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10 CFR 50.90

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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Peach Bottom Atomic Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: Supplemental Response Concerning License Amendment Request to Reduce High Pressure Service Water System Design Pressure and Revise Technical Specifications 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.7.1 for Temporary Extension of Completion Times – Adjustment in Proposed Implementation Schedule

References:

1) Letter from David P. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission – "License Amendment Request to Reduce High Pressure Service Water System Design Pressure and Revise Technical Specifications 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.7.1 for Temporary Extension of Completion Times," dated September 28, 2018 (ML18275A023)

2) Electronic mail message from Jennifer Tobin (U.S. Nuclear Regulatory Commission) to David Helker, Exelon Generation Company, LLC – "Peach Bottom Units 2 and 3 - Request for Additional Information - High Pressure Service Water One Time TS Change (EPID L-2018-LLA-0265)," dated January 16, 2019 (ADAMS Accession No. ML19017A047)

3) Letter from David P. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission – "Response to Request for Additional - License Amendment Request to Reduce High Pressure Service Water System Design Pressure and Revise Technical Specifications 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.7.1 for Temporary Extension of Completion Times," dated February 15, 2019 (ML19046A129)

4) Electronic mail message from Jennifer Tobin (U.S. Nuclear Regulatory Commission) to David Helker, Exelon Generation Company, LLC – "Peach Bottom Units 2 and 3 - Request for Additional Information - High Pressure Service Water One Time TS Change (EPID L-2018-LLA-0265)," dated February 27, 2019 (ML19058A290)

5) Letter from David P. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission – "Response to Request for Additional - License Amendment Request to Reduce High Pressure Service Water System Design Pressure and Revise Technical Specifications 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.7.1 for Temporary Extension of Completion Times," dated March 26, 2019 (ML19085A385)

By letter dated September 28, 2018 (Reference 1), Exelon Generation Company, LLC (Exelon) requested amendments to Renewed Facility Operating License Nos. DPR-44 and DPR-56 for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, respectively. The proposed changes would revise the PBAPS, Units 2 and 3, design and licensing basis described in the Updated Final Safety Analysis Report (UFSAR) to reduce the design pressure rating of the High Pressure Service Water (HPSW) system. The proposed changes will provide additional corrosion margin in the HPSW system pipe wall thickness, increasing the margin of safety for the existing piping. The proposed changes will also temporarily revise the PBAPS, Units 2 and 3, Technical Specifications (TS) Sections 3.6.2.3, "Residual Heat Removal (RHR) Suppression Pool Cooling," TS 3.6.2.4, "Residual Heat Removal (RHR) Suppression Pool Spray," TS 3.6.2.5, "Residual Heat Removal (RHR) Drywell Spray," and TS 3.7.1, "High Pressure Service Water (HPSW) System," to allow sufficient time to perform physical modifications of the PBAPS, Units 2 and 3, HPSW systems and other supporting plant equipment.

In support of this amendment request, Exelon also responded to the Reference 2 NRC Request for Additional Information (RAI) and Reference 4 RAI by letters dated February 15, 2019 (Reference 3), and March 26, 2019 (Reference 5), respectively.

Exelon has been continuing to evaluate the most feasible options for completing the work needed to support the implementation of the HPSW system modifications in order minimize plant risk and the impact on plant equipment during the work activities. Exelon is planning to perform the valve and pump work in phases, such that the valve work will be completed by sub-system on both units first followed by the pump work by sub-system. As a result, final implementation of the modification work is now expected to be completed for both units by December 31, 2021. This revised implementation schedule will not adversely affect the operation of plant structures, systems, and components or safe full power operation.

