Enclosure 1 to this Letter Contains Proprietary Information
Withhold Enclosure 1 from Public Disclosure in Accordance with 10 CFR 2.390

NEXTera® ENERGY SEABROOK

October 03, 2017

10 CFR 54
Docket No. 50-443
SBK-L-17155

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

Seabrook Station

Supplement 58 - Response to Request for Additional Information for the Review of the Seabrook Station License Renewal Application – Building Deformation Analyses Related To Concrete Alkali-Silica Reaction

References:

1. NextEra Energy Seabrook LLC, letter SBK-L-10077, "Seabrook Station Application for Renewed Operating License," May 25, 2010 (Accession Number ML101590099).

2. NRC, "Request for Additional Information for the Review of the Seabrook Station License Renewal Application (CAC NO. ME4028)," March 29, 2017 (Accession Number ML17088A614).

In Reference 1, NextEra Energy Seabrook, LLC (NextEra Energy Seabrook) submitted an application for a renewed facility operating license for Seabrook Station Unit 1 in accordance with the Code of Federal Regulations, Title 10, Parts 50, 51, and 54.

In Reference 2, the NRC requested additional information to complete the review of the application related to Alkali-Silica Reaction (ASR) and Building Deformation Monitoring Programs.

Enclosure 1 provides NextEra Energy Seabrook's response to the NRC's Request for Additional Information (RAI) concerning the Alkali-Silica Reaction and Building Deformation Monitoring Programs (Reference 2).

Enclosure 2 provides the revised License Renewal Application, Section 3.5, as referenced in the response to RAI 3.5-A1-1: AMR within Enclosure 1.

Enclosure 1 to this letter contains information proprietary to NextEra Energy Seabrook. This letter is supported by an affidavit (Enclosure 4), setting forth the basis on which the information in Enclosure 1 may be withheld from public disclosure by the Commission and addressing the considerations listed in 10 CFR 2.390(b)(4). Accordingly, it is respectfully requested that the information which is proprietary be withheld from public disclosure in accordance with 10 CFR 2.390. A non-proprietary version of this letter and revised Alkali-Silica Reaction Monitoring Program Aging Management Plan A.2.1.31.A will be submitted under separate cover by November 3, 2017.

This letter contains two revised Commitments (45 and 66). Enclosure 3 provides the revised LRA Appendix A - Updated Final Safety Analysis Report Supplement Table A.3, License Renewal Commitment List.

If there are any questions or additional information is needed, please contact Mr. Edward J. Carley, Engineering Supervisor - License Renewal, at (603) 773-7957.

If you have any questions regarding this correspondence, please contact Mr. Kenneth Browne, Licensing Manager, at (603) 773-7932.

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

Executed on October 3rd, 2017.

Sincerely,

NextEra Energy Seabrook, LLC

Eric McCartney
Regional Vice President - Northern Region

Enclosures:

Enclosure 1 – Supplement 58 - Response to Request for Additional Information for the Review of the Seabrook Station License Renewal Application –Building Deformation Analyses Related To Concrete Alkali-Silica Reaction (Proprietary)

Enclosure 2 – Seabrook Station License Renewal Application, Section 3.5

Enclosure 3 – LRA Appendix A - Final Safety Report Supplement Table A.3, License Renewal Commitment List Updated to Reflect Changes to Date

Enclosure 4 – NextEra Energy Seabrook, Application for Withholding Proprietary Information from Public Disclosure and Affidavit

cc:

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Enclosure 2 to SBK-L-17155

Seabrook Station License Renewal Application, Section 3.5

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
PWR Concrete (Reinforced and Prestressed) and Steel Containments					
3.5.1-1	Concrete elements: walls, dome, basemat, ring girder, buttresses, containment (as applicable)	Aging of accessible and inaccessible concrete areas due to aggressive chemical attack, and corrosion of embedded steel	ISI (IWL) and for inaccessible concrete, an examination of representative samples of below-grade concrete and periodic monitoring of groundwater if environment is non-aggressive. A plant-specific program is to be evaluated if environment is aggressive.	Yes, plant-specific, if environment is aggressive	Seabrook manages accessible and inaccessible concrete components due to corrosion of embedded steel with the ASME Section XI, Subsection IWL Program, and B.2.1.28. Aggressive chemical attack is an applicable aging effect requiring management for Seabrook. Further evaluation is provided in LRA Subsection 3.5.2.2.1.1. The Structures Monitoring Program, B.2.1.31, will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-2	Concrete elements: all	Cracks and distortion due to increased stress levels from settlement	Structures Monitoring Program. If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.	Yes, if not within the scope of the applicant's structures monitoring program or a de-watering system is relied upon	Seabrook does not rely on a dewatering system for control of settlement. Cracking and distortion due to increased stress levels from settlement is not an aging effect requiring management. However, Seabrook structures are monitored for settlement as a part of the Structures Monitoring Program, B.2.1.31. Further evaluation is provided in LRA Subsection 3.5.2.2.1.2.
3.5.1-3	Concrete elements: foundation, subfoundation	Reduction in foundation strength, cracking, differential settlement due to erosion of porous concrete subfoundation	Structures Monitoring Program. If a de-watering system is relied upon to control erosion of cement from porous concrete subfoundations, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation	Yes, if not within the scope of the applicant's structures monitoring program or a de-watering system is relied upon	Reduction in foundation strength, cracking, and differential settlement due to erosion of porous concrete subfoundations is not an aging effect requiring management for the Seabrook Containment Structure. Further evaluation is provided in LRA Subsection 3.5.2.2.1.2.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-4	Concrete elements: dome, wall, basemat, ring girder, buttresses, containment, concrete fill-in annulus (as applicable)	Reduction of strength and modulus due to elevated temperature	Plant-specific	Yes, plant-specific if temperature limits are exceeded	This item is not applicable to Seabrook. No containment components exceed the specified temperature thresholds. Further evaluation is provided in LRA Subsection 3.5.2.2.1.3.
3.5.1-5	BWR only.				
3.5.1-6	Steel elements: steel liner, liner anchors, integral attachments	Loss of material due to general, pitting, and crevice corrosion	ISI (IWE) and 10 CFR Part 50, Appendix J	Yes, if corrosion is significant for inaccessible areas	Consistent with NUREG-1801. Seabrook manages loss of material with the ASME Section XI, Subsection IWE Program, B.2.1.27. Loss of material due to corrosion is not expected to be significant for inaccessible areas. Further evaluation is provided in LRA Subsection 3.5.2.2.1.4.
3.5.1-7	Prestressed containment tendons	Loss of prestress due to relaxation, shrinkage, creep, and elevated temperature	TLAA evaluated in accordance with 10 CFR 54.21(c)	Yes, TLAA	This item is not applicable to Seabrook. The Seabrook Containment Building is not a pre-stressed concrete containment. Further evaluation is provided in LRA Subsection 3.5.2.2.1.5.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-8	BWR only.				
3.5.1-9	Steel, stainless steel elements, dissimilar metal welds: penetration sleeves, penetration bellows; suppression pool shell, unbraced downcomers	Cumulative fatigue damage (CLB fatigue analysis exists)	TLAA evaluated in accordance with 10 CFR 54.21(c)	Yes, TLAA	Consistent with NUREG-1801 for Seabrook containment penetrations that experience significant cyclic loading. Further evaluation is provided in LRA Subsection 3.5.2.2.1.6.
3.5.1-10	Stainless steel penetration sleeves, penetration bellows, dissimilar metal welds	Cracking due to stress corrosion cracking	ISI (IWE) and 10 CFR Part 50, Appendix J and additional appropriate examinations / evaluations for bellows assemblies and dissimilar metal welds	Yes, detection of aging is to be evaluated	Cracking due to stress corrosion cracking is not an aging effect requiring management for these stainless steel components. Further evaluation is provided in LRA Subsection 3.5.2.2.1.7.
3.5.1-11	BWR only.				
3.5.1-12	Steel, stainless steel elements, dissimilar metal welds: penetration sleeves, penetration bellows; suppression pool shell, unbraced downcomers	Cracking due to cyclic loading	ISI (IWE) and 10 CFR Part 50, Appendix J supplemented to detect fine cracks	Yes, detection of aging is to be evaluated	This item is not applicable to Seabrook. Cracking due to cyclic loading is not an aging effect requiring management for the Seabrook penetration elements. Further evaluation is provided in LRA Subsection 3.5.2.2.1.8.
3.5.1-13	BWR only.				

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-14	Concrete elements: dome, wall, basemat, ring girder, buttresses, containment (as applicable)	Loss of material (scaling, cracking, and spalling) due to freeze –thaw	ISI (IWL) Evaluation is needed for plants that are located in moderate to severe weathering conditions (weathering index >100 day – inch/yr) (NUREG-1557)	Yes, for inaccessible areas of plants located in moderate to severe weathering conditions	Loss of material due to freeze-thaw effects is not an aging effect requiring management for Seabrook. Seabrook concrete containment is enclosed by a containment enclosure building and therefore not exposed to severe weathering conditions. Further evaluation is provided in LRA Subsection 3.5.2.2.1.9.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-15	Concrete elements: walls, dome, basemat, ring girder, buttresses, containment, concrete fill-in annulus (as applicable)	Increase in porosity permeability due to leaching of calcium hydroxide; cracking due to expansion and reaction with aggregate	ISI (IWL) for accessible areas. None for inaccessible areas if concrete was constructed in accordance with the recommendations of ACI 201.2R	Yes, if concrete was not constructed as stated for inaccessible areas.	~~The Seabrook AMR results conclude that cracking due to expansion and reaction with aggregate is not an aging mechanism requiring management for the containment structure at Seabrook~~. Concrete was constructed equivalent to recommendations in ACI 201.2R. Seabrook Station Operating Experience indicated that Alkali-Silica Reaction (ASR) is present in the site monitoring through the Period of Extended Operation (PEO). Seabrook manages loss of material due to leaching of calcium hydroxide with the ASME Section XI, Subsection IWL Program, B.2.1.28. Cracking due to expansion and reaction with aggregates is managed through the ASME Section XI, Subsection IWL

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
					Program, B.2.1.28, ~~and~~ Alkali-Silica Reaction (ASR) Monitoring Program, B.2.1.31A, ***and Building Deformation Monitoring Program, B.2.1.31B.*** Further evaluation is provided in LRA Subsection 3.5.2.2.1.10.
3.5.1-16	Seals, gaskets, and moisture barriers	Loss of sealing and leakage through containment due to deterioration of joint seals, gaskets, and moisture barriers (caulking, flashing, and other sealants)	ISI (IWE) and 10 CFR Part 50, Appendix J	No	Consistent with NUREG-1801. Seabrook manages loss of sealing with the ASME Section XI, Subsection IWE Program, B.2.1.27, and the 10 CFR 50 Appendix J Program, B.2.1.30. ***Seabrook Station Operating Experience indicated that building deformation can occur due to alkali-silica reaction and therefore Seabrook manages loss of sealing due to ASR with the Building Deformation Monitoring Program, B.2.1.31B.***

