable to that of ASME Code Section XI, Table IWB-2500-1, Examination Category B-G-1, of 12 ASTM A490 bolts at each of the reactor vessel support skirts, once per 10-year interval during the second period of extended operation. If the volumetric examination of these ASTM A490 bolts reveals conditions that do not meet acceptance criteria, enter the results into the corrective action program and extend the ASTM A490 bolt examination scope to include other ASTM A490 bolts used in similar joint configurations and subject to similar environmental exposure conditions, which is comparable to the methodology used by the ASME Code, section IWF-2430 for IWF component supports. 4. Clarify that the recommended guidance for proper selection of bolting material and lubricants, and appropriate installation torque or tension to prevent or minimize loss of bolting preload and cracking of high-strength bolting is a requirement at Peach Bottom in accordance with the guidelines provided in EPRI NP-5067 and TR-104213. Clarify that the recommended requirements for storage, lubricant selection, and bolting	Program will be enhanced in accordance with the schedule described within the enhancements. Inspections that are required to be performed in the five-year period prior to the second period of extended operation 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 R.2.1.31 Exelon Letter PBAPS SLRA Supplement No. 2, dated January 23, 2019 Exelon Letter PBAPS SLRA Supplement No. 3, dated February 11, 2019

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		and coating material selection include the recommendations in Section 2 of Research Council on Structural Connections (RCSC) publication "Specification for Structural Joints Using High-Strength Bolts," are a requirement at Peach Bottom. 5. Enhance engineering procedures to require volumetric examination should high-strength bolting (actual measured yield strength greater than or equal to 150 ksi) in sizes greater than 1-inch nominal diameter (including ASTM A490 and equivalent ASTM F2280) be installed. The examination shall be comparable to that of ASME Code Section XI, Table IWB-2500-1, Examination Category B-G-1, at least once per 10-year interval, to detect cracking, in addition to the VT-3 examination. 6. Provide guidance, regarding the selection of supports to be inspected on subsequent inspections, when a support that does not meet the threshold of "unacceptable for continued service" as defined in IWF-3400, is restored in accordance with the Corrective Action Program. The enhanced guidance will ensure that the sample is increased or modified to include another support that is representative of the remaining population of supports that were not repaired.		
32	10 CFR Part 50, Appendix J	Existing program is credited.	Ongoing	Section R.2.1.32
33	Masonry Walls	Masonry Walls is an existing program that will be enhanced to: 1. Expand the program to include masonry walls in the Administration Building and Dewatering Building.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.33
34	Structures Monitoring	Structures Monitoring is an existing program that will be enhanced to: 1. Explicitly include the following components and commodities within the scope of the program: a. Bearing pads for supports b. Electrical duct banks c. Electrical raceway such as cable tray, conduit, and wireway gutter	Program will be enhanced no later than six months prior to the second period of extended operation. Baseline inspections will be completed no later than six months prior to	Section R.2.1.34 Exelon Letter PBAPS SLRA Supplement

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		d. Hatches and plugs e. Manholes and handholes f. Miscellaneous components such as louvers g. Panels, racks, frames, cabinets, and other enclosures h. Permanent shielding blankets 2. Add the following structures to the scope of the program: a. Administration Building b. Boiler House c. Dewatering Building 3. Perform inspections under the enhanced program in order to establish quantitative baseline inspection data prior to the second period of extended operation. 4. Provide evaluation criteria for structural concrete using quantitative second tier criteria of Chapter 5 in ACI 349.3R. 5. Monitor for reduction in concrete anchor capacity if local concrete degradation such as cracking and loss of material is identified. 6. Develop a new implementing procedure or revise an existing implementing procedure to address aging management of inaccessible areas exposed to potentially aggressive groundwater/soil environment that will include the following: a. Monitor raw water and ground water chemistry, for pH, chlorides, and sulfates, on a frequency not to exceed five years that accounts for seasonal variations (e.g., quarterly monitoring every fifth year), from locations that are representative of the groundwater in contact with structures within the scope of second license renewal. b. Enter adverse results, which exceed water chemistry criteria, into the corrective action program. As part of the corrective actions, if aggressive groundwater is identified that might affect structures in scope for license renewal, perform additional water testing at additional locations and perform soil testing in order to confirm the	the second period of extended operation, or no later than the last refueling outage prior to the second period of extended operation.	No. 2, dated January 23, 2019 Exelon Letter PBAPS SLRA RAI Response dated May 23, 2019