Therefore, to more effectively and efficiently manage and facilitate the implementation of the amendments if approved by NRC, Exelon is requesting a change in the implementation schedule to align with the schedule described above. Currently, in the Reference 1 letter, Exelon requested the following:

> *Exelon requests approval of the proposed changes by September 28, 2019. Once approved, the temporary changes to TS Sections 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.7.1 will be implemented as required and will expire on December 31, 2020, for Unit 2 and on December 31, 2020, for Unit 3. Once approved, the reduction of HPSW design pressure will be implemented following completion of all physical modifications to the HPSW system, on a per unit basis. These modifications will be completed by December 31, 2020, for Unit 2 and by December 31, 2020, for Unit 3. The plant does not require this amendment to allow continued safe full power operation, although approval is required to support plant modifications required to reduce HPSW system design pressure.*

Exelon is now requesting that the amendments be implemented based on the following proposed implementation schedule:

> Exelon requests approval of the proposed changes by September 28, 2019. Once approved, the temporary changes to TS Sections 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.7.1 will be implemented as required and will expire on December 31, 2021. Once approved, the reduction of HPSW design pressure will be implemented following completion of all physical modifications to the HPSW system, on a per unit basis. These modifications will be completed on Units 2 and 3 by December 31, 2021. The plant does not require this amendment to allow continued safe full power operation, although approval is required to support plant modifications required to reduce HPSW system design pressure.

Since the date of December 31, 2020, was specifically reflected in the language for proposed footnotes on the mark-up Technical Specifications (TS) pages in the Reference 1 submittal, it is necessary to revise these pages to reflect the requested change in the implementation date of December 31, 2021. There were no other changes made in the proposed wording to the footnotes on the TS pages other than modifying the date, and all other information remains valid. This date change was also made in the mark-ups of the proposed TS Bases pages, but no other information was revised. Therefore, Attachment 1 provides a copy of the updated mark-up TS pages and Attachment 2 contains the updated mark-up TS Bases pages (for information only) reflecting the change in date. These updated TS and Bases pages supersede those pages previously provided in the Reference 1 submittal.

Exelon has reviewed the information supporting a finding of no significant hazards consideration, and the environmental consideration, that were previously provided to the NRC in the Reference 1 letter. Exelon has concluded that the information provided in this response does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92. In addition, Exelon has concluded that the information in this response does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

There are no regulatory commitments in this submittal.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), Exelon is notifying the Commonwealth of Pennsylvania of this supplemental response by transmitting a copy of this letter to the designated State Official.

If you have any questions or require additional information, please contact Richard Gropp at (610) 765-5557.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 23rd day of May 2019.

Respectfully,

James Barstow
Director, Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachments: 1) Updated Mark-up of Technical Specifications Pages
2) Updated Mark-up of Technical Specifications Bases Pages (for information only)

cc: w/ Attachments
NRC Region I, Regional Administrator
NRC Project Manager, NRR - Peach Bottom
NRC Senior Resident Inspector - Peach Bottom
R. R. Janati, Bureau of Radiation Protection, Commonwealth of Pennsylvania
D. A. Tancabel, State of Maryland

ATTACHMENT 1

Peach Bottom Atomic Power Station Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56

License Amendment Request to Reduce High Pressure Service Water System Design Pressure and Revise Technical Specifications 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.7.1 for Temporary Extension of Completion Times

Mark-up of Proposed Technical Specifications Pages

Unit 2 TS Pages
3.6-27
3.6-29
3.6-30a
3.7-1

Unit 3 TS Pages
3.6-27
3.6-29
3.6-30a
3.7-1

3.6 CONTAINMENT SYSTEMS

3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling

LCO 3.6.2.3 Two RHR suppression pool cooling subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR suppression pool cooling subsystem inoperable.	A.1 Restore RHR suppression pool cooling subsystem to OPERABLE status.	7 days (*)
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.	12 hours
C. Two RHR suppression pool cooling subsystems inoperable.	C.1 Restore one RHR suppression pool cooling subsystem to OPERABLE status.	8 hours
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	12 hours 36 hours

* The 7-day Completion Time for one RHR suppression pool cooling subsystem inoperable may be extended to 10 days four (4) times until December 31, 2021 with compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 established and in effect, to allow for modifications to the HPSW system.