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-17	Personnel airlock, equipment hatch and CRD hatch locks, hinges, and closure mechanisms	Loss of leak tightness in closed position due to mechanical wear of locks, hinges, and closure mechanisms	10 CFR Part 50, Appendix J and plant Technical Specifications	No	Consistent with NUREG-1801. The 10 CFR 50 Appendix J Program, B.2.1.30, is used to manage loss of leak tightness.
3.5.1-18	Steel penetration sleeves and dissimilar metal welds; personnel airlock, equipment hatch, and CRD hatch	Loss of material due to general, pitting, and crevice corrosion	ISI (IWE) and 10 CFR Part 50 Appendix J	No	Consistent with NUREG-1801. The ASME Section XI, Subsection IWE, B.2.1.27 manages loss of material due to corrosion, 10 CFR 50 Appendix J Program, B.2.1.30, manages loss of leak tightness.
3.5.1-19	BWR only.				
3.5.1-20	BWR only.				
3.5.1-21	BWR only.				
3.5.1-22	Prestressed containment: tendons and anchorage components	Loss of material due to corrosion	ISI (IWL)	No	Not Applicable. Seabrook Station does not have prestressed tendons.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-23	All Groups except Group 6: interior and above grade exterior concrete	Cracking, loss of bond, and loss of material (spalling, scaling) due to corrosion of embedded steel	Structures Monitoring Program	Yes, if not within the scope of the applicant's Structures Monitoring Program	Consistent with NUREG-1801. Seabrook manages the aging effects with the Structures Monitoring Program, B.2.1.31. Further evaluation is provided in LRA Subsection 3.5.2.2.2.1, Item 1.
3.5.1-24	All Groups except Group 6: interior and above grade exterior concrete	Increase in porosity and permeability, cracking, loss of material (spalling, scaling) due to aggressive chemical attack	Structures Monitoring Program	Yes, if not within the scope of the applicant's Structures Monitoring Program	The Seabrook AMR results conclude that the groundwater is aggressive and chemical attack is applicable to Seabrook. Therefore, all Seabrook structural components will be monitored by the Structures Monitoring Program, B.2.1.31. Further evaluation is provided in LRA Subsection 3.5.2.2.2.1, Item 2.
3.5.1-25	All Groups except Group 6: steel components: all structural steel	Loss of material due to corrosion	Structures Monitoring Program If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance	Yes, if not within the scope of the applicant's Structures Monitoring Program	Consistent with NUREG-1801. Seabrook manages corrosion of steel components with the Structures Monitoring Program, B.2.1.31. Further evaluation is provided in LRA Subsection 3.5.2.2.2.1, Item 3.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-26	All Groups except Group 6: accessible and inaccessible concrete: foundation	Loss of material (spalling, scaling) and cracking due to freeze-thaw	Structures Monitoring Program Evaluation is needed for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557)	Yes, if not within the scope of the applicant's Structures Monitoring Program or for inaccessible areas of plants located in moderate to severe weathering conditions	Consistent with NUREG-1801. Seabrook manages Loss of material (spalling, scaling) and cracking due to freeze-thaw with the Structures Monitoring Program, B.2.1.31. Further evaluation is provided in LRA Subsection 3.5.2.2.2.1, Item 4.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-27	All Groups except Group 6: accessible and inaccessible interior / exterior concrete	Cracking due to expansion due to reaction with aggregates	Structures Monitoring Program. None for inaccessible areas if concrete was constructed in accordance with the recommendations in ACI 201.2R-77	Yes, if not within the scope of the applicant's Structures Monitoring Program or concrete was not constructed as stated for inaccessible areas	~~This item is not applicable to Seabrook.~~ ~~The Seabrook AMR results conclude that reaction with aggregates is not significant and the concrete was constructed consistent with t~~ The recommendations of ACI 201.2R. Seabrook Station Operating Experience indicated that Alkali-Silica Reaction (ASR)is present in the site monitoring through the Period of Extended Operation (PEO). ~~Nonetheless, all Seabrook structural components applicable to this item will be monitored by the Structures Monitoring Program, B.2.1.31~~ Cracking due to expansion and reaction with aggregates is monitored by the Structures Monitoring Program, B.2.1.31, the Alkali-Silica Reaction (ASR) Monitoring Program, B.2.1.31A, ***and the Building Deformation*** ***Further evaluation is*** provided in LRA Subsection 3.5.2.2.2.1, Item 5.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
					Monitoring Program, B.2.1.31B. Further evaluation is provided in LRA Subsection 3.5.2.2.2.1, Item 5.
3.5.1-28	Groups 1-3, 5-9: All	Cracks and distortion due to increased stress levels from settlement	Structures Monitoring Program If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation	Yes, if not within the scope of the applicant's Structures Monitoring Program or a de-watering system is relied upon	This item is not applicable to Seabrook. The Seabrook AMR results conclude that settlement is not significant. Further, a dewatering system is not relied upon for control of settlement at Seabrook. Further evaluation is provided in LRA Subsection 3.5.2.2.2.1, Item 6.
3.5.1-29	Groups 1-3, 5-9: foundation	Reduction in foundation strength, cracking, differential settlement due to erosion of porous concrete subfoundation	Structures Monitoring Program If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation	Yes, if not within the scope of the applicant's Structures Monitoring Program or a de-watering system is relied upon	This item is not applicable to Seabrook. The Seabrook AMR results conclude that settlement is not significant. Further, a dewatering system is not relied upon for control of settlement at Seabrook. Further evaluation is provided in LRA Subsection 3.5.2.2.2.1, Item 7.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-30	Group 4: Radial beam seats in BWR drywell; RPV support shoes for PWR with nozzle support; Steam generator supports	Lock-up due to wear	ISI (IWF) or Structures Monitoring Program	Yes, if not within the scope of ISI of Structures Monitoring Program	Lubrite® materials for nuclear applications are designed to resist deformation, have a low coefficient of friction, resist softening at elevated temperatures, resist corrosion, withstand high intensities of radiation, and will not score or mar. Further evaluation is provided in LRA Subsection 3.5.2.2.2.1, Item 8.
3.5.1-31	Groups 1-3, 5, 7-9: below grade concrete components, such as exterior walls below grade and foundation	Increase in porosity and permeability, cracking, loss of material (spalling, scaling) / aggressive chemical attack; cracking, loss of bond, and loss of material (spalling, scaling)/ corrosion of embedded steel	Structures Monitoring Program Examination of representative samples of below grade concrete, and periodic monitoring of groundwater, if the environment is non-aggressive. A plant-specific program is to be evaluated if the environment is aggressive	Yes, plant-specific if environment is aggressive	The Seabrook AMR results conclude that the groundwater is aggressive. The Structures Monitoring Program, B.2.1.31, will manage degradation of accessible and inaccessible concrete components due to corrosion of embedded steel. Further evaluation is provided in LRA Subsection 3.5.2.2.2.2. The Structures Monitoring Program, B.2.1.31, will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-32	Groups 1-3, 5, 7-9: exterior above and below grade reinforced concrete foundations	Increase in porosity and permeability, loss of strength due to leaching of calcium hydroxide	Structures Monitoring Program for accessible areas. None for inaccessible areas if concrete was constructed in accordance with the recommendations in ACI 201.2R-77	Yes, if concrete was not constructed as stated for inaccessible areas	Loss of material due to leaching of calcium hydroxide is considered to be an aging effect requiring management for Seabrook. There have been indications of leaching in below grade concrete in Seabrook structures. Further evaluation is provided in LRA Subsection 3.5.2.2.2.2, Item 5.
3.5.1-33	Group 1-5: concrete	Reduction in strength and modulus due to elevated temperature	Plant-specific	Yes, plant specific if temperature limits are exceeded	This item is not applicable to Seabrook concrete components do not exceed the temperature limits specified in NUREG-1800. Further evaluation is provided in LRA Subsection 3.5.2.2.2.3.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-34	Group 6: concrete; all	Cracking, loss of bond, loss of material due to corrosion of embedded steel, increase in porosity and permeability, cracking, loss of material due to aggressive chemical attack	Inspection of Water Control Structures Associated with Nuclear Power Plants and for inaccessible concrete, examination of representative samples of below grade concrete, and periodic monitoring of groundwater, if environment is non-aggressive. Plant-specific if environment is aggressive	Yes, plant-specific if environment is aggressive	Concrete in inaccessible areas is evaluated for increase in Porosity and Permeability, and Loss of Material (Spalling, Scaling), Chemical Attack; Cracking, Loss of Bond, and Loss of Material (Spalling, Scaling), Corrosion of Embedded Steel is applicable to Seabrook. Further evaluation is provided in LRA Subsection 3.5.2.2.2.4, Item 1. The Structures Monitoring Program, B.2.1.31, will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.
3.5.1-35	Group 6: exterior above and below grade concrete foundation	Loss of material (spalling, scaling) and cracking due to freeze-thaw	Inspection of Water Control Structures Associated with Nuclear Power Plants is needed for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUEG 1557)	Yes, for inaccessible areas of plants located in moderate to severe weathering conditions	Consistent with NUREG-1801. Seabrook manages Loss of material (spalling, scaling) and cracking due to freeze-thaw with the Structures Monitoring Program, B.2.1.31. Further evaluation is provided in LRA Subsection 3.5.2.2.2.4, Item 2.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-36	Group 6: all accessible / inaccessible reinforced concrete	Cracking due to expansion / reaction with aggregates	Accessible areas: Inspection of Water Control Structures Associated with Nuclear Power Plants. None for inaccessible areas if concrete was constructed in accordance with the recommendations in ACI 201.2R77	Yes, if concrete was not constructed as stated for inaccessible areas	~~Consistent with NUREG-1801.~~ The concrete was constructed consistent with the recommendations of ACI 201.2R. Seabrook Station Operating Experience has indicated that Alkali-Silica Reaction (ASR) is present in site structures and will require monitoring through the Period of Extended Operation (PEO). The Structures Monitoring Program, B.2.1.31 and Alkali-Silica Reaction (ASR) Monitoring Program, B.2.1.31A, ***and Building Deformation Monitoring Program, B.2.1.31B,*** will manage degradation of accessible and inaccessible concrete components for cracking due to expansion / reaction with aggregates. Further evaluation is provided in LRA Subsection 3.5.2.2.2.4, Item 3.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-37	Group 6: exterior above and below grade reinforced concrete foundation interior slab	Increase in porosity and permeability, loss of strength due to leaching of calcium hydroxide	For accessible areas, Inspection of Water Control Structures Associated with Nuclear Power Plants. None for inaccessible areas if concrete was constructed in accordance with the recommendations in ACI 201.2R77	Yes, if concrete was not constructed as stated for inaccessible areas	Consistent with NUREG-1801. The Structures Monitoring Program, B.2.1.31, will manage degradation of accessible and inaccessible concrete components due to Increase in porosity and permeability, loss of strength due to leaching of calcium hydroxide Further evaluation is provided in LRA Subsection 3.5.2.2.2.4, Item 3.
3.5.1-38	Group 7, 8: Tank liners	Cracking due to stress corrosion cracking; loss of material due to pitting and crevice corrosion	Plant-specific	Yes, plant-specific	There are no components at Seabrook that are subject to this aging effect. Further evaluation is provided in LRA Subsection 3.5.2.2.2.5.
3.5.1-39	Support members; welds; bolted connections; support anchorage to building structure	Loss of material due to general and pitting corrosion	Structures Monitoring Program	Yes, if not within the scope of the applicant's Structures Monitoring Program	Consistent with NUREG-1801. The Structures Monitoring Program, B.2.1.31, will manage degradation for components for loss of material due to general and pitting corrosion Further evaluation is provided in LRA Subsection 3.5.2.2.2.6, Item1.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-40	Building concrete at locations of expansion and grouted anchors; grout pads for support base plates	Reduction in concrete anchor capacity due to local concrete degradation / service-induced cracking or other concrete aging mechanisms	Structures Monitoring Program	Yes, if not within the scope of the applicant's Structures Monitoring Program	Consistent with NUREG-1801. The Structures Monitoring Program, B.2.1.31, ***and Alkali-Silica Reaction (ASR) Monitoring Program, B.2.1.31A*** will manage degradation for the aging effects. Further evaluation is provided in LRA Subsection 3.5.2.2.2.6, Item 2.
3.5.1-41	Vibration isolation elements	Reduction or loss of isolation function / radiation hardening, temperature, humidity, sustained vibratory loading	Structures Monitoring Program	Yes, if not within the scope of the applicant's Structures Monitoring Program	This item is not applicable to Seabrook. Seabrook does not have any supports with vibration isolation elements which require AMR. Further evaluation is provided in LRA Subsection 3.5.2.2.2.6, Item 3.
3.5.1-42	Groups B1.1, B1.2, and B1.3: support members: anchor bolts, welds	Cumulative fatigue damage (CLB fatigue analysis exists)	TLAA evaluated in accordance with 10 CFR 54.21(c)	Yes, TLAA	This item is not applicable to Seabrook. Seabrook does not have any CLB fatigue analyses for support members, anchor bolts, or welds. Further evaluation is provided in LRA Subsection 3.5.2.2.2.7.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-43	Group 1-3, 5, 6: all masonry block walls	Cracking due to restraint shrinkage, creep, and aggressive environment	Masonry Wall Program	No	Seabrook manages cracking of masonry block walls and masonry units with the Structures Monitoring Program, B.2.1.31. In addition, masonry wall Fire Barriers, are managed with the Fire Protection Program, B.2.1.15.
3.5.1-44	Group 6 elastomer seals, gaskets, and moisture barriers	Loss of sealing due to deterioration of seals, gaskets, and moisture barriers (caulking, flashing, and other sealants)	Structures Monitoring Program	No	Consistent with NUREG-1801. The Structures Monitoring Program, B.2.1.31***., and Building Deformation Monitoring Program, B.2.1.31B.***
3.5.1-45	Group 6: exterior above and below ground concrete foundation; interior slab	Loss of material due to abrasion, cavitation	Inspection of Water Control Structures Associated with Nuclear Power Plants	No	Consistent with NUREG-1801. The Structures Monitoring Program, B.2.1.31, will confirm the absence of aging effects requiring management.
3.5.1-46	Group 5: fuel pool liners	Cracking due to stress corrosion cracking; loss of material due to pitting and crevice corrosion	Water Chemistry and Monitoring of spent fuel pool water level and level of fluid in the leak chase channel	No	The spent fuel pool is normally maintained less than 140°F, therefore Stress Corrosion Cracking is not an aging effect that requires management. Crevice and pitting corrosion are managed by the Water Chemistry Program, B.2.1.2.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-47	Group 6: all metal structural members	Loss of material due to general (steel only), pitting, and crevice corrosion	Inspection of Water Control Structures Associated with Nuclear Power Plants. If protective coatings are relied upon to manage aging, protective coating monitoring and maintenance provisions should be included	No	Consistent with NUREG-1801. The Structures Monitoring Program, B.2.1.31, will confirm the absence of aging effects requiring management.
3.5.1-48	Group 6: earthen water control structures – dams, embankments, reservoirs, channels, canals, and ponds	Loss of material, loss of form due to erosion, settlement, sedimentation, frost action, waves, currents, surface runoff, seepage	Inspection of Water Control Structures Associated with Nuclear Power Plants	No	Consistent with NUREG-1801. The Structures Monitoring Program, B.2.1.31 will confirm the absence of aging effects requiring management.
3.5.1-49	BWR only.				
3.5.1-50	Groups B2 and B4: galvanized steel, aluminum, stainless steel support members; welds; bolted connections; support anchorage to building structure	Loss of material due to pitting and crevice corrosion	Structures Monitoring Program	No	Consistent with NUREG-1801. The Structures Monitoring Program, B.2.1.31, will confirm the absence of aging effects requiring management.
3.5.1-51	Group B1.1: high strength low-alloy bolts	Cracking due to stress corrosion cracking; loss of material due to general corrosion	Bolting Integrity	No	There are no high strength bolts at Seabrook that are subject to this aging effect.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-52	Groups B2 and B4: sliding support bearings and sliding support surfaces	Loss of mechanical function due to corrosion, distortion, dirt, overload, fatigue due to vibratory and cyclic thermal loads	Structures Monitoring Program	No	There are no sliding support bearings of surfaces at Seabrook that are subject to this aging effect.
3.5.1-53	Groups B1.1, B1.2, and B1.3: support members: welds; bolted connections; support anchorage to building structure	Loss of material due to general and pitting corrosion	ISI (IWF)	No	Consistent with NUREG-1801. Seabrook manages the aging effect with the ASME Section XI, Subsection IWF Program, B.2.1.29.
3.5.1-54	Group B1.1, B1.2, and B1.3: Constant and variable load spring hangers; guides; stops	Loss of mechanical function due to corrosion, distortion, dirt, overload fatigue due to vibratory and cyclic thermal loads	ISI (IWF)	No	Consistent with NUREG-1801. Seabrook manages the aging effect with the ASME Section XI, Subsection IWF Program, B.2.1.29.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-55	Steel, galvanized steel, and aluminum support members; welds; bolted connections; support anchorage to building structure	Loss of material due to boric acid corrosion	Boric Acid Corrosion	No	Consistent with NUREG-1801. Seabrook manages the aging effect of loss of material due to boric acid corrosion in steel, galvanized steel, and aluminum for all types of support members (including safety and non-safety), welds, bolted connections and support anchorage to building structure with the Boric Acid Corrosion Program, B.2.1.4.
3.5.1-56	Groups B1.1, B1.2, and B1.3: Sliding surfaces	Loss of material function due to corrosion, distortion, dirt, overload, fatigue due to vibratory and cyclic thermal loads	ISI (IWF)	No	There are no sliding support bearings of surfaces at Seabrook that are subject to this aging effect.
3.5.1-57	Groups B1.1, B1.2, and B1.3: Vibration isolation elements	Reduction or loss of isolation function/radiation hardening, temperature, humidity, sustained vibratory loading	ISI (IWF)	No	This item is not applicable to Seabrook. The Seabrook AMR results do not include any supports with vibration isolation elements.

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-58	Galvanized steel and aluminum support members; welds; bolted connections; support anchorage to building structure exposed to air – indoor uncontrolled	~~None~~ ***Reduction in structural capacity directly/ indirectly due to the expansion of concrete***	~~None~~ **Structures Monitoring Program**	~~NA – no aging effect management or aging management program~~ ***Yes, if not within the scope of the applicant's Structures Monitoring Program***	Consistent with NUREG-1801. ***The Structures Monitoring Program, B.2.1.31, and Building Deformation Monitoring Program, B.2.1.31B will manage degradation for the aging effects.***
3.5.1-59	Stainless steel support members; welds; bolted connections; support anchorage to building structure	~~None~~ ***Reduction in structural capacity directly/ indirectly due to the expansion of concrete***	~~None~~ **Structures Monitoring Program**	~~NA – no aging effect management or aging management program~~ ***Yes, if not within the scope of the applicant's Structures Monitoring Program***	~~Consistent with NUREG-1801.~~ ***Plant Specific.*** ***The Structures Monitoring Program, B.2.1.31, and Building Deformation Monitoring Program, B.2.1.31B will manage degradation for the aging effects.***
3.5.1-60	***Group 6 elastomer seals, gaskets, and moisture barriers***	***Loss of bound, misalignment, distortion, and/or reduction in structural capacity due to expansion of concrete***	***Structures Monitoring Program***	***Yes, if not within the scope of the applicant's Structures Monitoring Program***	***Plant Specific*** ***The Structures Monitoring Program, B.2.1.31, and Building Deformation Monitoring Program, B.2.1.31B will manage degradation for the aging effects.***

Table 3.5.1

Summary Of Aging Management Evaluations for Structures and Structural Components

Item Number	Component	Aging Effect / Mechanism	Aging Management Program	Further Evaluation Recommended	Discussion
3.5.1-61	*Steel, galvanized steel, and aluminum support members; welds; bolted connections; support anchorage to building structure*	*Reduction/loss in structural capacity due to expansion of concrete*	*Structures Monitoring Program*	*Yes, if not within the scope of the applicant's Structures Monitoring Program*	*Plant Specific* *The Structures Monitoring Program, B.2.1.31, and Building Deformation Monitoring Program, B.2.1.31B will manage degradation for the aging effects.*

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Carbon Steel FIRE PUMPHOUSE Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
BSAS Carbon Steel FIRE PUMPHOUSE Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
BSAS Carbon Steel NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
BSAS Carbon Steel NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
BSAS Carbon Steel REVETMENT Exposed to Air Outdoor	Flood Barrier	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 503, 511
BSAS Carbon Steel REVETMENT Exposed to Air Outdoor	Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 503, 511

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Carbon Steel REVETMENT Exposed to Raw Water	Flood Barrier	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 509, 511
BSAS Carbon Steel REVETMENT Exposed to Raw Water	Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 509, 511
BSAS Carbon Steel REVETMENT Exposed to Raw Water	Flood Barrier	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 509, 511
BSAS Carbon Steel REVETMENT Exposed to Raw Water	Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 509, 511
BSAS Carbon Steel REVETMENT Exposed to Raw Water	Flood Barrier	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	H, 514
BSAS Carbon Steel REVETMENT Exposed to Raw Water	Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	H, 514

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Carbon Steel REVETMENT Exposed to Raw Water	Flood Barrier	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 509, 511
BSAS Carbon Steel REVETMENT Exposed to Raw Water	Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 509, 511
BSAS Carbon Steel STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
BSAS Carbon Steel STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
BSAS Concrete NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
BSAS Concrete NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
BSAS Concrete (Sump) FIRE PUMPHOUSE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
BSAS Concrete (Sump) FIRE PUMPHOUSE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program , Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517
BSAS Concrete (Sump) STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete (Sump) STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-1 (T-18)	3.5.1-34	E, 511
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A6-2 (T-17)	3.5.1-36	E, 511, 517
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-1 (T-18)	3.5.1-34	E, 511
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-1 (T-18)	3.5.1-34	E, 511
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A6-2 (T-17)	3.5.1-36	E, 511, 517, ***519***
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A6-2 (T-17)	3.5.1-36	E, 511, 517, ***519***
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-1

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Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A6-5 (T-15)	3.5.1-35	E, 511
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A6-5 (T-15)	3.5.1-35	E, 511
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A6-2 (T-17)	3.5.1-36	E, 511, 517, ***519***

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete DISCHARGE TRANSITION STRUCTURE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Increase In Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A6-6 (T-16)	3.5.1-37	E, 511
BSAS Concrete FIRE PUMPHOUSE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
BSAS Concrete FIRE PUMPHOUSE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, 517,E, ***519***
BSAS Concrete FIRE PUMPHOUSE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete FIRE PUMPHOUSE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete FIRE PUMPHOUSE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, 517,E, ***519***
BSAS Concrete FIRE PUMPHOUSE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete FIRE PUMPHOUSE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-1 (T-18)	3.5.1-34	E, 511
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A6-2 (T-17)	3.5.1-36	E, 511, 517, ***519***

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-1 (T-18)	3.5.1-34	E, 511
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-1 (T-18)	3.5.1-34	E, 511
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A6-2 (T-17)	3.5.1-36	E, 511, 517, ***519***
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A6-2 (T-17)	3.5.1-36	E, 511, 517, ***519***

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A6-5 (T-15)	3.5.1-35	A
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A6-5 (T-15)	3.5.1-35	A
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring***	III.A6-2 (T-17)	3.5.1-36	E, 511, 517, ***519***

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
					Program			
BSAS Concrete INTAKE TRANSITION STRUCTURE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Increase In Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A6-6 (T-16)	3.5.1-37	E, 511
BSAS Concrete Masonry Units FIRE PUMPHOUSE Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete Block	Air Indoor Uncontrolled (External)	Cracking	Fire Protection Program	III.A3-11 (T-12)	3.5.1-43	E, 513
BSAS Concrete Masonry Units FIRE PUMPHOUSE Exposed to Air Indoor Uncontrolled	Structural Support	Concrete Block	Air Indoor Uncontrolled (External)	Cracking	Structures Monitoring Program	III.A3-11 (T-12)	3.5.1-43	E, 511
BSAS Concrete Masonry Units NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Concrete Block	Air Indoor Uncontrolled (External)	Cracking	Structures Monitoring Program	III.A3-11 (T-12)	3.5.1-43	E, 511
BSAS Concrete Masonry Units NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Outdoor	Structural Support	Concrete Block	Air Outdoor (External)	Cracking	Structures Monitoring Program	III.A3-11 (T-12)	3.5.1-43	E, 511