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		extent, severity, and potential aging mechanisms resulting from the aggressive groundwater/soil. c. Develop engineering evaluations to evaluate the water chemistry results to assess the impact, if any, on below-grade concrete, including the potential for further degradation due to the aggressive groundwater, as well as consideration of current conditions. As part of the engineering evaluations, determine if additional actions are warranted, which might include enhanced inspection techniques and/or increased frequency, destructive testing, and focused inspections of representative accessible (leading indicator) or below grade, inaccessible concrete structural elements exposed to aggressive groundwater/soil. d. Develop the initial engineering evaluations prior to the second period of extended operation. Develop follow-up engineering evaluations on an interval not to exceed five years. e. If aggressive groundwater and soil is identified, at a minimum, perform focused inspections of representative, accessible (leading indicator) structural elements, or if accessible areas will not be leading indicators for the potential aging mechanisms, excavate and inspect buried concrete elements exposed to aggressive groundwater/soil. f. If degraded concrete is identified, as part of the focused inspections of leading indicators (representative, accessible or exposed inaccessible concrete), enter adverse results that exceed ACI 349.3R tier 2 criteria into the corrective action program, and expose inaccessible concrete so that the extent of the condition can be determined, baseline conditions documented, and additional actions identified such as repairs, new preventative actions, additional evaluations, and future inspections. 7. Monitor and trend through-wall groundwater leakage, infiltration volumes, and leakage water chemistry for signs of concrete or steel reinforcement degradation. Develop additional engineering evaluations, which consider more frequent inspections, as well as destructive testing of affected concrete to validate existing concrete properties, and leakage water		

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		chemistry results. If leakage volumes allow, consider water chemistry analysis of the leakage pH, along with mineral, chloride, sulfate and iron content in the water. 8. Expand the program to monitor accessible sliding surfaces for indications of significant loss of material due to wear or corrosion, and for accumulation of debris or dirt. Establish acceptance criteria for sliding surfaces as no significant loss of material due to wear or corrosion, and no debris or dirt that could restrict or prevent sliding of the surfaces, as required by design. 9. Evaluate the acceptability of inaccessible areas when conditions exist in accessible areas that could indicate the presence of, or result in, degradation to such inaccessible areas 10. Expand the program to monitor elastomeric vibration isolators and bearing pads for cracking, loss of material, and hardening. Supplement visual inspection of elastomeric elements with tactile inspection to detect hardening, if the intended function is suspect. Establish acceptance criteria for elastomeric pads and vibration isolation elements as no loss of material, cracking, or hardening that can lead to loss of isolation or support function. 11. Clarify that loose bolts and nuts and cracked bolts are not acceptable unless accepted by engineering evaluations. 12. Expand the program to inspect the fiberglass outer covering of permanent shielding blankets for signs of tears. If a tear is found, enter the condition into the corrective action program for evaluation. Repair or replace the permanent shielding, unless an evaluation determines that the condition is acceptable. 13. Clarify that the recommended guidance for proper selection of bolting material and lubricants, and appropriate installation torque or tension to prevent or minimize loss of bolting preload and cracking of high-strength bolting is a requirement at Peach Bottom in accordance with the guidelines provided in EPRI NP-5067 and TR-104213. Clarify that the recommended requirements for storage, lubricant selection, and bolting and coating material selection include the recommendations in Section 2 of Research Council on Structural Connections (RCSC) publication		