3.6 CONTAINMENT SYSTEMS

3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

LCO 3.6.2.4 Two RHR suppression pool spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR suppression pool spray subsystem inoperable.	A.1 Restore RHR suppression pool spray subsystem to OPERABLE status.	7 days (*)
B. Two RHR suppression pool spray subsystems inoperable.	B.1 Restore one RHR suppression pool spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

* The 7-day Completion Time for one RHR suppression pool spray subsystem inoperable may be extended to 10 days four (4) times until December 31, 2021 with compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 established and in effect, to allow for modifications to the HPSW system.

3.6 CONTAINMENT SYSTEMS

3.6.2.5 Residual Heat Removal (RHR) Drywell Spray

LCO 3.6.2.5 Two RHR drywell spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR drywell spray subsystem inoperable.	A.1 Restore RHR drywell spray subsystem to OPERABLE status.	7 days (*)
B. Two RHR drywell spray subsystems inoperable.	B.1 Restore one RHR drywell spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	12 hours 36 hours

* The 7-day Completion Time for one RHR drywell spray subsystem inoperable may be extended to 10 days four (4) times until December 31, 2021 with compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 established and in effect, to allow for modifications to the HPSW system.

3.7 PLANT SYSTEMS

3.7.1 High Pressure Service Water (HPSW) System

LCO 3.7.1 Two HPSW subsystems and the HPSW cross tie shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One HPSW subsystem inoperable.	----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.4.7, "Residual Heat Removal (RHR) Shutdown Cooling System—Hot Shutdown," for RHR shutdown cooling made inoperable by HPSW System. ---------- A.1 Restore HPSW subsystem to OPERABLE status.	7 days *
B. HPSW cross tie inoperable.	B.1 Restore HPSW cross tie to OPERABLE status.	7 days *
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	12 hours

(continued)

* The 7-day Completion Time for one HPSW subsystem inoperable may be extended to 10 days four (4) times until December 31, 2021 and the 7-day Completion Time for the HPSW cross tie inoperable may be extended to 10 days two (2) times until December 31, 2021 with compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 established and in effect, to allow for modifications to the HPSW system.

3.6 CONTAINMENT SYSTEMS

3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling

LCO 3.6.2.3 Two RHR suppression pool cooling subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR suppression pool cooling subsystem inoperable.	A.1 Restore RHR suppression pool cooling subsystem to OPERABLE status.	7 days (*)
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.	12 hours
C. Two RHR suppression pool cooling subsystems inoperable.	C.1 Restore one RHR suppression pool cooling subsystem to OPERABLE status.	8 hours
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	12 hours 36 hours

* The 7-day Completion Time for one RHR suppression pool cooling subsystem inoperable may be extended to 10 days (3) times and to 14 days one (1) time (A-C subsystem only) until December 31, 2021 with compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 established and in effect, to allow for modifications to the HPSW system and repairs to Unit 3 RHR Heat Exchanger 3CE024.

3.6 CONTAINMENT SYSTEMS

3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

LCO 3.6.2.4 Two RHR suppression pool spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR suppression pool spray subsystem inoperable.	A.1 Restore RHR suppression pool spray subsystem to OPERABLE status.	7 days (*)
B. Two RHR suppression pool spray subsystems inoperable.	B.1 Restore one RHR suppression pool spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

* The 7-day Completion Time for one RHR suppression pool spray subsystem inoperable may be extended to 10 days three (3) times and 14 days one (1) time (A-C subsystem only) until December 31, 2021 with compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 established and in effect, to allow for modifications to the HPSW system and repairs to Unit 3 RHR Heat Exchanger 3CE024.

3.6 CONTAINMENT SYSTEMS

3.6.2.5 Residual Heat Removal (RHR) Drywell Spray

LCO 3.6.2.5 Two RHR drywell spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR drywell spray subsystem inoperable.	A.1 Restore RHR drywell spray subsystem to OPERABLE status.	7 days (*)
B. Two RHR drywell spray subsystems inoperable.	B.1 Restore one RHR drywell spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	12 hours 36 hours

* The 7-day Completion Time for one RHR drywell spray subsystem inoperable may be extended to 10 days three (3) times and 14 days one (1) time (A-C subsystem only) until December 31, 2021 with compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 established and in effect, to allow for modifications to the HPSW system and repairs to Unit 3 RHR Heat Exchanger 3CE024.