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Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
BSAS Concrete NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517
BSAS Concrete NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete REVETMENT Below Grade	Flood Barrier	Concrete	Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
BSAS Concrete REVETMENT Below Grade	Support	Concrete	Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
BSAS Concrete REVETMENT Below Grade	Flood Barrier	Concrete	Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A6-2 (T-17)	3.5.1-36	E, 511, 517

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete REVETMENT Below Grade	Support	Concrete	Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A6-2 (T-17)	3.5.1-36	E, 511, 517
BSAS Concrete REVETMENT Below Grade	Flood Barrier	Concrete	Soil (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-3 (T-19)	3.5.1-34	E, 511
BSAS Concrete REVETMENT Below Grade	Support	Concrete	Soil (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-3 (T-19)	3.5.1-34	E, 511
BSAS Concrete REVETMENT Below Grade	Flood Barrier	Concrete	Soil (External)	Increase In Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A6-6 (T-16)	3.5.1-37	E, 509, 511
BSAS Concrete REVETMENT Below Grade	Support	Concrete	Soil (External)	Increase In Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A6-6 (T-16)	3.5.1-37	E, 509, 511
BSAS Concrete REVETMENT Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-1 (T-18)	3.5.1-34	E, 511

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete REVETMENT Exposed to Air Outdoor	Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A6-1 (T-18)	3.5.1-34	E, 511
BSAS Concrete REVETMENT Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A6-2 (T-17)	3.5.1-36	E, 511, 517
BSAS Concrete REVETMENT Exposed to Air Outdoor	Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A6-2 (T-17)	3.5.1-36	E, 511, 517
BSAS Concrete REVETMENT Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete REVETMENT Exposed to Air Outdoor	Support	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete REVETMENT Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A6-5 (T-15)	3.5.1-35	E, 511

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete REVETMENT Exposed to Air Outdoor	Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A6-5 (T-15)	3.5.1-35	E, 511
BSAS Concrete STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
BSAS Concrete STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517
BSAS Concrete STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
BSAS Concrete STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Concrete STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Increase In Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
BSAS Concrete STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
BSAS Rock (Riprap) REVETMENT Exposed to Air Outdoor	Flood Barrier	Rock	Air Outdoor (External)	Loss of Material, Loss of Form	Structures Monitoring Program	III.A6-9 (T-22)	3.5.1-48	E, 511
BSAS Rock (Riprap) REVETMENT Exposed to Air Outdoor	Support	Rock	Air Outdoor (External)	Loss of Material, Loss of Form	Structures Monitoring Program	III.A6-9 (T-22)	3.5.1-48	E, 511
BSAS Roofing For FIRE PUMPHOUSE Exposed to Air Outdoor	Structural Support	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program	III.A6-12 (TP-7)	3.5.1-44	H, 505
BSAS Roofing For NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Outdoor	Structural Support	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program	III.A6-12 (TP-7)	3.5.1-44	H, 505

Table 3.5.2-1

Buildings, Structures Within License Renewal

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Vol. 2 Item	Table 3.X-1 Item	Note
BSAS Roofing For STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Outdoor	Structural Support	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program	III.A6-12 (TP-7)	3.5.1-44	H, 505
BSAS Slide Bearing (Fluorogold®) NONESSENTIAL SWITCHGEAR BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Fluorogold®	Air Indoor Uncontrolled (External)	Fretting Or Lockup	Structures Monitoring Program	III.B4-2 (TP-1)	3.5.1-52	C
BSAS Stainless Steel STEAM GENERATOR BLOWDOWN RECOVERY BUILDING Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	None	No Aging Management Program Required	III.B5-5 (TP-5)	3.5.1-59	A

Table 3.5.2-1
Buildings, Structures Within License Renewal
Summary of Aging Management Evaluation

Standard Notes

Note	Description
A	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
B	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
C	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
D	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
E	Consistent with NUREG-1801 for material, environment and aging effect, but a different aging management program is credited or NUREG-1801 identifies a plant-specific aging management program.
F	Material not in NUREG-1801 for this component.
G	Environment not in NUREG-1801 for this component and material.
H	Aging effect not in NUREG-1801 for this component, material and environment combination.
I	Aging effect in NUREG-1801 for this component, material and environment combination is not applicable.
J	Neither the component nor the material and environment combination is evaluated in NUREG-1801.
501	Not used.
502	Aging effect includes "Fretting or Lockup" due to wear.
503	Crevice and pitting will be included along with loss of material-corrosion due to a saltwater atmosphere environment.
504	Fatigue analysis exists and TLAA applies.
505	Built-up roofing is not in GALL; III.A6-12 for elastomer-material is similar, aging effect is similar, environment is same, and AMP is Structures Monitoring.
506	Component is cementitious fire proofing/insulating material and will exhibit similar aging effects as concrete.
507	Spent Fuel Pool temperature < 60ºC (<140º F); water chemistry and temperature will be maintained by the Water Chemistry Program.
508	Cracking, loss of bond, and loss of material (spalling, scaling)/corrosion of embedded steel-is not listed in GALL III.A.6 as an aging effect for concrete in raw water. Seabrook manages this effect with Structures Monitoring Program.
509	For aging management purposes, buried, below grade, soil, and ground water/ raw & treated water environments are treated the same.
510	Reduction in concrete anchor capacity is an aging effect that is addressed in LRAM-SUPT.
511	At Seabrook Station, XI.S7 "RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants" and XI.S5 "Masonry Wall Program" are combined under XI.S6 "Structures Monitoring Program".
512	Raw water in lined & unlined concrete sumps.
513	Seabrook Station will age manage this condition through the Fire Protection Program.
514	Seabrook Station will age manage this condition through the Structures Monitoring Program.
515	Increased hardness, shrinkage, or loss of strength of elastomer seals due to weathering is addressed by GALL only for Fire Barrier seals. Seabrook Station will manage such aging effects for non-Fire Barrier elastomer seals with the Structures Monitoring Program.
516	Seabrook Station Structures Monitoring Program will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.
517	***After initial identification and determination of the presence of alkali-silica reactivity by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program.***

519 ***After initial identification of alkali-silica reaction (ASR) induced building deformation by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program and the Building Deformation Monitoring Program.***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CE-Carbon Steel Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CE-Carbon Steel Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
CNT-CE-Carbon Steel Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A, 503
CNT-CE-Fire Penetration Seal Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness and Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
CNT-CE-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-4 (T-05)	3.5.1-31	A
CNT-CE-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-4 (T-05)	3.5.1-31	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CE-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & **Building Deformation Monitoring Program**	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CE-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CE-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-5 (T-07)	3.5.1-31	A
CNT-CE-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-5 (T-07)	3.5.1-31	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CE-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A1-7 (T-02)	3.5.1-32	A, 509
CNT-CE-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A1-7 (T-02)	3.5.1-32	A, 509
CNT-CE-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CE-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E 517, ***519***
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Monitoring Program			
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CE-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Structural Pressure Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Deformation Monitoring Program			
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Structural Pressure Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Structural Pressure Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Structural Pressure Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CE-Reinforced Concrete Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CE-Stainless Steel Exposed to Air Outdoor	Structural Support	Stainless Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.B2-7 (TP-6)	3.5.1-50	A
CNT-CEVA-Built-Up Roofing Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	505, H, ***E, 520***
CNT-CEVA-Carbon Steel Door Exposed to Air with Borated Water Leakage	HELB Shielding	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Door Exposed to Air with Borated Water Leakage	Shelter, Protection	Steel	Air w/Borated Water Leakage (External	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Door Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Door Exposed to Air Indoor Uncontrolled	HELB Shielding	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CEVA-Carbon Steel Door Exposed to Air Indoor Uncontrolled	Shelter, Protection	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
CNT-CEVA-Carbon Steel Door Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
CNT-CEVA-Carbon Steel Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
CNT-CEVA-Carbon Steel Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CEVA-Carbon Steel Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A, 503
CNT-CEVA-Carbon Steel Fire Door Exposed to Air with Borated Water Leakage	Fire Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Fire Door Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Fire Door Exposed to Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
CNT-CEVA-Carbon Steel Fire Door Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
CNT-CEVA-Carbon Steel Fire Door Exposed to Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CEVA-Carbon Steel Fire Door Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A
CNT-CEVA-Carbon Steel Tech Spec Door Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Tech Spec Door Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CEVA-Carbon Steel Tech Spec Door Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
CNT-CEVA-Carbon Steel Tech Spec Door Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
CNT-CEVA-Elastomeric Pressure Seal and Caulk Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness and Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CEVA-Elastomers Exposed to Air Outdoor	Expansion / Separation	Elastomer	Air Outdoor (External)	Increased Hardness and Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
CNT-CEVA-Fire Penetration Seal Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness and Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
CNT-CEVA-Fire Penetration Seal Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness and Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
CNT-CEVA-Penetration Seal Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness and Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
CNT-CEVA-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-4 (T-05)	3.5.1-31	A
CNT-CEVA-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-4 (T-05)	3.5.1-31	A
CNT-CEVA-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Expansion and Cracking	Structures Monitoring	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring***			
CNT-CEVA-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CEVA-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-5 (T-07)	3.5.1-31	A
CNT-CEVA-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-5 (T-07)	3.5.1-31	A
CNT-CEVA-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A1-7 (T-02)	3.5.1-32	A, 509

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CEVA-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A1-7 (T-02)	3.5.1-32	A, 509
CNT-CEVA-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CEVA-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Deformation Monitoring Program			
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CEVA-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Structural Pressure Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Deformation Monitoring Program			
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, *517, **519***
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Structural Pressure Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Monitoring Program			
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Structural Pressure Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Flood Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CEVA-Reinforced Concrete Exposed to Air Outdoor	Structural Pressure Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
CNT-CEVA-Tech Spec Seal Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness and Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
CNT-CEVA-Tech Spec Seal Exposed to Air Outdoor	Structural Pressure Barrier	Elastomer	Air Outdoor (External)	Increased Hardness and Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
CNT-CEVA-Thermal Insulation Aluminum Jacketing in Air with Borated Water Leakage	Structural Support	Aluminum	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-6 (TP-3)	3.5.1-55	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CI-Carbon Steel Door Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (TP-25)	3.5.1-55	A
CNT-CI-Carbon Steel Door Exposed to Air Indoor Uncontrolled	Shelter, Protection	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A4-5 (T-11)	3.5.1-25	A
CNT-CI-Carbon Steel Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (TP-25)	3.5.1-55	A
CNT-CI-Carbon Steel Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A4-5 (T-11)	3.5.1-25	A
CNT-CI-Conduit Fire Wrap Exposed to Air Indoor Uncontrolled	Fire Barrier	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity directly/indirectly due to the expansion of concrete***	~~None~~ ***Building Deformation Monitoring Program***	III.B1.2-7 (TP-5)	3.5.1-59	A, ***E, 520***
CNT-CI-Conduit Fire Wrap Exposed to Air with Borated Water Leakage	Fire Barrier	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Deformation/reduction in structural capacity directly/indirectly due to the expansion of concrete***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***E, 520***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CI-Heat Shield Exposed to Air with Borated Water Leakage	Fire Barrier	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Deformation/reduction in structural capacity directly/indirectly due to the expansion of concrete***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***E, 520***
CNT-CI-Radiant Heat Shield Exposed to Air Indoor Uncontrolled	Fire Barrier	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity directly/indirectly due to the expansion of concrete***	~~None~~ ***Building Deformation Monitoring Program***	III.B1.2-7 (TP-5)	3.5.1-59	A, ***E, 520***
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A4-3 (T-04)	3.5.1-23	A
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Flood Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A4-3 (T-04)	3.5.1-23	A
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Missile Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A4-3 (T-04)	3.5.1-23	A
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A4-3 (T-04)	3.5.1-23	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A4-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Flood Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A4-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Missile Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A4-2 (T-03)	3.5.1-27	A, E, 517, ***519***
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-	III.A4-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***			
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A4-4 (T-06)	3.5.1-24	A
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Flood Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A4-4 (T-06)	3.5.1-24	A
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Missile Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A4-4 (T-06)	3.5.1-24	A
CNT-CI-Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A4-4 (T-06)	3.5.1-24	A
CNT-CI-Stainless Steel Exposed to Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation***	III.B1.29 (TP-4)	3.5.1-59	A, ***E, 520***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Monitoring Program			
CNT-CI-Stainless Steel Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B1.2-7 (TP-5)	3.5.1-59	A, ***E***, ***520***
CNT-CI-Stainless Steel Raw Water	Structural Support	Stainless Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	V.D1-15 (E-01)	3.2.1-7	E, 514
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Flood Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Missile Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Flood Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Missile Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Flood Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR)	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Monitoring Program ***Building Deformation Monitoring Program***			
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Missile Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A, E, 517, **519**

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring***	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program			
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Flood Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Missile Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Flood Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Missile Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shelter, Protection	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS- Reinforced Concrete Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS-Airlock Hatch Sight Glass Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Glass	Air Indoor Uncontrolled (External)	None	None	V.F-6 (EP-15)	3.2.1-52	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS-Carbon Steel Electrical Penetration Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CS-Carbon Steel Electrical Penetration Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CS-Carbon Steel Electrical Penetration Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-1 (C-12)	3.5.1-18	A
CNT-CS-Carbon Steel Electrical Penetration Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-1 (C-12)	3.5.1-18	A
CNT-CS-Carbon Steel Equipment Hatch Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CS-Carbon Steel Equipment Hatch Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS-Carbon Steel Equipment Hatch Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-6 (C-16)	3.5.1-18	A
CNT-CS-Carbon Steel Equipment Hatch Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-6 (C-16)	3.5.1-18	A
CNT-CS-Carbon Steel Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CS-Carbon Steel Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CS-Carbon Steel Exposed to Air with Borated Water Leakage for HVAC Penetrations	Structural Pressure Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CS-Carbon Steel Exposed to Air with Borated Water Leakage for HVAC Penetrations	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS-Carbon Steel Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A1-11 (C-09)	3.5.1-6	A
CNT-CS-Carbon Steel Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A1-11 (C-09)	3.5.1-6	A
CNT-CS-Carbon Steel Exposed to Air Indoor Uncontrolled For HVAC Penetrations	Structural Pressure Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-1 (C-12)	3.5.1-18	A
CNT-CS-Carbon Steel Exposed to Air Indoor Uncontrolled For HVAC Penetrations	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-1 (C-12)	3.5.1-18	A
CNT-CS-Carbon Steel Mechanical (Piping) Penetration Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
CNT-CS-Carbon Steel Mechanical (Piping) Penetration Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS-Carbon Steel Mechanical (Piping) Penetration Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-1 (C-12)	3.5.1-18	A
CNT-CS-Carbon Steel Mechanical (Piping) Penetration Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-1 (C-12)	3.5.1-18	A
CNT-CS-Carbon Steel Personnel Hatch Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B1.1-11 (TP-25)	3.5.1-55	A
CNT-CS-Carbon Steel Personnel Hatch Exposed to Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B1.1-11 (TP-25)	3.5.1-55	A
CNT-CS-Carbon Steel Personnel Hatch Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-6 (C-16)	3.5.1-18	A
CNT-CS-Carbon Steel Personnel Hatch Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWE Program	II.A3-6 (C-16)	3.5.1-18	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS-Elastomers Electrical Penetration Assembly Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Loss of Sealing, Leakage Through Containment	ASME Section XI, Subsection IWE Program, ***Structures Monitoring Program & Building Deformation Monitoring Program***	II.A3-7 (C-18)	3.5.1-16	A, ***E, 520***
CNT-CS-Mechanical (Piping) Penetration Stainless Steel Flued Head Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Mechanical (Piping) Penetration Stainless Steel Flued Head Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Mechanical (Piping) Penetration Stainless Steel Flued Head Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***
CNT-CS-Mechanical (Piping) Penetration Stainless Steel Flued Head Exposed to Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program			
CNT-CS-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-7 (C-05)	3.5.1-1	A
CNT-CS-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***
CNT-CS-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Expansion and Cracking	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring	II.A1-3 (C-04)	3.5.1-15	A, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program ***Building Deformation Monitoring Program***			
CNT-CS-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	ASME Section XI, Subsection IWL Program	II.A1-4 (C-03)	3.5.1-1	A, 516
CNT-CS-Reinforced Concrete Below Grade	Shelter, Protection	Concrete	Soil (External)	Increase in Porosity and Permeability, Loss of Strength	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-6 (C-02)	3.5.1-15	A, 509, 516, E, 517, ***519***
CNT-CS-Reinforced Concrete Below Grade	Structural Support	Concrete	Soil (External)	Increase in Porosity and Permeability, Loss of Strength	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring	II.A1-6 (C-02)	3.5.1-15	A, 509, 516, E, 517, ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program ***Building Deformation Monitoring Program***			
CNT-CS-Stainless Steel Electrical Penetration Assembly Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***
CNT-CS-Stainless Steel Electrical Penetration Assembly Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***
CNT-CS-Stainless Steel Electrical Penetration Assembly Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Stainless Steel Electrical Penetration Assembly Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS-Stainless Steel Exposed to Air with Borated Water Leakage	Shielding	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***
CNT-CS-Stainless Steel Exposed to Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***
CNT-CS-Stainless Steel Exposed to Air Indoor Uncontrolled	Shielding	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Stainless Steel Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Stainless Steel Fuel Transfer Tube Bellows Exposed to Air with Borated Water Leakage	Expansion / Separation	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS-Stainless Steel Fuel Transfer Tube Bellows Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***
CNT-CS-Stainless Steel Fuel Transfer Tube Bellows Exposed to Air Indoor Uncontrolled	Expansion / Separation	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Stainless Steel Fuel Transfer Tube Bellows Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Stainless Steel Fuel Transfer Tube Exposed to Air with Borated Water Leakage	Structural Pressure Barrier	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
CNT-CS-Stainless Steel Fuel Transfer Tube Exposed to Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***
CNT-CS-Stainless Steel Fuel Transfer Tube Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Stainless Steel Fuel Transfer Tube Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	Cracking	ASME Section XI, Subsection IWE Program	II.A3-2 (C-15)	3.5.1-10	A
CNT-CS-Thermal Insulation Stainless Steel Jacketing in Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage	~~None~~ ***Reduction in structural capacity directly. Indirectly due to expansion and cracking of concrete***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B2-9 (TP-4)	3.5.1-59	A, ***520***
CNT-CS- Reinforced Concrete Exposed to Raw Water	Missile Barrier	Concrete	Raw Water (External)	Cracking due to expansion/ reaction with aggregates	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program	II.A1-3 (C-04)	3.5.1-15	A E, 517 ***519***