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		"Specification for Structural Joints Using High-Strength Bolts," are a requirement at Peach Bottom.		
35	Inspection of Water-Control Structures Associated with Nuclear Power Plants	Inspection of Water-Control Structures Associated with Nuclear Power Plants is an existing program that will be enhanced to: 1. Explicitly include the sluice gates at the Circulating Water Pump Structure within the scope of the program. 2. Clarify parameters to be monitored and inspected at the Emergency Cooling Tower and Reservoir to include visual inspection for loss of material and reduction of heat transfer due to fouling for the cooling tower fill, and visual inspection of the drift eliminators. 3. Monitor for reduction in concrete anchor capacity if local concrete degradation such as cracking and loss of material is identified. 4. Expand the program to monitor accessible sliding surfaces for indications of significant loss of material due to wear or corrosion, and for accumulation of debris or dirt. 5. Include provisions for special inspections following significant natural phenomena, such as large floods, hurricanes, tornadoes, or intense local rainfall as part of the guidelines for severe weather and natural disasters. 6. Develop a new implementing procedure or revise an existing implementing procedure to address aging management of inaccessible areas exposed to potentially aggressive groundwater/soil environment that will include the following: a. Monitor raw water and ground water chemistry, for pH, chlorides, and sulfates, on a frequency not to exceed five years that accounts for seasonal variations (e.g., quarterly monitoring every fifth year), from locations that are representative of the groundwater in contact with structures within the scope of second license renewal. b. Enter adverse results, which exceed water chemistry criteria, into the corrective action program. As part of the corrective actions, if aggressive groundwater is identified that might affect structures in scope for license renewal, perform additional water testing at additional locations and perform soil testing in order to confirm the	Program will be enhanced no later than six months prior to the second period of extended operation. Baseline 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 R.2.1.35 Exelon Letter PBAPS SLRA Supplement No. 2, dated January 23, 2019 Exelon Letter PBAPS SLRA RAI Response dated May 23, 2019

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		extent, severity, and potential aging mechanisms resulting from the aggressive groundwater/soil. c. Develop engineering evaluations to evaluate the water chemistry results to assess the impact, if any, on below-grade concrete, including the potential for further degradation due to the aggressive groundwater, as well as consideration of current conditions. As part of the engineering evaluations, determine if additional actions are warranted, which might include enhanced inspection techniques and/or increased frequency, destructive testing, and focused inspections of representative accessible (leading indicator) or below grade, inaccessible concrete structural elements exposed to aggressive groundwater/soil. d. Develop the initial engineering evaluations prior to the second period of extended operation. Develop follow-up engineering evaluations on an interval not to exceed five years. e. If aggressive groundwater and soil is identified, at a minimum, perform focused inspections of representative, accessible (leading indicator) structural elements, or if accessible areas will not be leading indicators for the potential aging mechanisms, excavate and inspect buried concrete elements exposed to aggressive groundwater/soil. f. If degraded concrete is identified, as part of the focused inspections of leading indicators (representative, accessible or exposed inaccessible concrete), enter adverse results that exceed ACI 349.3R tier 2 criteria into the corrective action program, and expose inaccessible concrete so that the extent of the condition can be determined, baseline conditions documented, and additional actions identified such as repairs, new preventative actions, additional evaluations, and future inspections. 7. Monitor and trend through-wall groundwater leakage, infiltration volumes, and leakage water chemistry for signs of concrete or steel reinforcement degradation. Develop additional engineering evaluations, which consider more frequent inspections, as well as destructive testing of affected concrete to validate existing concrete properties, and leakage water		