3.7 PLANT SYSTEMS

3.7.1 High Pressure Service Water (HPSW) System

LCO 3.7.1 Two HPSW subsystems and the HPSW cross tie shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One HPSW subsystem inoperable.	----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.4.7, "Residual Heat Removal (RHR) Shutdown Cooling System—Hot Shutdown," for RHR shutdown cooling made inoperable by HPSW System. ---------- A.1 Restore HPSW subsystem to OPERABLE status.	7 days *
B. HPSW cross tie inoperable.	B.1 Restore HPSW cross tie to OPERABLE status	7 days *
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	12 hours

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* The 7-day Completion Time for one HPSW subsystem inoperable may be extended to 10 days three (3) times and 14 days one (1) time (A-C subsystem only) until December 31, 2021 ; and the 7-day Completion Time for the HPSW cross tie inoperable may be extended to 10 days one (1) time and 14 days one (1) time (A-C subsystem only) until December 31, 2021 with compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 established and in effect, to allow for modifications to the HPSW system and repairs to Unit 3 RHR Heat Exchanger 3CE024.

ATTACHMENT 2

Peach Bottom Atomic Power Station Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56

License Amendment Request to Reduce High Pressure Service Water System Design Pressure and Revise Technical Specifications 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.7.1 for Temporary Extension of Completion Times

Updated Mark-up of Proposed Technical Specifications Bases Pages
(For Information Only)

Unit 2 TS Bases Pages
B 3.6-57
B 3.6-58
B 3.6-62
B 3.6-63e
B 3.7-4
B 3.7-5

Unit 3 TS Bases Pages
B 3.6-57
B 3.6-58
B 3.6-62
B 3.6-63e
B 3.7-4
B 3.7-5

This page provided for information.
No change to this page.

BASES (continued)

APPLICABLE SAFETY ANALYSES

Reference 1 contains the results of analyses used to predict primary containment pressure and temperature following large and small break LOCAs. The intent of the analyses is to demonstrate that the heat removal capacity of the RHR Suppression Pool Cooling System is adequate to maintain the primary containment conditions within design limits. The suppression pool temperature is calculated to remain below the design limit.

The RHR Suppression Pool Cooling System satisfies Criterion 3 of the NRC Policy Statement.

LCO

During a DBA, a minimum of one RHR suppression pool cooling subsystem is required to maintain the primary containment peak pressure and temperature below design limits (Ref. 1). To ensure that these requirements are met, two RHR suppression pool cooling subsystems must be OPERABLE with power from two safety related independent power supplies. Therefore, in the event of an accident, at least one subsystem is OPERABLE assuming the worst case single active failure. An RHR suppression pool cooling subsystem is OPERABLE when one of the pumps, two heat exchangers in the same RHR subsystem, the associated RHR heat exchanger cross tie line, two HPSW System pumps capable of providing cooling to the two heat exchangers and associated piping, valves, instrumentation, and controls are OPERABLE.

Management of gas voids is important to RHR Suppression Pool Cooling System OPERABILITY.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment and cause a heatup and pressurization of primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, the RHR Suppression Pool Cooling System is not required to be OPERABLE in MODE 4 or 5.

ACTIONS

A.1

With one RHR suppression pool cooling subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining RHR suppression pool cooling subsystem is adequate to perform the primary containment cooling function. However, the

(continued)

BASES

ACTIONS

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days four (4) times until December 31, 2021 to allow for modifications to the HPSW System. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.4, 3.6.2.5, and 3.7.1.

A.1 (continued)

overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced primary containment cooling capability. The 7 day Completion Time is acceptable in light of the redundant RHR suppression pool cooling capabilities afforded by the OPERABLE subsystem and the low probability of a DBA occurring during this period.