Table 3.5.2-2

Containment Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Building Deformation Monitoring Program			
CNT-CS- Reinforced Concrete Exposed to Raw Water	Shelter, Protection	Concrete	Raw Water (External)	Cracking due to expansion/ reaction with aggregates	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A E, 517 ***E, 519***
CNT-CS- Reinforced Concrete Exposed to Raw Water	Structural Pressure Barrier	Concrete	Raw Water (External)	Cracking due to expansion/ reaction with aggregates	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	II.A1-3 (C-04)	3.5.1-15	A E, 517 ***E, 519***
CNT-CS- Reinforced Concrete Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking due to expansion/ reaction with aggregates	ASME Section XI, Subsection IWL Program Alkali-Silica Reaction (ASR)	II.A1-3 (C-04)	3.5.1-15	A E, 517

Table 3.5.2-2
Containment Structures
Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Monitoring Program ***Building Deformation Monitoring Program***			*E, 519*

Table 3.5.2-2
Containment Structures
Summary of Aging Management Evaluation

Standard Notes

Note	Description
A	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
B	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
C	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
D	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
E	Consistent with NUREG-1801 for material, environment and aging effect, but a different aging management program is credited or NUREG-1801 identifies a plant-specific aging management program.
F	Material not in NUREG-1801 for this component.
G	Environment not in NUREG-1801 for this component and material.
H	Aging effect not in NUREG-1801 for this component, material and environment combination.
I	Aging effect in NUREG-1801 for this component, material and environment combination is not applicable.
J	Neither the component nor the material and environment combination is evaluated in NUREG-1801.
501	Not used.
502	Aging effect includes "Fretting or Lockup" due to wear.
503	Crevice and pitting will be included along with loss of material-corrosion due to a saltwater atmosphere environment.

504 Fatigue analysis exists and TLAA applies.

505 Built-up roofing is not in GAL; III.A6-12 is for elastomer-material is similar, aging effect is similar, environment is same, and AMP is Structures Monitoring.

506 Component is cementitious fire proofing/insulating material and will exhibit similar aging effects as concrete.

507 Spent Fuel Pool temperature < 60°C (<140° F), water chemistry and temperature will be maintained by the Water Chemistry Program.

508 Cracking, loss of bond, and loss of material (Spalling, Scaling)/corrosion of embedded steel-is not listed in GALL III.A.6 as an aging effect for concrete in raw water. Seabrook manages this effect with Structures Monitoring Program.

509 For aging management purposes, buried, below grade, soil, and ground water/ raw & treated water environments are treated the same.

510 Reduction in concrete anchor capacity is an aging effect that is addressed in LRAM-SUPT.

511 At Seabrook Station, XI,.S7 "RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants" and XI,.S5 "Masonry Wall Program" are combined under XI,.S6 "Structures Monitoring Program".

512 Raw water in lined & unlined concrete sumps.

513 Seabrook Station will age manage this condition through the Fire Protection Program.

514 Seabrook Station will age manage this condition through the Structures Monitoring Program.

515 Increased hardness, shrinkage, or loss of strength of elastomer seals due to weathering is addressed by GALL only for Fire Barrier seals. Seabrook Station will manage such aging effects for non-Fire Barrier elastomer seals with the Structures Monitoring Program.

516 Seabrook Station Structures Monitoring Program will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.

517 ***After initial identification and determination of the presence of alkali-silica reactivity by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program.***

519 ***After initial identification of alkali-silica reaction (ASR) induced building deformation by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program and the Building Deformation Monitoring Program.***

520 ***After initial identification of alkali-silica reaction (ASR) induced building deformation affecting plant equipment and components by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Building Deformation Monitoring Program.***

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Aluminum STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Aluminum	Air Outdoor (External)	Crack Initiation and Growth	Structures Monitoring Program	III.B2-7 (Tp-6)	3.5.1-50	H, 514
MYS - Aluminum STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Aluminum	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.B2-7 (TP-6)	3.5.1-50	A
MYS - Carbon Steel CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
MYS - Carbon Steel CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
MYS - Carbon Steel Door ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
MYS - Carbon Steel Door ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Carbon Steel Door STATION BLACKOUT STRUCTURES Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
MYS - Carbon Steel Door STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
MYS - Carbon Steel ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
MYS - Carbon Steel ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
MYS - Carbon Steel NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
MYS - Carbon Steel NON SAFETY RELATED ELECTRICAL MANHOLES Exposed to Weather	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Carbon Steel SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
MYS - Carbon Steel SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Exposed to Weather	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
MYS - Carbon Steel SERVICE WATER ACCESS VAULT Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
MYS - Carbon Steel STATION BLACKOUT STRUCTURES Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
MYS - Carbon Steel STATION BLACKOUT STRUCTURES Exposed to Weather	Shelter, Protection	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
MYS - Carbon Steel STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program			
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Fire Protection Program	III.A3-10 (T-06)	3.5.1-24	E, 513

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Fire Protection Program	III.A3-10 (T-06)	3.5.1-24	E, 513
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program			
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete Masonry Unit (CMU) STATION BLACKOUT STRUCTURES Exposed to Weather	Fire Barrier	Concrete Block	Air Outdoor (External)	Cracking	Fire Protection Program	III.A3-11 (T-12)	3.5.1-43	E, 513
MYS - Concrete Masonry Unit (CMU) STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Concrete BLOCK	Air Outdoor (External)	Cracking	Fire Protection Program	III.A3-11 (T-12)	3.5.1-43	E, 513
MYS - Concrete Masonry Unit (CMU) STATION BLACKOUT STRUCTURES Exposed to Weather	Fire Barrier	Concrete Block	Air Outdoor (External)	Cracking	Structures Monitoring Program	III.A3-11 (T-12)	3.5.1-43	A, 511
MYS - Concrete Masonry Unit (CMU) STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Concrete BLOCK	Air Outdoor (External)	Cracking	Structures Monitoring Program	III.A3-11 (T-12)	3.5.1-43	A, 511
MYS - Concrete NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517
MYS - Concrete NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
MYS - Concrete NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517
MYS - Concrete NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
MYS - Concrete NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete NON SAFETY RELATED MANHOLES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete NON SAFETY RELATED MANHOLES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517
MYS - Concrete NON SAFETY RELATED MANHOLES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete NON SAFETY RELATED MANHOLES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
MYS - Concrete SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
MYS - Concrete SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
MYS - Concrete SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete SAFETY RELATED MANHOLES Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete SAFETY RELATED MANHOLES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete SAFETY RELATED MANHOLES Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program			
MYS - Concrete SAFETY RELATED MANHOLES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete SAFETY RELATED MANHOLES Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete SAFETY RELATED MANHOLES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete SAFETY RELATED MANHOLES Exposed to Weather	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete SAFETY RELATED MANHOLES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete SERVICE WATER ACCESS VAULT Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete SERVICE WATER ACCESS VAULT Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete SERVICE WATER ACCESS VAULT Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete SERVICE WATER ACCESS VAULT Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete SERVICE WATER ACCESS VAULT Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A,E 517, ***519***
MYS - Concrete SERVICE WATER ACCESS VAULT Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
MYS - Concrete SERVICE WATER ACCESS VAULT Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
MYS - Concrete SERVICE WATER ACCESS VAULT Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete SERVICE WATER ACCESS VAULT Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete SERVICE WATER ACCESS VAULT Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E 517, ***519***
MYS - Concrete STATION BLACKOUT STRUCTURES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
MYS - Concrete STATION BLACKOUT STRUCTURES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete STATION BLACKOUT STRUCTURES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete STATION BLACKOUT STRUCTURES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
MYS - Concrete STATION BLACKOUT STRUCTURES Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
MYS - Concrete STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
MYS - Concrete STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, ***517***
MYS - Concrete STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
MYS - Concrete STATION BLACKOUT STRUCTURES Exposed to Weather	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete Sump CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
MYS - Concrete Sump CONTROL ROOM MAKEUP AIR INTAKE STRUCTURE Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - Concrete Sump NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
MYS - Concrete Sump NON SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517
MYS - Concrete Sump SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Concrete Sump SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
MYS - EPDM Roof ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program, ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	A, 505, ***520***
MYS - EPDM Roof STATION BLACKOUT STRUCTURES Exposed to Weather	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program	III.A6-12 (TP-7)	3.5.1-44	A, 505,
MYS - Penetration Seal ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness and Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
MYS - Seismic Isolation Joint SAFETY RELATED ELECTRICAL DUCT BANKS/MANHOLES Air Indoor Uncontrolled	Expansion/ Separation	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness and Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
MYS - Stainless Steel ENCLOSURE FOR CONDENSATE STORAGE TANK Exposed to Weather	Structural Support	Stainless Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.B2-7 (TP-6)	3.5.1-50	A

Table 3.5.2-4

Miscellaneous Yard Structures

Summary of Aging Management Evaluation

Standard Notes

Note	Description
A	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
B	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
C	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
D	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
E	Consistent with NUREG-1801 for material, environment and aging effect, but a different aging management program is credited or NUREG-1801 identifies a plant-specific aging management program.
F	Material not in NUREG-1801 for this component.
G	Environment not in NUREG-1801 for this component and material.
H	Aging effect not in NUREG-1801 for this component, material and environment combination.
I	Aging effect in NUREG-1801 for this component, material and environment combination is not applicable.
J	Neither the component nor the material and environment combination is evaluated in NUREG-1801.
501	Not used.
502	Aging effect includes "Fretting or Lockup" due to wear.
503	Crevice and pitting will be included along with loss of material-corrosion due to a saltwater atmosphere environment.
504	Fatigue analysis exists and TLAA applies.
505	Built-up roofing is not in GALL; III.A6-12 is for elastomer-material is similar, aging effect is similar, environment is same, and AMP is Structures Monitoring.
506	Component is cementitious fire proofing/insulating material and will exhibit similar aging effects as concrete.
507	Spent Fuel Pool temperature < 60°C (<140° F); water chemistry and temperature will be maintained by the Water Chemistry Program.

508 Cracking, loss of bond, and loss of material (spalling, scaling)/corrosion of embedded steel-is not listed in GALL III.A.6 as an aging effect for concrete in raw water. Seabrook manages this effect with Structures Monitoring Program.

509 For aging management purposes, buried, below grade, soil, and ground water/ raw & treated water environments are treated the same.

510 Reduction in concrete anchor capacity is an aging effect that is addressed in LRAM-SUPT.

511 At Seabrook Station, XI.S7 "RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants" and XI.S5 "Masonry Wall Program" are combined under XI.S6 "Structures Monitoring Program".

512 Raw water in lined & unlined concrete sumps.

513 Seabrook Station will age manage this condition through the Fire Protection Program.

514 Seabrook Station will age manage this condition through the Structures Monitoring Program.

515 Increased hardness, shrinkage, or loss of strength of elastomer seals due to weathering is addressed by GALL only for Fire Barrier seals. Seabrook Station will manage such aging effects for non-Fire Barrier elastomer seals with the Structures Monitoring Program.

516 Seabrook Station Structures Monitoring Program will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.

517 After initial identification and determination of the presence of alkali-silica reactivity by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program.

519 After initial identification of alkali-silica reaction (ASR) induced building deformation by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program and the Building Deformation Monitoring Program.

520 After initial identification of alkali-silica reaction (ASR) induced building deformation affecting plant equipment and components by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Building Deformation Monitoring Program.

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - (Structural) Fire Proofing - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Non-Metallic Fire-Proofing	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	C, 506
PST - (Structural) Fire Proofing - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Non-Metallic Fire-Proofing	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	VII.G-29 (A-91)	3.3.1-67	C, 506
PST - (Structural) Fire Proofing - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Non-Metallic Fire-Proofing	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	C, 506
PST - (Structural) Fire Proofing - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Non-Metallic Fire-Proofing	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	VII.G-29 (A-91)	3.3.1-67	C, 506
PST - Built-Up Roofing -CDG- Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***
PST - Built-Up Roofing -EFP- Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring***	III.A6-12 (TP-7)	3.5.1-44	H, 505,***E, 520***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program			
PST - Built-Up Roofing -FSB-Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***
PST - Built-Up Roofing -PAB-Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***
PST - Built-Up Roofing -PCEW-Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***
PST - Built-Up Roofing -PHA-Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Built-Up Roofing -TFA-Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***
PST - Built-Up Roofing -WPB-Exposed to Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***
PST - Carbon Steel -CDG-Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -CDG-Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel -CEHMS-Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel Door -CDG-Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel Door -CDG-Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A1-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel Door -EFP-Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel Door -EFP-Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel Door -FSB-Exposed to Air Indoor Uncontrolled	HELB Shielding	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A5-12 (T-11)	3.5.1-25	A
PST - Carbon Steel Door -FSB-Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A5-12 (T-11)	3.5.1-25	A
PST - Carbon Steel Door -FSB-Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A5-12 (T-11)	3.5.1-25	A, 503

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel Door -FSB-in Air with Borated Water Leakage	HELB Shielding	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel Door -FSB-in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel Door -PAB-Exposed to Air Indoor Uncontrolled	HELB Shielding	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel Door -PAB-Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel Door -PAB-Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel Door -PAB-in Air with Borated Water Leakage	HELB Shielding	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel Door -PAB- in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel Door - PCEW- Exposed to Air Indoor Uncontrolled	HELB Shielding	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel Door - PCEW- Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel Door - PCEW- Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel Door -WPB- Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel Door -WPB- Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel Door -WPB- in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel -EFP- Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -EFP- Exposed to Air Outdoor	Shelter, Protection	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel -EFP- Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel Fire Door - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A
PST - Carbon Steel Fire Door - EFP- Exposed to Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel Fire Door - FSB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A
PST - Carbon Steel Fire Door - FSB- in Air with Borated Water Leakage	Fire Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel Fire Door - PAB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A
PST - Carbon Steel Fire Door - PAB- in Air with Borated Water Leakage	Fire Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel Fire Door - PCEW- Exposed to Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A
PST - Carbon Steel Fire Door - WPB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel Fire Door - WPB- in Air with Borated Water Leakage	Fire Barrier	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel -FSB- Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A5-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -FSB- in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel -PAB- Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -PAB- Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel -PAB- in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel -PCEW-Exposed to Air Indoor Uncontrolled	Flood Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -PCEW-Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -PCEW-Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel -PHA-Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -PHA-Exposed to Air Outdoor	Shelter, Protection	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel -PHA-Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel -TFA- Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -TFA- Exposed to Air Outdoor	Shelter, Protection	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel -TFA- Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel -TFA- in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Carbon Steel -WPB- Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
PST - Carbon Steel -WPB- Exposed to Air Outdoor	Shelter, Protection	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Carbon Steel -WPB- Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
PST - Carbon Steel -WPB- in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-11 (T-25)	3.5.1-55	A
PST - Conduit Fire Wrap –CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Aluminum	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-4 (TP-8)	3.5.1-58	A, ***E, 520***
PST - Conduit Fire Wrap –PAB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Aluminum	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-4 (TP-8)	3.5.1-58	A, ***E, 520***
PST - Conduit Fire Wrap –PAB- in Air with Borated Water Leakage	Fire Barrier	Aluminum	Air w/Borated Water Leakage (External))	Loss of Material	Boric Acid Program	III.B2-6 (TP-3)	3.5.1-55	A
PST - Conduit Fire Wrap –WPB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Aluminum	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-4 (TP-8)	3.5.1-58	A, ***E, 520***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Conduit Fire Wrap –WPB- in Air with Borated Water Leakage	Fire Barrier	Aluminum	Air w/Borated Water Leakage (External))	Loss of Material	Boric Acid Program	III.B2-6 (TP-3)	3.5.1-55	A
PST - Elastomers -CDG- Exposed to Air Indoor Uncontrolled	Control Bldg Habitability	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
PST - Elastomers -CDG- Exposed to Air Indoor Uncontrolled	Flood Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
PST - Elastomers -CDG- Exposed to Air Outdoor	Expansion/ Separation	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -CDG- Exposed to Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -EFP- Exposed to Air Outdoor	Expansion/ Separation	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Elastomers -EFP- Exposed to Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -FSB- Exposed to Air Outdoor	Expansion/ Separation	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -FSB- Exposed to Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -PAB- Exposed to Air Outdoor	Expansion/ Separation	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -PAB- Exposed to Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -PCEW- Exposed to Air Outdoor	Expansion/ Separation	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Elastomers -PCEW- Exposed to Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -PHA- Exposed to Air Outdoor	Expansion/ Separation	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -PHA- Exposed to Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -TFA- Exposed to Air Outdoor	Expansion/ Separation	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -TFA- Exposed to Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Elastomers -WPB- Exposed to Air Outdoor	Expansion/ Separation	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Elastomers -WPB- Exposed to Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Fire Penetration Seal - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
PST - Fire Penetration Seal - EFP- Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
PST - Fire Penetration Seal - FSB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
PST - Fire Penetration Seal - PAB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
PST - Fire Penetration Seal - PCEW- Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Fire Penetration Seal - WPB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
PST - Lubrite® Plate -PAB- Exposed to Air Indoor Uncontrolled	Structural Support	Lubrite®	Air Indoor Uncontrolled (External)	Loss of Mechanical Function	Structures Monitoring Program	III.B2-2 (TP-1)	3.5.1-52	A
PST - Reinforced Concrete - CDG- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - CDG- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - CDG- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - CDG- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A E, 517, ***519***
PST - Reinforced Concrete - CDG- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - CDG- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - CDG- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A1-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - CDG- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A1-7 (T-02)	3.5.1-32	A, 509