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
		chemistry results. If leakage volumes allow, consider water chemistry analysis of the leakage pH, along with mineral, chloride, sulfate and iron content in the water. 8. Evaluate the acceptability of inaccessible areas when conditions exist in accessible areas that could indicate the presence of, or result in, degradation to such inaccessible areas. 9. Document the concrete conditions of submerged concrete structures. 10. Specify a six-year frequency for the inspection of the submerged portions of the traveling screen bays to match the inspection frequency of the submerged portions of the Circulating Water Pump Structure bays. 11. Perform inspections under the enhanced program in order to establish quantitative baseline inspection data prior to the second period of extended operation. 12. Provide evaluation criteria for structural concrete using quantitative second tier criteria of Chapter 5 in ACI 349.3R. 13. Clarify that loose bolts and nuts and cracked bolts are not acceptable unless accepted by engineering evaluations. 14. Clarify that the recommended guidance for proper selection of bolting material and lubricants, and appropriate installation torque or tension to prevent or minimize loss of bolting preload and cracking of high-strength bolting is a requirement at Peach Bottom in accordance with the guidelines provided in EPRI NP-5067 and TR-104213. Clarify that the recommended requirements for storage, lubricant selection, and bolting and coating material selection include the recommendations in Section 2 of Research Council on Structural Connections (RCSC) publication "Specification for Structural Joints Using High-Strength Bolts," are a requirement at Peach Bottom.		
36	Protective Coating Monitoring and Maintenance Program	Protective Coating Monitoring and Maintenance Program is an existing program that will be enhanced to: 1. Use Level II or Level III coating inspectors, certified to ANSI N45.2.6, for inspection of Service Level I coatings.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.1.36 Exelon Letter PBAPS SLRA RAI Response

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Peach Bottom Atomic Power Station Unit 2: August 8, 2033 / Peach Bottom Atomic Power Station Unit 3: July 2, 2034

NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
				dated May 2, 2019
37	Electrical Insulation for Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements	Electrical Insulation for Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements is an existing program that will be enhanced to: 1. Include potential follow-up actions when visual inspections identify degraded or damaged conditions that may impact the performance of intended functions: a. Perform tests, for condition monitoring when visual inspections identify damaged or degraded insulation of in scope cables and connections. When a large number of cables are identified as damaged or degraded, a sample population will be tested. The sample size will be 20 percent of each affected cable and connection type with a maximum sample size of 25. b. Document the basis for the samples selected for testing when visual inspections identify damaged or degraded insulation conditions for in scope cables and connections. 2. Visually inspect and evaluate cables and connections that were exposed to adverse localized environments (ALEs), which have since been mitigated, on an at least once every 10-year frequency, to assure the cumulative aging effects for electrical insulation, in remedied ALEs are not impacting the ongoing ability of the cables and connections to perform their intended function during the second period of extended operation.	Program will be enhanced no later than six months prior to the second period of extended operation. In addition, the first inspections incorporating enhancements 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 R.2.1.37
38	Electrical Insulation for Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used	Electrical Insulation for Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits is an existing program that will be enhanced to: 1. Add the following radiation monitors to the scope of this program a. Main steam line radiation monitors b. Reactor building ventilation exhaust radiation monitors c. Control room fresh air supply radiation monitors	Program will be enhanced no later than six months prior to the second period of extended operation. The first documented periodic review will be completed no later than six months prior to the second	Section R.2.1.38

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
	in Instrumentation Circuits	d. Control room emergency ventilation supply radiation monitors e. Main stack radiation monitors. 2. Revise the implementing procedures to include documented periodic review of calibration test results for neutron monitors and radiation monitors within the scope of this program. Perform the first periodic review for second license renewal prior to the second period of extended operation and at least every 10 years thereafter.	period of extended operation, or no later than the last refueling outage prior to the second period of extended operation.	
39	Electrical Insulation for Inaccessible Medium-Voltage Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements	Electrical Insulation for Inaccessible Medium-Voltage Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements is an existing program that will be enhanced to: 1. Add periodic cable testing for additional circuits. 2. Perform cable testing of the circuits in the scope of this program at a frequency of at least once every six years. 3. Add periodic condition monitoring, as a preventive action, for manholes.	Program will be enhanced no later than six months prior to the second period of extended operation. Tests and inspections that are required to be performed prior to the second period of extended operation 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 R.2.1.39