B.1

If one RHR suppression pool cooling subsystem is inoperable and is not restored to OPERABLE status within the required Completion Time, the plant must be brought to a condition in which the overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. Remaining in the Applicability of the LCO is acceptable because the plant risk in MODE 3 is similar to or lower than the risk in MODE 4 (Ref. 2) and because the time spent in MODE 3 to perform the necessary repairs to restore the system to OPERABLE status will be short. However, voluntary entry into MODE 4 may be made as it is also an acceptable low-risk state. The allowed Completion Time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

C.1

With two RHR suppression pool cooling subsystems inoperable, one subsystem must be restored to OPERABLE status within 8 hours. In this condition, there is a substantial loss of the primary containment pressure and temperature mitigation function. The 8 hour Completion Time is based on this loss of function and is considered acceptable due to the low probability of a DBA and because alternative methods to remove heat from primary containment are available.

D.1 and D.2

If the Required Action and associated Completion Time of Condition C cannot be met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

ACTIONS

A.1

With one RHR suppression pool spray subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE RHR suppression pool spray subsystem is adequate to perform the primary containment bypass leakage mitigation function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced primary containment bypass mitigation capability. The 7 day Completion Time was chosen in light of the redundant RHR suppression pool spray capabilities afforded by the OPERABLE subsystem and the low probability of a DBA occurring during this period.

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days four (4) times until December 31, 2021 to allow for modifications to the HPSW System. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.3, 3.6.2.5, and 3.7.1.

B.1

With both RHR suppression pool spray subsystems inoperable, at least one subsystem must be restored to OPERABLE status within 8 hours. In this Condition, there is a substantial loss of the primary containment bypass leakage mitigation function. The 8 hour Completion Time is based on this loss of function and is considered acceptable due to the low probability of a DBA and because alternative methods to remove heat from primary containment are available.

C.1

If the inoperable RHR suppression pool spray subsystem(s) cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. Remaining in the Applicability of the LCO is acceptable because the plant risk in MODE 3 is similar to or lower than the risk in MODE 4 (Ref. 2) and because the time spent in MODE 3 to perform the necessary repairs to restore the system to OPERABLE status will be short. However, voluntary entry into MODE 4 may be made as it is also an acceptable low-risk state. The allowed Completion Time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

ACTIONS

A.1

With one RHR drywell spray subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE RHR drywell spray subsystem is adequate to mitigate the effects of a steam line break in the drywell. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced ability to mitigate the temperature rise associated with a steam line break in the drywell, for which drywell sprays are credited. The 7 day Completion Time was chosen in light of the redundant RHR drywell spray capabilities afforded by the OPERABLE subsystem and the low probability of a steam line break in the drywell occurring during this period.

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days four (4) times until December 31, 2021 to allow for modifications to the HPSW System. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.3, 3.6.2.4, and 3.7.1.

B.1

With both RHR drywell spray subsystems inoperable, at least one subsystem must be restored to OPERABLE status within 8 hours. In this Condition, there is a substantial loss of the ability to mitigate the temperature rise associated with a steam line break in the drywell, for which drywell sprays are credited. The 8 hour Completion Time is based on this loss of function and is considered acceptable due to the low probability of a steam line break in the drywell and because alternative methods to remove heat from primary containment are available.

C.1 and C.2

If the inoperable RHR drywell spray subsystem(s) cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

APPLICABILITY

In MODES 1, 2, and 3, the HPSW System is required to be OPERABLE to support the OPERABILITY of the RHR System for primary containment cooling (LCO 3.6.2.3, "Residual Heat Removal (RHR) Suppression Pool Cooling," and LCO 3.6.2.4, "Residual Heat Removal (RHR) Suppression Pool Spray") and decay heat removal (LCO 3.4.7, "Residual Heat Removal (RHR) Shutdown Cooling System—Hot Shutdown"). The Applicability is therefore consistent with the requirements of these systems.

In MODES 4 and 5, the OPERABILITY requirements of the HPSW System are determined by the systems it supports, and therefore, the requirements are not the same for all facets of operation in MODES 4 and 5. Thus, the LCOs of the RHR shutdown cooling system, which requires portions of the HPSW System to be OPERABLE, will govern HPSW System operation in MODES 4 and 5.