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Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - CDG- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - CDG- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

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Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - CDG- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - CDG- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - CDG- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - CDG- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***

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Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - CDG- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - CDG- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - CDG- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - CDG- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - CDG- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A1-6 (T-01)	3.5.1-26	A

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Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - CDG- Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A1-4 (T-05)	3.5.1-31	A, 512
PST - Reinforced Concrete - CDG- Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A1-2 (T-03)	3.5.1-27	A, 512, E, 517, ***519***
PST - Reinforced Concrete - CEHMS- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - CEHMS- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

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Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - CEHMS- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - CEHMS- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - CEHMS- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - CEHMS- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - CEHMS- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

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Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - CEHMS- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - CEHMS- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - EFP- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - EFP- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - EFP- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

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Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - EFP- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - EFP- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - EFP- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - EFP- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - EFP- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509

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Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - EFP- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - EFP- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

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Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

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Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - EFP- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - EFP- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - EFP- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - EFP- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

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Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - EFP- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - EFP- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - EFP- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - EFP- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - EFP- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A

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Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - EFP- Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 512
PST - Reinforced Concrete - EFP- Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, 512, E, 517, ***519***
PST - Reinforced Concrete - FSB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - FSB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - FSB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program	III.A5-2 (T-03)	3.5.1-27	A, E, 517, ***519***

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Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Building Deformation Monitoring Program			
PST - Reinforced Concrete - FSB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A5-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - FSB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - FSB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - FSB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A5-7 (T-02)	3.5.1-31	A, 509

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Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - FSB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A5-7 (T-02)	3.5.1-31	A, 509
PST - Reinforced Concrete - FSB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A5-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - FSB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A5-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A5-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A5-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A5-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - FSB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - FSB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - FSB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - FSB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building***	III.A5-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Deformation Monitoring Program			
PST - Reinforced Concrete - FSB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A5-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - FSB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - FSB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - FSB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A5-6 (T-01)	3.5.1-26	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - FSB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A5-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - FSB- Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A5-4 (T-05)	3.5.1-31	A, 512
PST - Reinforced Concrete - FSB- Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A5-2 (T-03)	3.5.1-27	A, 512, E, 517, ***519***
PST - Reinforced Concrete - PAB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - PAB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PAB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PAB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PAB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - PAB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PAB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - PAB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - PAB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PAB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PAB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PAB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PAB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PAB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PAB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PAB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PAB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PAB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PAB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PCEW- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - PCEW- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - PCEW- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PCEW- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PCEW- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - PCEW- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - PCEW- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - PCEW- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PCEW- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PCEW- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	HELB Shielding	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PCEW- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PCEW- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PCEW- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PCEW- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PCEW- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PCEW- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PCEW- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PCEW- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PCEW- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PCEW- Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 512
PST - Reinforced Concrete - PCEW- Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, 512, E, 517, ***519***
PST - Reinforced Concrete - PHA- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - PHA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - PHA- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Building Deformation Monitoring Program			
PST - Reinforced Concrete - PHA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PHA- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - PHA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - PHA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PHA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - PHA- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PHA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Building Deformation Monitoring Program			
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PHA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PHA- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - PHA- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - PHA- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - PHA- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - TFA- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - TFA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - TFA- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - TFA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - TFA- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - TFA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - TFA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - TFA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - TFA- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - TFA- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Deformation Monitoring Program			
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - TFA- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - TFA- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - TFA- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - TFA- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program	III.A3-2 (T-03)	3.5.1-27	A
PST - Reinforced Concrete - TFA- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Deformation Monitoring Program			
PST - Reinforced Concrete - TFA- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - TFA- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - TFA- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - TFA- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - WPB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - WPB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
PST - Reinforced Concrete - WPB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - WPB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - WPB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - WPB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
PST - Reinforced Concrete - WPB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - WPB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
PST - Reinforced Concrete - WPB- Below Grade	Flood Barrier	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - WPB- Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Shielding	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - WPB- Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - WPB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - WPB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
PST - Reinforced Concrete - WPB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - WPB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program Alkali-Silica Reaction (ASR) Monitoring Program ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
PST - Reinforced Concrete - WPB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Reinforced Concrete - WPB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
PST - Reinforced Concrete - WPB- Exposed to Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Reinforced Concrete - WPB- Exposed to Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
PST - Stainless Steel -CDG- Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-8 (TP-5)	3.5.1-59	C, ***E, 520***
PST - Stainless Steel -CDG- Exposed to Raw Water	Shelter, Protection	Stainless Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	VII.H2-18 (Ap-55)	3.3.1-80	E, 512
PST - Stainless Steel -CEHMS- Exposed to Air Outdoor	Structural Support	Stainless Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.B2-7 (TP-6)	3.5.1-50	C

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Stainless Steel -FSB- Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-8 (TP-5)	3.5.1-59	C, ***E, 520***
PST - Stainless Steel -FSB- Exposed to Raw Water	Shelter, Protection	Stainless Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	VII.H2-18 (Ap-55)	3.3.1-80	E, 512
PST - Stainless Steel -FSB- Exposed to Treated Borated Water	Shelter, Protection	Stainless Steel	Treated Borated Water (External)	Cracking	Water Chemistry Program	III.A5-13 (T-14)	3.5.1-46	A, 507,518
PST - Stainless Steel -FSB- Exposed to Treated Borated Water	Shelter, Protection	Stainless Steel	Treated Borated Water (External)	Loss of Material	Water Chemistry Program	III.A5-13 (T-14)	3.5.1-46	A,518
PST - Stainless Steel -FSB- Fuel Transfer Tube in Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-9 (TP-5)	3.5.1-59	A, ***E, 520***
PST - Stainless Steel -FSB- Fuel Transfer Tube in Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-8 (TP-5)	3.5.1-59	C, ***E, 520***

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Stainless Steel -FSB- in Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-9 (TP-5)	3.5.1-59	A, ***E, 520***
PST - Stainless Steel -PAB- Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-8 (TP-5)	3.5.1-59	C, ***E, 520***
PST - Stainless Steel -PAB- Exposed to Raw Water	Shelter, Protection	Stainless Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	VII.H2-18 (Ap-55)	3.3.1-80	E, 512
PST - Stainless Steel -PAB- in Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-9 (TP-5)	3.5.1-59	A, ***E, 520***
PST - Stainless Steel -WPB- Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-8 (TP-5)	3.5.1-59	C, ***E, 520***
PST - Stainless Steel -WPB- Exposed to Raw Water	Shelter, Protection	Stainless Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	VII.H2-18 (Ap-55)	3.3.1-80	E, 512

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Stainless Steel -WPB- in Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-9 (TP-5)	3.5.1-59	A, ***E, 520***
PST - Tech Spec CEVA Seal - EFP- Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
PST - Tech Spec CEVA Seal - EFP- Exposed to Air Outdoor	Structural Pressure Barrier	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Tech Spec CEVA Seal - FSB- Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
PST - Tech Spec CEVA Seal - PAB- Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
PST - Tech Spec CEVA Seal - PAB- Exposed to Air Outdoor	Structural Pressure Barrier	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST - Tech Spec CEVA Seal - PCEW- Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
PST - Tech Spec CEVA Seal - PCEW- Exposed to Air Outdoor	Structural Pressure Barrier	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
PST - Tech Spec Control Room Seal -CDG- Exposed to Air Indoor Uncontrolled	Control Bldg Habitability	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
PST - Tech Spec Fuel Storage Building Seal -FSB- Exposed to Air Indoor Uncontrolled	Structural Pressure Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 515
PST – Thermal Insulation Aluminum Jacketing -FSB- in Air with Borated Water Leakage	Structural Support	Aluminum	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-6 (TP-3)	3.5.1-55	A
PST – Thermal Insulation Aluminum Jacketing -PAB- in Air with Borated Water Leakage	Structural Support	Aluminum	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-6 (TP-3)	3.5.1-55	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
PST – Thermal Insulation Aluminum Jacketing -TFA- in Air with Borated Water Leakage	Structural Support	Aluminum	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-6 (TP-3)	3.5.1-55	A
PST – Thermal Insulation Aluminum Jacketing -WPB- in Air with Borated Water Leakage	Structural Support	Aluminum	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Program	III.B2-6 (TP-3)	3.5.1-55	A

Table 3.5.2-5

Primary Structures

Summary of Aging Management Evaluation

Standard Notes

Note	Description
A	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
B	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
C	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
D	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
E	Consistent with NUREG-1801 for material, environment and aging effect, but a different aging management program is credited or NUREG-1801 identifies a plant-specific aging management program.
F	Material not in NUREG-1801 for this component.
G	Environment not in NUREG-1801 for this component and material.
H	Aging effect not in NUREG-1801 for this component, material and environment combination.
I	Aging effect in NUREG-1801 for this component, material and environment combination is not applicable.
J	Neither the component nor the material and environment combination is evaluated in NUREG-1801.
501	Not used.
502	Aging effect includes "Fretting or Lockup" due to wear.
503	Crevice and pitting will be included along with loss of material-corrosion due to a saltwater atmosphere environment.
504	Fatigue analysis exists and TLAA applies.
505	Built-up roofing is not in GALL; III.A6-12 is for elastomer-material is similar, aging effect is similar, environment is same, and AMP is Structures Monitoring.
506	Component is cementitious fire proofing/insulating material and will exhibit similar aging effects as concrete.
507	Spent Fuel Pool temperature < 60°C (<140° F); water chemistry and temperature will be maintained by the Water Chemistry Program.
508	Cracking, loss of bond, and loss of material (spalling, scaling)/corrosion of embedded steel-is not listed in GALL III.A.6 as an aging effect for concrete in raw water. Seabrook manages this effect with Structures Monitoring Program.
509	For aging management purposes, buried, below grade, soil, and ground water/ raw & treated water environments are treated the same.
510	Reduction in concrete anchor capacity is an aging effect that is addressed in LRAM-SUPT.
511	At Seabrook Station, XI.S7 "RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants" and XI.S5 "Masonry Wall Program" are combined under XI.S6 "Structures Monitoring Program".
512	Raw water in lined & unlined concrete sumps.
513	Seabrook Station will age manage this condition through the Fire Protection Program.
514	Seabrook Station will age manage this condition through the Structures Monitoring Program.
515	Increased hardness, shrinkage, or loss of strength of elastomer seals due to weathering is addressed by GALL only for Fire Barrier seals. Seabrook Station will manage such aging effects for non-Fire Barrier elastomer seals with the Structures Monitoring Program.

516 Seabrook Station Structures Monitoring Program will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.

517 After initial identification and determination of the presence of alkali-silica reactivity by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program.

518 For this component, material, environment, and aging effect, aging management by the Water Chemistry Program is augmented by monitoring of spent fuel pool water level and leakage from the leak chase channels.

519 After initial identification of alkali-silica reaction (ASR) induced building deformation by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program and the Building Deformation Monitoring Program.

520 After initial identification of alkali-silica reaction (ASR) induced building deformation affecting plant equipment and components by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Building Deformation Monitoring Program.

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
ASME Class 1 - Constant & Variable Load Spring Hangers - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Mechanical Function	ASME Section XI, Subsection IWF Program	III.B1.1-2 (T-28)	3.5.1-54	A
ASME Class 1 - Constant & Variable Load Spring Hangers – in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B1.1-14 (T-25)	3.5.1-55	A
ASME Class 1 - Lubrite® - Exposed to Air Indoor Uncontrolled	Structural Support	Lubrite®	Air Indoor Uncontrolled (External)	Loss of Mechanical Function	ASME Section XI,, Subsection IWF Program	III.B1.1-5 (T-32)	3.5.1-56	A
ASME Class 1 - Pipe Supports - Concrete -Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B1.1-1 (T-29)	3.5.1-40	A, ***E, 517***
ASME Class 1 - Stainless Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B1.1-9 (TP-5)	3.5.1-59	A, ***E, 520***

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
ASME Class 1 - Stainless Steel - in Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	~~None~~ ***Deformation/ reduction in structural capacity***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B1.1-10 (TP-4)	3.5.1-59	A, ***E, 520***
ASME Class 1 Support - Carbon Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWF Program	III.B1.1-13 (T-24)	3.5.1-53	A
ASME Class 1 Support - Carbon Steel – in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B1.1-14 (T-25)	3.5.1-55	A
ASME Class 2/3 - Constant and Variable Load Spring Hangers - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Mechanical Function	ASME Section XI, Subsection IWF Program	III.B1.2-2 (T-28)	3.5.1-54	A
ASME Class 2/3 - Constant & Variable Load Spring Hangers – in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B1.2-11 (T-25)	3.5.1-55	A
ASME Class 2/3 - Lubrite® - Exposed to Air Indoor Uncontrolled	Structural Support	Lubrite®	Air Indoor Uncontrolled (External)	Loss of Mechanical Function	ASME Section XI, Subsection IWF Program	III.B1.2-3 (T-32)	3.5.1-56	A

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
ASME Class 2/3 Pipe Supports - Concrete - Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B1.2-1 (T-29)	3.5.1-40	A, ***E, 517***
ASME Class 2/3 - Stainless Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/ reduction in structural capacity***	~~None~~ ***Structures Monitoring Program, Building Deformation Monitoring Program***	III.B1.2-7 (TP-5)	3.5.1-59	A, ***E, 520***
ASME Class 2/3 - Stainless Steel - in Air with Borated Water Leakage	Structural Support	Stainless Steel	Air w/Borated Water Leakage (External)	None	Boric Acid Corrosion Program	III.B1.2-11 (TP-25)	3.5.1-55	A
ASME Class 2/3 - Stainless Steel - in Raw Water	Structural Support	Stainless Steel	Raw Water (External)	Loss of Material	ASME Section XI, Subsection IWF Program	III.B1.1-11 (TP-10)	3.5.1-49	H, 509, 514
ASME Class 2/3 - Stainless Steel - in Raw Water	Structural Support	Stainless Steel	Raw Water (External)	Loss of Material	ASME Section XI, Subsection IWF Program	III.B1.1-11 (TP-10)	3.5.1-49	A, 509

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
ASME Class 2/3 - Stainless Steel - in Treated Water	Structural Support	Stainless Steel	Treated Borated Water (External)	Loss of Material	Water Chemistry Program	III.A5-13 (T-14)	3.5.1-46	A
ASME Class 2/3 Support - Carbon Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	ASME Section XI, Subsection IWF Program	III.B1.2-10 (T-24)	3.5.1-53	A
ASME Class 2/3 Support Carbon Steel - in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B1.2-11 (TP-25)	3.5.1-55	A
Boral Poison Sheet in Spent Fuel Racks - in Treated Water	Absorb Neutrons	Boral	Treated Borated Water (External)	Reduction of Neutron Absorbing Capacity and Loss of Material	Boral Monitoring Program	VII.A2-5 (A-88)	3.3.1-13	A
Emergency Diesel Generator (EDG) - Concrete - Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B4-1 (T-29)	3.5.1-40	A, ***E, 517***
Emergency Diesel Generator (EDG) - Lubrite® - Exposed to Air Indoor Uncontrolled	Structural Support	Lubrite®	Air Indoor Uncontrolled (External)	Loss of Mechanical Function	Structures Monitoring Program	III.B4-2 (TP-1)	3.5.1-52	A

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
Emergency Diesel Generator (EDG) Support - Carbon Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.B4-10 (T-30)	3.5.1-39	A
HVAC System Components - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B4-1 (T-29)	3.5.1-40	A, ***E, 517***
HVAC System Components - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Expansion and cracking	***Structures Monitoring Program, Alkali Silica Reaction (ASR) Monitoring Program & Building Deformation Monitoring Program***	III.B4-1 (T-29)	3.5.1-27	A, ***E, 517, 519***
HVAC System Components - Exposed to Air Outdoor	***Structural Support***	***Steel***	***Air Outdoor (External)***	***Deformation/reduction in structural capacity***	***Building Deformation Monitoring Program***	***III.B4-1 (T-29)***	***3.5.1-61***	***A, E, 520***