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
40	Electrical Insulation for Inaccessible Instrument and Control Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements	Electrical Insulation for Inaccessible Instrument and Control Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements aging management program is a new condition monitoring program that will manage the effects of reduced insulation resistance of non-EQ, in scope, inaccessible (e.g., installed in buried conduits, cable trenches, cable troughs, duct banks, underground vaults, or direct buried installations), instrument and control cables, exposed to significant moisture.	Program will be implemented no later than six months prior to the second period of extended operation. One-time cable testing, initial manhole inspections, and initial visual cable 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 R.2.1.40
41	Electrical Insulation for Inaccessible Low-Voltage Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements	Electrical Insulation for Inaccessible Low-Voltage Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements aging management program is a new condition monitoring program that will manage the effects of reduced insulation resistance of non-EQ, in scope, inaccessible (e.g., installed in buried conduits, cable trenches, cable troughs, duct banks, underground vaults, or direct buried installations), low-voltage power cables (operating voltage less than 2 kV), exposed to significant moisture.	Program will be implemented no later than six months prior to the period of extended operation. One-time cable testing, initial manhole inspections, and initial visual cable 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 R.2.1.41

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
42	Metal Enclosed Bus	Metal Enclosed Bus aging management program is a new condition monitoring program that uses sampling and will manage the identified aging effects of in scope metal enclosed bus.	Program will be implemented no later than six months prior to the second period of extended operation. Initial inspections and resistance measurements 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 R.2.1.42
43	Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements	Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements aging management program is a new condition monitoring program that consists of a representative sample of electrical connections tested prior to the second period of extended operation. The results will be evaluated to determine if there is a need for subsequent periodic testing on a 10-year frequency.	Program will be implemented no later than six months prior to the second period of extended operation. Testing and evaluation of results 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 R.2.1.43

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44	Wooden Pole	Wooden Pole is an existing program that will be enhanced to: 1. Document results that do not meet the acceptance criteria in the corrective action program.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.2.2.1
45	Fatigue Monitoring	Fatigue Monitoring is an existing program that will be enhanced to: 1. Update the SI:FatiguePro™ software to include the calculation and tracking of Environmentally Assisted Fatigue (EAF) in accordance NUREG/CR-6909, Revision 1. 2. Update applicable fatigue analyses and monitored component locations based on operating experience, plant modifications, inspection findings, changes to transient definitions, and unanticipated newly discovered fatigue loading events. 3. Provide procedural direction to require periodic validation of chemistry parameters used to determine Fen factors used in SI:FatiguePro™. 4. Provide procedural direction to add an additional acceptance criterion associated with HELB exclusion criteria.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.3.1.1
46	Neutron Fluence Monitoring	Neutron Fluence Monitoring is an existing program that will be enhanced to: 1. Perform periodic monitoring of reactor pressure vessel and reactor vessel internals accumulated neutron fluence, every refueling cycle, to ensure that neutron fluence projections used to support reactor pressure vessel neutron irradiation embrittlement analyses (i.e., TLAAs, pressure-temperature limits) and reactor vessel internals aging effect assessments remain bounding with respect to actual plant operating conditions.	Program will be enhanced no later than six months prior to the second period of extended operation.	Section R.3.1.2

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NO.	PROGRAM OR TOPIC	COMMITMENT	IMPLEMENTATION SCHEDULE*	SOURCE
47	Environmental Qualification of Electric Equipment	Environmental Qualification of Electric Equipment is an existing program that will be enhanced to: 1. Add activities to visually inspect accessible, passive EQ equipment located in adverse localized environments at least once every 10 years. The first periodic visual inspection will be performed prior to the second period of extended operation. 2. Establish acceptance criteria for the visual inspections of accessible, passive EQ equipment located in adverse localized environments.	Program will be enhanced no later than six months prior to the second period of extended operation. New visual inspections of accessible, passive EQ equipment located in adverse localized environments 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 R.3.1.3
48	Operating Experience	Existing program is credited.	Ongoing	Section R.1.6
49	Operating Experience Review	Exelon will perform an evaluation of operating experience at extended power uprate (EPU) levels prior to the period of extended operation to ensure that operating experience at EPU levels is properly addressed by the aging management programs. The evaluation will include Peach Bottom and other BWR plants operating at EPU levels.	Evaluation will be completed no later than six months prior to the second period of extended operation.	NUREG-2192 Section 1.2.2
50	FERC Inspections of the Conowingo Hydroelectric Plant (Dam)	Existing program is credited.	Ongoing	FERC No. 405 NUREG-2191 Section XI.S7

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