ACTIONS

A.1

With one HPSW subsystem inoperable, the inoperable HPSW subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE HPSW subsystem is adequate to perform the HPSW heat removal function. However, the overall reliability is reduced because a single failure in the OPERABLE HPSW subsystem could result in loss of HPSW function. The Completion Time is based on the redundant HPSW capabilities afforded by the OPERABLE subsystem and the low probability of an event occurring requiring HPSW during this period.

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days four (4) times until December 31, 2021 to allow for modifications to the HPSW System. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2108 must be established and in effect. This change also affects TS 3.6.2.3, 3.6.2.4, and 3.6.2.5.

The Required Action is modified by a Note indicating that the applicable Conditions of LCO 3.4.7, be entered and Required Actions taken if an inoperable HPSW subsystem results in an inoperable RHR shutdown cooling subsystem. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

B.1

With an inoperable cross tie line, the HPSW cross tie line must be restored to an OPERABLE status within 7 days. With an inoperable HPSW cross tie line, if no additional failures occur, and two HPSW subsystems are OPERABLE, then the two OPERABLE pumps and flow paths ensure two HPSW pumps are available to

(continued)

BASES

ACTIONS B.1 (continued)

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days two (2) times until December 31, 2021 to allow for modifications to the HPSW System. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.3, 3.6.2.4, and 3.6.2.5.

provide adequate heat removal capacity following a design basis accident. However, the overall reliability is reduced because a single failure in the HPSW system could result in a loss of HPSW System function. Therefore, continued operation is permitted only for a limited time. The Completion Time is based on remaining heat removal capacity, and the low probability of a DBA occurring during this period.

C.1

If one HPSW subsystem or the HPSW cross tie is inoperable and not restored within the provided Completion Time, the plant must be brought to a condition in which the overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. Remaining in the Applicability of the LCO is acceptable because the plant risk in MODE 3 is similar to or lower than the risk in MODE 4 (Ref. 5) and because the time spent in MODE 3 to perform the necessary repairs to restore the system to OPERABLE status will be short. However, voluntary entry into MODE 4 may be made as it is also an acceptable low-risk state. The allowed Completion Time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

D.1

With both HPSW subsystems inoperable, the HPSW System is not capable of performing its intended function. At least one subsystem must be restored to OPERABLE status within 8 hours. The 8 hour Completion Time for restoring one HPSW subsystem to OPERABLE status, is based on the Completion Times provided for the RHR suppression pool cooling and spray functions.

The Required Action is modified by a Note indicating that the applicable Conditions of LCO 3.4.7, be entered and Required Actions taken if an inoperable HPSW subsystem results in an inoperable RHR shutdown cooling subsystem. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

(continued)

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BASES (continued)

APPLICABLE SAFETY ANALYSES

Reference 1 contains the results of analyses used to predict primary containment pressure and temperature following large and small break LOCAs. The intent of the analyses is to demonstrate that the heat removal capacity of the RHR Suppression Pool Cooling System is adequate to maintain the primary containment conditions within design limits. The suppression pool temperature is calculated to remain below the design limit.

The RHR Suppression Pool Cooling System satisfies Criterion 3 of the NRC Policy Statement.

LCO

During a DBA, a minimum of one RHR suppression pool cooling subsystem is required to maintain the primary containment peak pressure and temperature below design limits (Ref. 1). To ensure that these requirements are met, two RHR suppression pool cooling subsystems must be OPERABLE with power from two safety related independent power supplies. Therefore, in the event of an accident, at least one subsystem is OPERABLE assuming the worst case single active failure. An RHR suppression pool cooling subsystem is OPERABLE when one of the pumps, two heat exchangers in the same RHR subsystem, the associated RHR heat exchanger cross tie line, two HPSW System pumps capable of providing cooling to the two heat exchangers and associated piping, valves, instrumentation, and controls are OPERABLE.