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
HVAC System Components - Exposed to Air Indoor	***Structural Support***	***Steel***	***Air Indoor (External)***	***Deformation/reduction in structural integrity***	***Building Deformation Monitoring Program***	***III.B4-1 (T-29)***	***3.5.1-61***	***A, E, 519***
New Fuel Storage Racks Support - Carbon Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	VII.A1-1 (A-94)	3.3.1-86	A
New Fuel Storage Racks Support - Carbon Steel – in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B5-8 (T-25)	3.5.1-55	A
Non-ASME - Constant and Variable Load Spring Hangers - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Mechanical Function	Structures Monitoring Program	III.B1.2-2 (T-28)	3.5.1-54	H, 514
Non-ASME - Constant and Variable Load Spring Hangers – in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B1.2-11 (T-25)	3.5.1-55	A

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
Non-ASME Piping & Components - Concrete - Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B2-1 (T-29)	3.5.1-40	A, ***E, 517***
Non-ASME Piping & Components - Concrete - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B2-1 (T-29)	3.5.1-40	A, ***E, 517***
Non-ASME Piping & Components - Lubrite® - Exposed to Air Indoor Uncontrolled	Structural Support	Lubrite®	Air Indoor Uncontrolled (External)	Loss of Mechanical Function	Structures Monitoring Program	III.B2-2 (TP-1)	3.5.1-52	A
Non-ASME - Stainless Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural integrity***	~~None~~ ***Structures Monitoring Program, & Building Deformation Monitoring Program***	III.B1.2-8 (TP-4)	3.5.1-59	A, ***E, 520***

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
Non-ASME Support - Carbon Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.B2-10 (T-30)	3.5.1-39	A
Non-ASME Support - Carbon Steel - Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.B2-10 (T-30)	3.5.1-39	A
Non-ASME Support - Carbon Steel – in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B2-11 (T-25)	3.5.1-55	A
Panels - Aluminum – Exposed to Air Indoor Uncontrolled	Structural Support	Aluminum	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Structures Monitoring Program & Building Deformation Monitoring Program***	III.B3-2 (TP-8)	3.5.1-58	A, ***E, 520***
Panels - Aluminum – in Air with Borated Water Leakage	Structural Support	Aluminum	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B3-4 (T-3)	3.5.1-55	A
Panels - Carbon Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.B3-7 (T-30)	3.5.1-39	A

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
Panels - Carbon Steel -Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.B3-7 (T-30)	3.5.1-39	A
Panels - Carbon Steel - in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B3-8 (T-25)	3.5.1-55	A
Panels - Concrete - Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B3-1 (T-29)	3.5.1-40	A, ***E, 517***
Panels - Concrete - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B3-1 (T-29)	3.5.1-40	A, ***E, 517***

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
Platform - Concrete - Exposed to Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B5-1 (T-29)	3.5.1-40	A, ***E, 517***
Platform - Concrete - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Reduction in Concrete Anchor Capacity	Structures Monitoring Program, ***Alkali-Silica Reaction (ASR) Monitoring Program***	III.B5-1 (T-29)	3.5.1-40	A, ***E, 517***
Platform Supports - Carbon Steel - Exposed to Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.B5-7 (T-30)	3.5.1-39	A
Platform Supports - Carbon Steel - Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.B5-7 (T-30)	3.5.1-39	A, 503
Platform Supports - Carbon Steel - Exposed to Air Indoor Uncontrolled	***Structural Support***	***Steel***	***Air Indoor Uncontrolled (External)***	***Deformation/reduction in structural capacity***	***Structures Monitoring Program, BD***	***III.B5-7 (T-30)***	***3.5.1-59***	***E, 520***

Table 3.5.2-6

Supports

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
Platform Supports - Carbon Steel - Exposed to Air Outdoor	***Structural Support***	***Steel***	***Air Outdoor (External)***	***Deformation/reduction in structural capacity***	***Structures Monitoring Program, BD***	***III.B5-7 (T-30)***	***3.5.1-61***	***E, 520***
Platform Supports - Carbon Steel – in Air with Borated Water Leakage	Structural Support	Steel	Air w/Borated Water Leakage (External)	Loss of Material	Boric Acid Corrosion Program	III.B5-8 (T-25)	3.5.1-55	A
Spent Fuel Rack Support - Stainless Steel - in Treated Water	Structural Support	Stainless Steel	Treated Borated Water (External)	Cracking	Water Chemistry Program	VII.A2-7 (A-97)	3.3.1-90	A, 507
Thermal Insulation Aluminum Jacketing - Exposed to Air Indoor Uncontrolled	Structural Support	Aluminum	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-4 (TP-8)	3.5.1-58	A, ***E, 520***
Thermal Insulation Stainless Steel Jacketing - Exposed to Air Indoor Uncontrolled	Structural Support	Stainless Steel	Air Indoor Uncontrolled (External)	~~None~~ ***Deformation/reduction in structural capacity***	~~None~~ ***Building Deformation Monitoring Program***	III.B2-8 (TP-4)	3.5.1-59	A, ***E, 520***

Table 3.5.2-6
Supports
Summary of Aging Management Evaluation

Standard Notes

Note	Description
A	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
B	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
C	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
D	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
E	Consistent with NUREG-1801 for material, environment and aging effect, but a different aging management program is credited or NUREG-1801 identifies a plant-specific aging management program.
F	Material not in NUREG-1801 for this component.
G	Environment not in NUREG-1801 for this component and material.
H	Aging effect not in NUREG-1801 for this component, material and environment combination.
I	Aging effect in NUREG-1801 for this component, material and environment combination is not applicable.
J	Neither the component nor the material and environment combination is evaluated in NUREG-1801.
501	Not used.
502	Aging effect includes "Fretting or Lockup" due to wear.
503	Crevice and pitting will be included along with loss of material-corrosion due to a saltwater atmosphere environment.
504	Fatigue analysis exists and TLAA applies.
505	Built-up roofing is not in GALL; III.A6-12 is for elastomer-material is similar, aging effect is similar, environment is same, and AMP is Structures Monitoring.
506	Component is cementitious fire proofing/insulating material and will exhibit similar aging effects as concrete.
507	Spent Fuel Pool temperature < 60ºC (<140º F); water chemistry and temperature will be maintained by the Water Chemistry Program.
508	Cracking, loss of bond, and loss of material (spalling, scaling)/corrosion of embedded steel-is not listed in GALL III.A.6 as an aging effect for concrete in raw water. Seabrook manages this effect with Structures Monitoring Program.
509	For aging management purposes, buried, below grade, soil, and ground water/ raw & treated water environments are treated the same.
510	Reduction in concrete anchor capacity is an aging effect that is addressed in LRAM-SUPT.
511	At Seabrook Station, XI,.S7 "RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants" and XI,.S5 "Masonry Wall Program" are combined under XI,.S6 "Structures Monitoring Program".
512	Raw water in lined & unlined concrete sumps.

513 Seabrook Station will age manage this condition through the Fire Protection Program.

514 Seabrook Station will age manage this condition through the Structures Monitoring Program.

515 Increased hardness, shrinkage, or loss of strength of elastomer seals due to weathering is addressed by GALL only for Fire Barrier seals. Seabrook Station will manage such aging effects for non-Fire Barrier elastomer seals with the Structures Monitoring Program.

516 Seabrook Station Structures Monitoring Program will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.

517 After initial identification and determination of the presence of alkali-silica reactivity by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program.

519 After initial identification of alkali-silica reaction (ASR) induced building deformation by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program and the Building Deformation Monitoring Program.

520 After initial identification of alkali-silica reaction (ASR) induced building deformation affecting plant equipment and components by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Building Deformation Monitoring Program.

Table 3.5.2-7

Turbine Building

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
TUR - Aluminum - in Air Indoor Uncontrolled	Structural Support	Aluminum	Air Indoor Uncontrolled (External)	None	None	III.B3-2	3.5.1-58	A
TUR - Built-Up Roofing - Exposed to Air Outdoor	Structural Support	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program,	III .A6-12 (TP-7)	3.5.1-44	H, 505
TUR - Carbon Steel - Exposed to Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III .A3-12 (T-11)	3.5.1-25	A, 503
TUR - Carbon Steel - in Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III .A3-12 (T-11)	3.5.1-25	A
TUR - Concrete (Sump) - Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III .A3-4 (T-05)	3.5.1-31	A, 509

Table 3.5.2-7

Turbine Building

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
TUR - Concrete (Sump) - Exposed to Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program	III .A3-2 (T-03)	3.5.1-27	A, 517
TUR - Concrete - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III .A3-9 (T-04)	3.5.1-23	A
TUR - Concrete - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring	III .A3-2 (T-03)	3.5.1-27	A, 517
TUR - Concrete - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III .A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-7

Turbine Building

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
TUR - Concrete - Exposed to Air Outdoor	Structural Support	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III .A3-6 (T-01)	3.5.1-26	A
TUR - Concrete - in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III .A3-9 (T-04)	3.5.1-23	A
TUR - Concrete - in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring	III .A3-2 (T-03)	3.5.1-27	A, 517
TUR - Concrete - in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III .A3-10 (T-06)	3.5.1-24	A
TUR - Concrete Masonry Units - in Air Indoor Uncontrolled	Structural Support	Concrete Block	Air Indoor Uncontrolled (External)	Cracking	Structures Monitoring Program	III .A3-11 (T-12)	3.5.1-43	A

Table 3.5.2-7

Turbine Building

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
TUR - Fire Penetration Seal - in Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
TUR - Fire Penetration Seal - in Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-1 (A-19)	3.3.1-61	E, 514
TUR - Penetration Seal - Exposed to Air Outdoor	Structural Support	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515

Table 3.5.2-7
Turbine Building
Summary of Aging Management Evaluation

Standard Notes

Note	Description
A	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
B	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
C	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
D	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
E	Consistent with NUREG-1801 for material, environment and aging effect, but a different aging management program is credited or NUREG-1801 identifies a plant-specific aging management program.
F	Material not in NUREG-1801 for this component.
G	Environment not in NUREG-1801 for this component and material.
H	Aging effect not in NUREG-1801 for this component, material and environment combination.
I	Aging effect in NUREG-1801 for this component, material and environment combination is not applicable.
J	Neither the component nor the material and environment combination is evaluated in NUREG-1801.
501	Not used.
502	Aging effect includes "Fretting or Lockup" due to wear.
503	Crevice and pitting will be included along with loss of material-corrosion due to a saltwater atmosphere environment.
504	Fatigue analysis exists and TLAA applies.
505	Built-up roofing is not in GALL; III.A6-12 is for elastomer-material is similar, aging effect is similar, environment is same, and AMP is Structures Monitoring.
506	Component is cementitious fire proofing/insulating material and will exhibit similar aging effects as concrete.
507	Spent Fuel Pool temperature < 60°C (<140° F); water chemistry and temperature will be maintained by the Water Chemistry Program.
508	Cracking, loss of bond, and loss of material (spalling, scaling)/corrosion of embedded steel-is not listed in GALL III.A.6 as an aging effect for concrete in raw water. Seabrook manages this effect with Structures Monitoring Program.
509	For aging management purposes, buried, below grade, soil, and ground water/ raw & treated water environments are treated the same.
510	Reduction in concrete anchor capacity is an aging effect that is addressed in LRAM-SUPT.
511	At Seabrook Station, XI.S7 "RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants" and XI.S5 "Masonry Wall Program" are combined under XI.S6 "Structures Monitoring Program".
512	Raw water in lined & unlined concrete sumps.
513	Seabrook Station will age manage this condition through the Fire Protection Program.
514	Seabrook Station will age manage this condition through the Structures Monitoring Program.
515	Increased hardness, shrinkage, or loss of strength of elastomer seals due to weathering is addressed by GALL only for Fire Barrier seals. Seabrook Station will manage such aging effects for non-Fire Barrier elastomer seals with the Structures Monitoring Program.
516	Seabrook Station Structures Monitoring Program will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.
517	***After initial identification and determination of the presence of alkali-silica reactivity by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program.***

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Built-Up Roofing - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program, ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***
WCS - Built-Up Roofing - SERVICE WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Roofing	Air Outdoor (External)	Separation, Environmental Degradation, Water In-Leakage	Structures Monitoring Program, ***Building Deformation Monitoring Program***	III.A6-12 (TP-7)	3.5.1-44	H, 505, ***E, 520***
WCS - Carbon Steel Door - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Shelter, Protection	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
WCS - Carbon Steel Door - SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
WCS - Carbon Steel Door - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
WCS - Carbon Steel Door - SERVICE WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Carbon Steel Fire Door - SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A
WCS - Carbon Steel Fire Door - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Fire Barrier	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-3 (A-21)	3.3.1-63	A
WCS - Carbon Steel - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Structural Support	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
WCS - Carbon Steel - SERVICE WATER COOLING TOWER in Raw Water	Structural Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 511
WCS - Carbon Steel - SERVICE WATER COOLING TOWER in Raw Water	Structural Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 511
WCS - Carbon Steel - SERVICE WATER COOLING TOWER in Raw Water	Structural Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	H, 511

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Carbon Steel - SERVICE WATER COOLING TOWER in Raw Water	Structural Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 511
WCS - Carbon Steel - SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
WCS - Carbon Steel - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
WCS - Carbon Steel - SERVICE WATER PUMPHOUSE in Raw Water	Structural Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 511
WCS - Carbon Steel - SERVICE WATER PUMPHOUSE in Raw Water	Structural Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 511
WCS - Carbon Steel - SERVICE WATER PUMPHOUSE in Raw Water	Structural Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	H, 511

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Carbon Steel - SERVICE WATER PUMPHOUSE in Raw Water	Structural Support	Steel	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-11 (T-21)	3.5.1-47	E, 511
WCS - Carbon Steel - SERVICE WATER PUMPHOUSE Siding in Air Indoor Uncontrolled	Shelter, Protection	Steel	Air Indoor Uncontrolled (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A
WCS - Carbon Steel - SERVICE WATER PUMPHOUSE Siding in Air Outdoor	Shelter, Protection	Steel	Air Outdoor (External)	Loss of Material	Structures Monitoring Program	III.A3-12 (T-11)	3.5.1-25	A, 503
WCS - Concrete - CIRCULATING WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
WCS - Concrete - CIRCULATING WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program , Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - CIRCULATING WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
WCS - Concrete - CIRCULATING WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
WCS - Concrete - CIRCULATING WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Raw Water	Structural Support	Concrete	Raw Water (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A
WCS - Concrete - CIRCULATING WATER PUMPHOUSE in Raw Water	Structural Support	Concrete	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-7 (T-20)	3.5.1-45	E, 511
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
WCS – Concrete - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
WCS – Concrete - SERVICE WATER COOLING TOWER in Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
WCS – Concrete - SERVICE WATER COOLING TOWER in Raw Water	Ultimate Heat Sink	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
WCS – Concrete - SERVICE WATER COOLING TOWER in Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
					Program			
WCS – Concrete - SERVICE WATER COOLING TOWER in Raw Water	Ultimate Heat Sink	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS – Concrete - SERVICE WATER COOLING TOWER in Raw Water	Structural Support	Concrete	Raw Water (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A
WCS – Concrete - SERVICE WATER COOLING TOWER in Raw Water	Ultimate Heat Sink	Concrete	Raw Water (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A
WCS – Concrete - SERVICE WATER COOLING TOWER in Raw Water	Structural Support	Concrete	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-7 (T-20)	3.5.1-45	E, 511

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS – Concrete - SERVICE WATER COOLING TOWER in Raw Water	Ultimate Heat Sink	Concrete	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-7 (T-20)	3.5.1-45	E, 511
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
WCS - Concrete -SERVICE WATER COOLING TWR Including Swgr Rms in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
WCS - Concrete - SERVICE WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A
WCS - Concrete - SERVICE WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517***, 519***

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - SERVICE WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-5 (T-07)	3.5.1-31	A
WCS - Concrete - SERVICE WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A, 509
WCS - Concrete - SERVICE WATER PUMPHOUSE Below Grade	Structural Support	Concrete	Ground Water/Soil (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Loss of Material	Fire Protection Program	VII.G-29 (A-91)	3.3.1-67	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program & ***Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Concrete Cracking and Spalling	Fire Protection Program	VII.G-28 (A-90)	3.3.1-65	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Fire Barrier	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Structural Support	Concrete	Air Indoor Uncontrolled (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-9 (T-04)	3.5.1-23	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Increase in Porosity and Permeability, Cracking, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-10 (T-06)	3.5.1-24	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Outdoor	Missile Barrier	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Concrete	Air Outdoor (External)	Loss of Material, Cracking	Structures Monitoring Program	III.A3-6 (T-01)	3.5.1-26	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Raw Water	Structural Support	Concrete	Raw Water (External)	Cracking, Loss of Bond, Loss of Material (Spalling, Scaling)	Structures Monitoring Program	III.A3-4 (T-05)	3.5.1-31	A, 509
WCS - Concrete - SERVICE WATER PUMPHOUSE in Raw Water	Structural Support	Concrete	Raw Water (External)	Expansion and Cracking	Structures Monitoring Program, Alkali-Silica Reaction (ASR) Monitoring Program ***& Building Deformation Monitoring Program***	III.A3-2 (T-03)	3.5.1-27	A, E, 517, ***519***

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Concrete - SERVICE WATER PUMPHOUSE in Raw Water	Structural Support	Concrete	Raw Water (External)	Increase in Porosity and Permeability, Loss of Strength	Structures Monitoring Program	III.A3-7 (T-02)	3.5.1-32	A
WCS - Concrete - SERVICE WATER PUMPHOUSE in Raw Water	Structural Support	Concrete	Raw Water (External)	Loss of Material	Structures Monitoring Program	III.A6-7 (T-20)	3.5.1-45	E, 511
WCS - Fire Penetration Seal - SERVICE WATER COOLING TWR including Swgr Rms in Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
WCS - Fire Seal - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	Fire Barrier	Elastomer	Air Indoor Uncontrolled (External)	Increased Hardness, Shrinkage and Loss of Strength	Fire Protection Program	VII.G-1 (A-19)	3.3.1-61	A
WCS - Penetration Seal - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515
WCS - Penetration Seal - SERVICE WATER PUMPHOUSE in Air Outdoor	Shelter, Protection	Elastomer	Air Outdoor (External)	Increased Hardness, Shrinkage and Loss of Strength	Structures Monitoring Program	VII.G-2 (A-20)	3.3.1-61	E, 515