Management of gas voids is important to RHR Suppression Pool Cooling System OPERABILITY.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment and cause a heatup and pressurization of primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, the RHR Suppression Pool Cooling System is not required to be OPERABLE in MODE 4 or 5.

ACTIONS

A.1

With one RHR suppression pool cooling subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining RHR suppression pool cooling subsystem is adequate to perform the primary containment cooling function. However, the

(continued)

BASES

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days three (3) times and to 14 days one (1) time (A-C subsystem only) until December 31, 2021 to allow for modifications to the HPSW System and repairs to Unit 3 RHR Heat Exchanger 3CE024. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.4, 3.6.2.5, and 3.7.1.

A.1 (continued)

overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced primary containment cooling capability. The 7 day Completion Time is acceptable in light of the redundant RHR suppression pool cooling capabilities afforded by the OPERABLE subsystem and the low probability of a DBA occurring during this period.

B.1

If one RHR suppression pool cooling subsystem is inoperable and is not restored to OPERABLE status within the required Completion Time, the plant must be brought to a condition in which the overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. Remaining in the Applicability of the LCO is acceptable because the plant risk in MODE 3 is similar to or lower than the risk in MODE 4 (Ref. 2) and because the time spent in MODE 3 to perform the necessary repairs to restore the system to OPERABLE status will be short. However, voluntary entry into MODE 4 may be made as it is also an acceptable low-risk state. The allowed Completion Time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

C.1

With two RHR suppression pool cooling subsystems inoperable, one subsystem must be restored to OPERABLE status within 8 hours. In this condition, there is a substantial loss of the primary containment pressure and temperature mitigation function. The 8 hour Completion Time is based on this loss of function and is considered acceptable due to the low probability of a DBA and because alternative methods to remove heat from primary containment are available.

D.1 and D.2

If the Required Action and associated Completion Time of Condition C cannot be met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

ACTIONS

A.1

With one RHR suppression pool spray subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE RHR suppression pool spray subsystem is adequate to perform the primary containment bypass leakage mitigation function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced primary containment bypass mitigation capability. The 7 day Completion Time was chosen in light of the redundant RHR suppression pool spray capabilities afforded by the OPERABLE subsystem and the low probability of a DBA occurring during this period.

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days three (3) times and 14 days one (1) time (A-C subsystem only) until December 31, 2021 to allow for modifications to the HPSW System and repairs to Unit 3 RHR Heat Exchanger 3CE024. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.3, 3.6.2.5, and 3.7.1.

B.1

With both RHR suppression pool spray subsystems inoperable, at least one subsystem must be restored to OPERABLE status within 8 hours. In this Condition, there is a substantial loss of the primary containment bypass leakage mitigation function. The 8 hour Completion Time is based on this loss of function and is considered acceptable due to the low probability of a DBA and because alternative methods to remove heat from primary containment are available.

C.1

If the inoperable RHR suppression pool spray subsystem(s) cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. Remaining in the Applicability of the LCO is acceptable because the plant risk in MODE 3 is similar to or lower than the risk in MODE 4 (Ref. 2) and because the time spent in MODE 3 to perform the necessary repairs to restore the system to OPERABLE status will be short. However, voluntary entry into MODE 4 may be made as it is also an acceptable low-risk state. The allowed Completion Time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

ACTIONS

A.1

With one RHR drywell spray subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE RHR drywell spray subsystem is adequate to mitigate the effects of a steam line break in the drywell. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced ability to mitigate the temperature rise associated with a steam line break in the drywell, for which drywell sprays are credited. The 7 day Completion Time was chosen in light of the redundant RHR drywell spray capabilities afforded by the OPERABLE subsystem and the low probability of a steam line break in the drywell occurring during this period.

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days three (3) times and 14 days one (1) time (A-C subsystem only) until December 31, 2021 to allow for modifications to the HPSW System and repairs to Unit 3 RHR Heat Exchanger 3CE024. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.3, 3.6.2.4, and 3.7.1.