Table 3.5.2-8

Water Control Structures

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
WCS - Penetration Seal - SERVICE WATER COOLING TOWER Including Switchgear Rooms in Air Outdoor	*Shelter, Protection*	*Elastomer*	*Air Outdoor (External)*	*Separation*	*Structures Monitoring Program, Building Deformation Monitoring Program*	*VII.G-2 (A-20)*	*3.5.1-60*	*E, 520*
WCS - Penetration Seal - SERVICE WATER PUMPHOUSE in Air Outdoor	*Shelter, Protection*	*Elastomer*	*Air Outdoor (External)*	*Separation*	*Structures Monitoring Program, Building Deformation Monitoring Program*	*VII.G-2 (A-20)*	*3.5.1-60*	*E, 520*
WCS - Fire Penetration Seal - SERVICE WATER COOLING TWR including Swgr Rms in Air Indoor Uncontrolled	*Fire Barrier*	*Elastomer*	*Air Indoor Uncontrolled (External)*	*Separation*	*Structures Monitoring Program, Building Deformation Monitoring Program*	*VII.G-1 (A-19)*	*3.5.1-60*	*E, 520*
WCS - Fire Seal - SERVICE WATER PUMPHOUSE in Air Indoor Uncontrolled	*Fire Barrier*	*Elastomer*	*Air Indoor Uncontrolled (External)*	*Separation*	*Structures Monitoring Program, Building Deformation Monitoring Program*	*VII.G-1 (A-19)*	*3.5.1-60*	*E, 520*

Table 3.5.2-8
Water Control Structures
Summary of Aging Management Evaluation

Standard Notes

Note	Description
A	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
B	Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
C	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
D	Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
E	Consistent with NUREG-1801 for material, environment and aging effect, but a different aging management program is credited or NUREG-1801 identifies a plant-specific aging management program.
F	Material not in NUREG-1801 for this component.
G	Environment not in NUREG-1801 for this component and material.
H	Aging effect not in NUREG-1801 for this component, material and environment combination.
I	Aging effect in NUREG-1801 for this component, material and environment combination is not applicable.
J	Neither the component nor the material and environment combination is evaluated in NUREG-1801.
501	Not used.
502	Aging effect includes "Fretting or Lockup" due to wear.
503	Crevice and pitting will be included along with loss of material-corrosion due to a saltwater atmosphere environment.
504	Fatigue analysis exists and TLAA applies.
505	Built-up roofing is not in GALL; III.A6-12 is for elastomer-material is similar, aging effect is similar, environment is same, and AMP is Structures Monitoring.
506	Component is cementitious fire proofing/insulating material and will exhibit similar aging effects as concrete.
507	Spent Fuel Pool temperature < 60°C (<140° F); water chemistry and temperature will be maintained by the Water Chemistry Program.
508	Cracking, loss of bond, and loss of material (spalling, scaling)/corrosion of embedded steel-is not listed in GALL III.A.6 as an aging effect for concrete in raw water. Seabrook manages this effect with Structures Monitoring Program.
509	For aging management purposes, buried, below grade, soil, and ground water/ raw & treated water environments are treated the same.
510	Reduction in concrete anchor capacity is an aging effect that is addressed in LRAM-SUPT.
511	At Seabrook Station, XI.S7 "RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants" and XI.S5 "Masonry Wall Program" are combined under XI.S6 "Structures Monitoring Program".
512	Raw water in lined & unlined concrete sumps.
513	Seabrook Station will age manage this condition through the Fire Protection Program.
514	Seabrook Station will age manage this condition through the Structures Monitoring Program.
515	Increased hardness, shrinkage, or loss of strength of elastomer seals due to weathering is addressed by GALL only for Fire Barrier seals. Seabrook Station will manage such aging effects for non-Fire Barrier elastomer seals with the Structures Monitoring Program.
516	Seabrook Station Structures Monitoring Program will perform concrete testing and rebar inspection to determine the effects of the aggressive groundwater on the concrete. The concrete testing and the rebar inspection will represent all concrete below grade.
517	***After initial identification and determination of the presence of alkali-silica reactivity by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program.***

519 ***After initial identification of alkali-silica reaction (ASR) induced building deformation by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Alkali-Silica Reaction (ASR) Monitoring Program and the Building Deformation Monitoring Program.***

520 ***After initial identification of alkali-silica reaction (ASR) induced building deformation affecting plant equipment and components by the Structures Monitoring Program, Seabrook Station will age manage this condition through the Building Deformation Monitoring Program.***

Enclosure 3 to SBK-L-17155

Supplement 58 – NextEra Energy Seabrook's revised LRA Appendix A - Updated Final Safety Analysis Report Supplement Table A.3, License Renewal Commitment List

A.3 LICENSE RENEWAL COMMITMENT LIST

No.	PROGRAM or TOPIC	COMMITMENT	UFSAR LOCATION	SCHEDULE
1.	PWR Vessel Internals	Provide confirmation and acceptability of the implementation of MRP-227-A by addressing the plant-specific Applicant/Licensee Action Items outlined in section 4.2 of the NRC SER.	A.2.1.7	Complete
2.	Closed-Cycle Cooling Water	Enhance the program to include visual inspection for cracking, loss of material and fouling when the in-scope systems are opened for maintenance.	A.2.1.12	Prior to the period of extended operation.
3.	Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems	Enhance the program to monitor general corrosion on the crane and trolley structural components and the effects of wear on the rails in the rail system.	A.2.1.13	Prior to the period of extended operation.
4.	Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems	Enhance the program to list additional cranes for monitoring.	A.2.1.13	Prior to the period of extended operation.
5.	Compressed Air Monitoring	Enhance the program to include an annual air quality test requirement for the Diesel Generator compressed air sub system.	A.2.1.14	Prior to the period of extended operation.
6.	Fire Protection	Enhance the program to perform visual inspection of penetration seals by a fire protection qualified inspector.	A.2.1.15	Prior to the period of extended operation.
7.	Fire Protection	Enhance the program to add inspection requirements such as spalling, and loss of material caused by freeze-thaw, chemical attack, and reaction with aggregates by qualified inspector.	A.2.1.15	Prior to the period of extended operation.

8.	Fire Protection	Enhance the program to include the performance of visual inspection of fire-rated doors by a fire protection qualified inspector.	A.2.1.15	Prior to the period of extended operation.
9.	Fire Water System	Enhance the program to include NFPA 25 (2011 Edition) guidance for "where sprinklers have been in place for 50 years, they shall be replaced or representative samples from one or more sample areas shall be submitted to a recognized testing laboratory for field service testing".	A.2.1.16	Prior to the period of extended operation.
10.	Fire Water System	Enhance the program to include the performance of periodic flow testing of the fire water system in accordance with the guidance of NFPA 25 (2011 Edition).	A.2.1.16	Prior to the period of extended operation.
11.	Fire Water System	Enhance the program to include the performance of periodic visual or volumetric inspection of the internal surface of the fire protection system upon each entry to the system for routine or corrective maintenance to evaluate wall thickness and inner diameter of the fire protection piping ensuring that corrosion product buildup will not result in flow blockage due to fouling. Where surface irregularities are detected, follow-up volumetric examinations are performed. These inspections will be documented and trended to determine if a representative number of inspections have been performed prior to the period of extended operation. If a representative number of inspections have not been performed prior to the period of extended operation, focused inspections will be conducted. These inspections will commence during the ten year period prior to the period of extended operation and continue through the period of extended operation	A.2.1.16	Within ten years prior to the period of extended operation.

12.	Aboveground Steel Tanks	Enhance the program to include 1) In-scope outdoor tanks, except fire water storage tanks, constructed on soil or concrete, 2) Indoor large volume storage tanks (greater than 100,000 gallons) designed to near-atmospheric internal pressures, sit on concrete or soil, and exposed internally to water, 3) Visual, surface, and volumetric examinations of the outside and inside surfaces for managing the aging effects of loss of material and cracking, 4) External visual examinations to monitor degradation of the protective paint or coating, and 5) Inspection of sealant and caulking for degradation by performing visual and tactile examination (manual manipulation) consisting of pressing on the sealant or caulking to detect a reduction in the resiliency and pliability.	A.2.1.17	Within 10 years prior to the period of extended operation.
13.	Fire Water System	Enhance the program to perform exterior inspection of the fire water storage tanks annually for signs of degradation and include an ultrasonic inspection and evaluation of the internal bottom surface of the two Fire Protection Water Storage Tanks per the guidance provided in NFPA 25 (2011 Edition).	A.2.1.16	Within ten years prior to the period of extended operation.
14.	Fuel Oil Chemistry	Enhance program to add requirements to 1) sample and analyze new fuel deliveries for biodiesel prior to offloading to the Auxiliary Boiler fuel oil storage tank and 2) periodically sample stored fuel in the Auxiliary Boiler fuel oil storage tank.	A.2.1.18	Prior to the period of extended operation.
15.	Fuel Oil Chemistry	Enhance the program to add requirements to check for the presence of water in the Auxiliary Boiler fuel oil storage tank at least once per quarter and to remove water as necessary.	A.2.1.18	Prior to the period of extended operation.

16.	Fuel Oil Chemistry	Enhance the program to require draining, cleaning and inspection of the diesel fire pump fuel oil day tanks on a frequency of at least once every ten years.	A.2.1.18	Prior to the period of extended operation.
17.	Fuel Oil Chemistry	Enhance the program to require ultrasonic thickness measurement of the tank bottom during the 10-year draining, cleaning and inspection of the Diesel Generator fuel oil storage tanks, Diesel Generator fuel oil day tanks, diesel fire pump fuel oil day tanks and auxiliary boiler fuel oil storage tank.	A.2.1.18	Prior to the period of extended operation.
18.	Reactor Vessel Surveillance	Enhance the program to specify that all pulled and tested capsules, unless discarded before August 31, 2000, are placed in storage.	A.2.1.19	Prior to the period of extended operation.
19.	Reactor Vessel Surveillance	Enhance the program to specify that if plant operations exceed the limitations or bounds defined by the Reactor Vessel Surveillance Program, such as operating at a lower cold leg temperature or higher fluence, the impact of plant operation changes on the extent of Reactor Vessel embrittlement will be evaluated and the NRC will be notified.	A.2.1.19	Prior to the period of extended operation.
20.	Reactor Vessel Surveillance	Enhance the program as necessary to ensure the appropriate withdrawal schedule for capsules remaining in the vessel such that one capsule will be withdrawn at an outage in which the capsule receives a neutron fluence that meets the schedule requirements of 10 CFR 50 Appendix H and ASTM E185-82 and that bounds the 60-year fluence, and the remaining capsule(s) will be removed from the vessel unless determined to provide meaningful metallurgical data.	A.2.1.19	Prior to the period of extended operation.
21.	Reactor Vessel Surveillance	Enhance the program to ensure that any capsule removed, without the intent to test it, is stored in a manner which maintains it in a condition which would permit its future use, including during the period of extended operation.	A.2.1.19	Prior to the period of extended operation.

22.	One-Time Inspection	Implement the One Time Inspection Program.	A.2.1.20	Within ten years prior to the period of extended operation.
23.	Selective Leaching of Materials	Implement the Selective Leaching of Materials Program. The program will include a one-time inspection of selected components where selective leaching has not been identified and periodic inspections of selected components where selective leaching has been identified.	A.2.1.21	Within five years prior to the period of extended operation.
24.	Buried Piping And Tanks Inspection	Implement the Buried Piping And Tanks Inspection Program.	A.2.1.22	Within ten years prior to the period of extended operation
25.	One-Time Inspection of ASME Code Class 1 Small Bore-Piping	Implement the One-Time Inspection of ASME Code Class 1 Small Bore-Piping Program.	A.2.1.23	Within ten years prior to the period of extended operation.
26.	External Surfaces Monitoring	Enhance the program to specifically address the scope of the program, relevant degradation mechanisms and effects of interest, the refueling outage inspection frequency, the training requirements for inspectors and the required periodic reviews to determine program effectiveness.	A.2.1.24	Prior to the period of extended operation.
27.	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components	Implement the Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components Program.	A.2.1.25	Prior to the period of extended operation.
28.	Lubricating Oil Analysis	Enhance the program to add required equipment, lube oil analysis required, sampling frequency, and periodic oil changes.	A.2.1.26	Prior to the period of extended operation.
29.	Lubricating Oil Analysis	Enhance the program to sample the oil for the Reactor Coolant pump oil collection tanks.	A.2.1.26	Prior to the period of extended operation.

30.	Lubricating Oil Analysis	Enhance the program to require the performance of a one-time ultrasonic thickness measurement of the lower portion of the Reactor Coolant pump oil collection tanks prior to the period of extended operation.	A.2.1.26	Prior to the period of extended operation.
31.	ASME Section XI, Subsection IWL	Enhance procedure to include the definition of "Responsible Engineer".	A.2.1.28	Prior to the period of extended operation.
32.	Structures Monitoring Program	Enhance procedure to add the aging effects, additional locations, inspection frequency and ultrasonic test requirements.	A.2.1.31	Prior to the period of extended operation.
33.	Structures Monitoring Program	Enhance procedure to include inspection of opportunity when planning excavation work that would expose inaccessible concrete.	A.2.1.31	Prior to the period of extended operation.
34.	Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements	Implement the Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements program.	A.2.1.32	Prior to the period of extended operation.
35.	Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits	Implement the Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits program.	A.2.1.33	Prior to the period of extended operation.
36.	Inaccessible Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements	Implement the Inaccessible Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements program.	A.2.1.34	Prior to the period of extended operation.
37.	Metal Enclosed Bus	Implement the Metal Enclosed Bus program.	A.2.1.35	Prior to the period of extended operation.

38.	Fuse Holders	Implement the Fuse Holders program.	A.2.1.36	Prior to the period of extended operation.
39.	Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements	Implement the Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements program.	A.2.1.37	Prior to the period of extended operation.
40.	345 KV SF6 Bus	Implement the 345 KV SF6 Bus program.	A.2.2.1	Prior to the period of extended operation.
41.	Metal Fatigue of Reactor Coolant Pressure Boundary	Enhance the program to include additional transients beyond those defined in the Technical Specifications and UFSAR.	A.2.3.1	Prior to the period of extended operation.
42.	Metal Fatigue of Reactor Coolant Pressure Boundary	Enhance the program to implement a software program, to count transients to monitor cumulative usage on selected components.	A.2.3.1	Prior to the period of extended operation.
43.	Pressure –Temperature Limits, including Low Temperature Overpressure Protection Limits	Seabrook Station will submit updates to the P-T curves and LTOP limits to the NRC at the appropriate time to comply with 10 CFR 50 Appendix G.	A.2.4.1.4	The updated analyses will be submitted at the appropriate time to comply with 10 CFR 50 Appendix G, Fracture Toughness Requirements.

44.	Environmentally-Assisted Fatigue Analyses (TLAA)	NextEra Seabrook will perform a review of design basis ASME Class 1 component fatigue evaluations to determine whether the NUREG/CR-6260-based components that have been evaluated for the effects of the reactor coolant environment on fatigue usage are the limiting components for the Seabrook plant configuration. If more limiting components are identified, the most limiting component will be evaluated for the effects of the reactor coolant environment on fatigue usage. If the limiting location identified consists of nickel alloy, the environmentally-assisted fatigue calculation for nickel alloy will be performed using the rules of NUREG/CR-6909. (1) Consistent with the Metal Fatigue of Reactor Coolant Pressure Boundary Program Seabrook Station will update the fatigue usage calculations using refined fatigue analyses, if necessary, to determine acceptable CUFs (i.e., less than 1.0) when accounting for the effects of the reactor water environment. This includes applying the appropriate Fen factors to valid CUFs determined from an existing fatigue analysis valid for the period of extended operation or from an analysis using an NRC-approved version of the ASME code or NRC-approved alternative (e.g., NRC-approved code case). (2) If acceptable CUFs cannot be demonstrated for all the selected locations, then additional plant-specific locations will be evaluated. For the additional plant-specific locations, if CUF, including environmental effects is greater than 1.0, then Corrective Actions will be initiated, in accordance with the Metal Fatigue of Reactor Coolant Pressure Boundary Program, B.2.3.1. Corrective Actions will include inspection, repair, or replacement of the affected locations before exceeding a CUF of 1.0 or the effects of fatigue will be managed by an inspection program that has been reviewed and approved by the NRC (e.g., periodic non-destructive examination of the affected locations at inspection intervals to be determined by a method accepted by the NRC).	A.2.4.2.3	At least two years prior to the period of extended operation.

45.	Alkali-Silica Reaction (ASR) Monitoring Program	NextEra will obtain additional cores in the vicinity of ~~three~~ ***20% of the*** extensometers and perform modulus testing. Using these test results, NextEra will determine the change in through-thickness expansion since installation of the extensometers and compare it to change determined from extensometer readings. Consistency between these results will provide additional corroboration of the methodology in MPR-4153.		At least ~~2~~ ***5*** years prior to the period of extended operation ***(initial study) and 10 years thereafter (follow-up study).***
46.	Protective Coating Monitoring and Maintenance	Enhance the program by designating and qualifying an Inspector Coordinator and an Inspection Results Evaluator.	A.2.1.38	Prior to the period of extended operation.
47.	Protective Coating Monitoring and Maintenance	Enhance the program by including, "Instruments and Equipment needed for inspection may include, but not be limited to, flashlight, spotlights, marker pen, mirror, measuring tape, magnifier, binoculars, camera with or without wide angle lens, and self sealing polyethylene sample bags."	A.2.1.38	Prior to the period of extended operation.
48.	Protective Coating Monitoring and Maintenance	Enhance the program to include a review of the previous two monitoring reports.	A.2.1.38	Prior to the period of extended operation.
49.	Protective Coating Monitoring and Maintenance	Enhance the program to require that the inspection report is to be evaluated by the responsible evaluation personnel, who is to prepare a summary of findings and recommendations for future surveillance or repair.	A.2.1.38	Prior to the period of extended operation.
50.	ASME Section XI, Subsection IWE	Perform UT of the accessible areas of the containment liner plate in the vicinity of the moisture barrier for loss of material. Perform opportunistic UT of inaccessible areas.	A.2.1.27	Baseline inspections were completed during OR16. Repeat containment liner UT thickness examinations at intervals of no more than five (5) refueling outages.
51.	Number Not Used			

52.	ASME Section XI, Subsection IWL	Implement measures to maintain the exterior surface of the Containment Structure, from elevation -30 feet to +20 feet, in a dewatered state.	A.2.1.28	Complete
53.	Reactor Head Closure Studs	Replace the spare reactor head closure stud(s) manufactured from the bar that has a yield strength > 150 ksi with ones that do not exceed 150 ksi.	A.2.1.3	Prior to the period of extended operation.

54.	Steam Generator Tube Integrity	NextEra will address the potential for cracking of the primary to secondary pressure boundary due to PWSCC of tube-to-tubesheet welds using one of the following two options: 1) Perform a one-time inspection of a representative sample of tube-to-tubesheet welds in all steam generators to determine if PWSCC cracking is present and, if cracking is identified, resolve the condition through engineering evaluation justifying continued operation or repair the condition, as appropriate, and establish an ongoing monitoring program to perform routine tube-to-tubesheet weld inspections for the remaining life of the steam generators, or 2) Perform an analytical evaluation showing that the structural integrity of the steam generator tube-to-tubesheet interface is adequately maintaining the pressure boundary in the presence of tube-to-tubesheet weld cracking, or redefining the pressure boundary in which the tube-to-tubesheet weld is no longer included and, therefore, is not required for reactor coolant pressure boundary function. The redefinition of the reactor coolant pressure boundary must be approved by the NRC as part of a license amendment request.	A.2.1.10	Complete
55.	Number Not Used	-		
56.	Closed-Cycle Cooling Water System	Revise the station program documents to reflect the EPRI Guideline operating ranges and Action Level values for hydrazine and sulfates.	A.2.1.12	Prior to the period of extended operation.
57.	Closed-Cycle Cooling Water System	Revise the station program documents to reflect the EPRI Guideline operating ranges and Action Level values for Diesel Generator Cooling Water Jacket pH.	A.2.1.12	Prior to the period of extended operation.

58.	Fuel Oil Chemistry	Update Technical Requirement Program 5.1, (Diesel Fuel Oil Testing Program) ASTM standards to ASTM D2709-96 and ASTM D4057-95 required by the GALL XI.M30 Rev 1	A.2.1.18	Prior to the period of extended operation.
59.	Nickel Alloy Nozzles and Penetrations	The Nickel Alloy Aging Nozzles and Penetrations program will implement applicable Bulletins, Generic Letters, and staff accepted industry guidelines.	A.2.2.3	Prior to the period of extended operation.
60.	Buried Piping and Tanks Inspection	Implement the design change replacing the buried Auxiliary Boiler supply piping with a pipe-within-pipe configuration with leak detection capability.	A.2.1.22	Prior to the period of extended operation.
61.	Compressed Air Monitoring Program	Replace the flexible hoses associated with the Diesel Generator air compressors on a frequency of every 10 years.	A.2.1.14	Within ten years prior to the period of extended operation.
62.	Water Chemistry	Enhance the program to include a statement that sampling frequencies are increased when chemistry action levels are exceeded.	A.2.1.2	Prior to the period of extended operation.
63.	Flow Induced Erosion	Ensure that the quarterly CVCS Charging Pump testing is continued during the PEO. Additionally, add a precaution to the test procedure to state that an increase in the CVCS Charging Pump mini flow above the acceptance criteria may be indicative of erosion of the mini flow orifice as described in LER 50-275/94-023.	A.2.1.2	Prior to the period of extended operation.
64.	Buried Piping and Tanks Inspection	Soil analysis shall be performed prior to entering the period of extended operation to determine the corrosivity of the soil in the vicinity of non-cathodically protected steel pipe within the scope of this program. If the initial analysis shows the soil to be non-corrosive, this analysis will be re-performed every ten years thereafter.	A.2.1.22	Within ten years prior to the period of extended operation.

65.	Flux Thimble Tube	Implement measures to ensure that the movable incore detectors are not returned to service during the period of extended operation.	N/A	Prior to the period of extended operation. – In Progress
66.	Alkali-Silica Reaction (ASR) Monitoring Program	NextEra will perform an integrated review of expansion trends at Seabrook Station by conducting a periodic assessment of ASR expansion behavior to confirm that the MPR/FSEL large-scale test programs remain applicable to plant structures. This review will include the following specific considerations: • Review of all cores removed to date for trends of any indications of mid-plane cracking. • Comparison of in-plane expansion to through-thickness expansion of all monitored points by plotting these data on a graph of ~~CCI~~ ***in-plane expansion*** versus through-thickness expansion. • Comparison of in-plane expansions, ***volumetric expansions,*** and through-thickness expansions recorded to date to the limits from the MPR/FSEL large-scale test programs and check of margin for future expansion. ~~Also, the calculated volumetric expansion will be compared to the range observed in the beam test programs and margin for future expansion will be checked.~~	*A.2.1.31.A*	At least 5 years prior to the period of extended operation and every 10 years thereafter.
67.	Structures Monitoring Program	Perform one shallow core bore in an area that was continuously wetted from borated water to be examined for concrete degradation and also expose rebar to detect any degradation such as loss of material. The removed core will also be subjected to petrographic examination for concrete degradation due to ASR per ASTM Standard Practice C856.	A.2.1.31	Complete

68.	Structures Monitoring Program	Perform sampling at the leak off collection points for chlorides, sulfates, pH and iron once every three months.	A.2.1.31	Complete
69.	Open-Cycle Cooling Water System	Replace the Diesel Generator Heat Exchanger Plastisol PVC lined Service Water piping with piping fabricated from AL6XN material.	A.2.1.11	Complete
70.	Closed-Cycle Cooling Water System	Inspect the piping downstream of CC-V-444 and CC-V-446 to determine whether the loss of material due to cavitation induced erosion has been eliminated or whether this remains an issue in the primary component cooling water system.	A.2.1.12	Within ten years prior to the period of extended operation.
71.	Alkali-Silica Reaction (ASR) Monitoring Program / Building Deformation Monitoring Program	NextEra has completed testing at the University of Texas Ferguson Structural Engineering Laboratory which demonstrates the parameters being monitored and acceptance criteria used are appropriate to manage the effects of ASR. NextEra Iimplement the Alkali-Silica Reaction (ASR) Monitoring Program and Building Deformation Monitoring Program described in B.2.1.31A and B.2.1.31B of the License Renewal Application.	A.2.1.31A A.2.1.31B	Prior to the period of extended operation.
72.	Flow-Accelerated Corrosion	Enhance the program to include management of wall thinning caused by mechanisms other than FAC.	A.2.1.8	Prior to the period of extended operation.
73.	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components	Enhance the program to include performance of focused examinations to provide a representative sample of 20%, or a maximum of 25, of each identified material, environment, and aging effect combinations during each 10 year period in the period of extended operation.	A.2.1.25	Prior to the period of extended operation.

74.	Fire Water System	Enhance the program to perform sprinkler inspections annually per the guidance provided in NFPA 25 (2011 Edition). Inspection will ensure that sprinklers are free of corrosion, foreign materials, paint, and physical damage and installed in the proper orientation (e.g., upright, pendant, or sidewall). Any sprinkler that is painted, corroded, damaged, loaded, or in the improper orientation, and any glass bulb sprinkler where the bulb has emptied, will be evaluated for replacement.	A.2.1.16	Prior to the period of extended operation.
75.	Fire Water System	Enhance the program to a) conduct an inspection of piping and branch line conditions every 5 years by opening a flushing connection at the end of one main and by removing a sprinkler toward the end of one branch line for the purpose of inspecting for the presence of foreign organic and inorganic material per the guidance provided in NFPA 25 (2011 Edition) and b) If the presence of sufficient foreign organic or inorganic material to obstruct pipe or sprinklers is detected during pipe inspections, the material will be removed and its source is determined and corrected. In buildings having multiple wet pipe systems, every other system shall have an internal inspection of piping every 5 years as described in NFPA 25 (2011 Edition), Section 14.2.2.	A.2.1.16	Prior to the period of extended operation.
76.	Fire Water System	Enhance the Program to conduct the following activities annually per the guidance provided in NFPA 25 (2011 Edition). • main drain tests • deluge valve trip tests • fire water storage tank exterior surface inspections	A.2.1.16	Prior to the period of extended operation.

77.	Fire Water System	The Fire Water System Program will be enhanced to include the following requirements related to the main drain testing per the guidance provided in NFPA 25 (2011 Edition). • The requirement that if there is a 10 percent reduction in full flow pressure when compared to the original acceptance tests or previously performed tests, the cause of the reduction shall be identified and corrected if necessary. • Recording the time taken for the supply water pressure to return to the original static (nonflowing) pressure.	A.2.1.16	Prior to the period of extended operation.
78.	External Surfaces Monitoring	Enhance the program to include periodic inspections of in-scope insulated components for possible corrosion under insulation. A sample of outdoor component surfaces that are insulated and a sample of indoor insulated components exposed to condensation (due to the in-scope component being operated below the dew point), will be periodically inspected every 10 years during the period of extended operation.	A.2.1.24	Prior to the period of extended operation.
79.	Open-Cycle Cooling Water System	Enhance the program to include visual inspection of internal coatings/linings for loss of coating integrity.	A.2.1.11	Within 10 years prior to the period of extended operation.
80.	Fire Water System	Enhance the program to include visual inspection of internal coatings/linings for loss of coating integrity.	A.2.1.16	Within 10 years prior to the period of extended operation.
81.	Fuel Oil Chemistry	Enhance the program to include visual inspection of internal coatings/linings for loss of coating integrity.	A.2.1.18	Within 10 years prior to the period of extended operation.

82.	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components	Enhance the program to include visual inspection of internal coatings/linings for loss of coating integrity.	A.2.1.25	Within 10 years prior to the period of extended operation.
83.	Alkali-Silica Reaction Monitoring	Enhance the ASR AMP to install extensometers in all Tier 3 areas of two dimensional reinforced structures to monitor expansion due to alkali-silica reaction in the out-of-plane direction. Monitoring expansion in the out-of-plane direction will commence upon installation of the extensometers and continue on a six month frequency through the period of extended operation.	A.2.1.31A	Complete
84.	ASME Section XI, Subsection IWL	Evaluate the acceptability of inaccessible areas for structures within the scope of ASME Section XI, Subsection IWL Program.	A.2.1.28	Prior to the period of extended operation.
85.	Fire Water System	Enhance the program to perform additional tests and inspections on the Fire Water Storage Tanks as specified in Section 9.2.7 of NFPA 25 (2011 Edition) in the event that it is required by Section 9.2.6.4, which states "Steel tanks exhibiting signs of interior pitting, corrosion, or failure of coating shall be tested in accordance with 9.2.7."	A.2.1.16	Prior to the period of extended operation.
86.	Fire Water System	Enhance the program to include disassembly, inspection, and cleaning of the mainline strainers every 5 years.	A.2.1.16	Prior to the period of extended operation.
87.	Fire Water System	Increase the frequency of the Open Head Spray Nozzle Air Flow Test from every 3 years to every refueling outage to be consistent with LR-ISG-2012-02, AMP XI.M27, Table 4a.	A.2.1.16	Prior to the period of extended operation.

88.	Fire Water System	Enhance the program to include verification that a) the drain holes associated with the transformer deluge system are draining to ensure complete drainage of the system after each test, b) the deluge system drains and associated piping are configured to completely drain the piping, and c) normally-dry piping that could have been wetted by inadvertent system actuations or those that occur after a fire are restored to a dry state as part of the suppression system restoration.	A.2.1.16	Within five years prior to the period of extended operation.
89.	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components	Incorporate Coating Service Level III requirements into the RCP Motor Refurbishment Specification for the internal painting of the motor upper bearing coolers and motor air coolers. All four RCP motors will be refurbished and replaced using the Coating Service Level III requirements prior to entering the period of extended operation.	A.2.1.25	Prior to the period of extended operation.
90.	PWR Vessel Internals	Implement the PWR Vessel Internals Program. The program will be implemented in accordance with MRP-227-A (Pressurized Water Reactor Internals Inspection and Evaluation Guidelines) and NEI 03-08 (Guideline for the Management of Materials Issues).	A.2.1.7	Prior to the period of extended operation

91	Building Deformation Monitoring	Implement the Building Deformation Monitoring Program Enhance the Structures Monitoring Program to require structural evaluations be performed on buildings and components affected by deformation as necessary to ensure that the structural function is maintained. Evaluations of structures will validate structural performance against the design basis, and may use results from the large-scale test programs, as appropriate. Evaluations for structural deformation will also consider the impact to functionality of affected systems and components (e.g., conduit expansion joints). NextEra will evaluate the specific circumstances against the design basis of the affected system or component. Enhance the Building Deformation AMP to include additional parameters to be monitored based on the results of the CEB Root Cause, Structural Evaluation and walk downs. Additional parameters monitored will include: alignment of ducting, conduit, and piping; seal integrity; laser target measurements; key seismic gap measurements; and additional instrumentation. Develop a design standard to implement Aging Management Program B.2.1.31B Building Deformation, Program Element 3 - Parameters Monitored/Inspected. The design standard will clarify the deformation evaluation process and provide an auditable format to assess it. The design standard will include steps for each of the three evaluation stages that include parameters monitored, basis for why the parameter is monitored, and conditions that prompts action for the subsequent step.	A.2.1.31B	March 15, 2020

Enclosure 4 to SBK-L-17155

NextEra Energy Seabrook, Application for Withholding Proprietary Information from Public Disclosure and Affidavit

NextEra Energy Seabrook, LLC

AFFIDAVIT IN SUPPORT OF APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

County of Rockingham)
)
State of New Hampshire)

I, Eric McCartney, being duly sworn according to law, depose and state the following:

(1) I am the Regional Vice President - Northern Region of NextEra Energy Seabrook, LLC (NextEra Energy Seabrook), and have been delegated the function of reviewing the information described in paragraph (3) which is sought to be withheld, and have been authorized to apply for its withholding.

(2) I am making this Affidavit in conjunction with NextEra Energy Seabrook's "Application for Withholding Proprietary Information from Public Disclosure" accompanying this Affidavit and in conformance with the provisions of 10 CFR Section 2.390.

(3) The information sought to be withheld is contained in Enclosure 1 of NextEra Energy Seabrook's letter SBK-L-17155, Eric McCartney (NextEra Energy Seabrook) to U.S. Nuclear Regulatory Commission, entitled "Supplement 58 - Response to Request for Additional Information for the Review of the Seabrook Station License Renewal Application – Building Deformation Analyses Related To Concrete Alkali-Silica Reaction."

(4) The information sought to be withheld is considered to be proprietary and confidential commercial information because alkali-silica reaction (ASR) is a newly-identified phenomenon at domestic nuclear plants. The information requested to be withheld is the result of several years of intensive NextEra Energy Seabrook effort and the expenditure of a considerable sum of money. This information may be marketable in the event nuclear facilities or other regulated facilities identify the presence of ASR. In order for potential customers to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended. The extent to which this information is available to potential customers diminishes NextEra Energy Seabrook's ability to sell products and services involving the use of the information. Thus, public disclosure of the information sought to be withheld is likely to cause substantial harm to NextEra

Energy Seabrook's competitive position and NextEra Energy Seabrook has a rational basis for considering this information to be confidential commercial information.

(5) The information sought to be withheld is being submitted to the NRC in confidence.

(6) The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by NextEra Energy Seabrook, has not been disclosed publicly, and not been made available in public sources.

(7) The information is of a sort customarily held in confidence by NextEra Energy Seabrook, and is in fact so held.

(8) All disclosures to third parties, including any required transmittals to the NRC, have been or will be pursuant to regulatory provisions and/or confidentiality agreements that provide for maintaining the information in confidence.

I declare that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief. Further, the affiant sayeth not.

Eric McCartney
Regional Vice President - Northern Region
NextEra Energy Seabrook, LLC
626 Lafayette Road
Seabrook, New Hampshire 03874

Subscribed and sworn to before me
this 3RD day of October, 2017.

Christine Thomas
Notary Public
My commission expires 3/8/22

CHRISTINE I. THOMAS
MY COMMISSION EXPIRES MARCH 8, 2022
NOTARY PUBLIC
NEW HAMPSHIRE