B.1

With both RHR drywell spray subsystems inoperable, at least one subsystem must be restored to OPERABLE status within 8 hours. In this Condition, there is a substantial loss of the ability to mitigate the temperature rise associated with a steam line break in the drywell, for which drywell sprays are credited. The 8 hour Completion Time is based on this loss of function and is considered acceptable due to the low probability of a steam line break in the drywell and because alternative methods to remove heat from primary containment are available.

C.1 and C.2

If the inoperable RHR drywell spray subsystem(s) cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

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BASES (continued)

APPLICABILITY

In MODES 1, 2, and 3, the HPSW System is required to be OPERABLE to support the OPERABILITY of the RHR System for primary containment cooling (LCO 3.6.2.3, "Residual Heat Removal (RHR) Suppression Pool Cooling," and LCO 3.6.2.4, "Residual Heat Removal (RHR) Suppression Pool Spray") and decay heat removal (LCO 3.4.7, "Residual Heat Removal (RHR) Shutdown Cooling System—Hot Shutdown"). The Applicability is therefore consistent with the requirements of these systems.

In MODES 4 and 5, the OPERABILITY requirements of the HPSW System are determined by the systems it supports, and therefore, the requirements are not the same for all facets of operation in MODES 4 and 5. Thus, the LCOs of the RHR shutdown cooling system, which requires portions of the HPSW System to be OPERABLE, will govern HPSW System operation in MODES 4 and 5.

ACTIONS

A.1

With one HPSW subsystem inoperable, the inoperable HPSW subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE HPSW subsystem is adequate to perform the HPSW heat removal function. However, the overall reliability is reduced because a single failure in the OPERABLE HPSW subsystem could result in loss of HPSW function. The Completion Time is based on the redundant HPSW capabilities afforded by the OPERABLE subsystem and the low probability of an event occurring requiring HPSW during this period.

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days three (3) times and 14 days one (1) time (A-C subsystem only) until December 31, 2021 to allow for modifications to the HPSW System and repairs to Unit 3 RHR Heat Exchanger 3CE024. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.3, 3.6.2.4 and 3.6.2.5.

The Required Action is modified by a Note indicating that the applicable Conditions of LCO 3.4.7, be entered and Required Actions taken if an inoperable HPSW subsystem results in an inoperable RHR shutdown cooling subsystem. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

B.1

With an inoperable cross tie line, the HPSW cross tie line must be restored to an OPERABLE status within 7 days. With an inoperable HPSW cross tie line, if no additional failures occur, and two HPSW subsystems are OPERABLE, then the two OPERABLE pumps and flow paths ensure two HPSW pumps are available to

(continued)

BASES

ACTIONS B.1 (continued)

The Completion Time is modified by a note (*) for a one-time change that extends the 7-day Completion Time to 10 days one (1) time and 14 days one (1) time (A-C subsystem only) until December 31, 2021 to allow for modifications to the HPSW System and repairs to Unit 3 RHR Heat Exchanger 3CE024. The compensatory measures identified in EGC License Amendment Request letter dated September 28, 2018 must be established and in effect. This change also affects TS 3.6.2.3, 3.6.2.4 and 3.6.2.5.

provide adequate heat removal capacity following a design basis accident. However, the overall reliability is reduced because a single failure in the HPSW System could result in a loss of HPSW System function. Therefore, continued operation is permitted only for a limited time. The Completion Time is based on remaining heat removal capacity, and the low probability of a DBA occurring during this period.

C.1

If one HPSW subsystem or the HPSW cross tie is inoperable and not restored within the provided Completion Time, the plant must be brought to a condition in which the overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. Remaining in the Applicability of the LCO is acceptable because the plant risk in MODE 3 is similar to or lower than the risk in MODE 4 (Ref. 5) and because the time spent in MODE 3 to perform the necessary repairs to restore the system to OPERABLE status will be short. However, voluntary entry into MODE 4 may be made as it is also an acceptable low-risk state. The allowed Completion Time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

D.1

With both HPSW subsystems inoperable, the HPSW System is not capable of performing its intended function. At least one subsystem must be restored to OPERABLE status within 8 hours. The 8 hour Completion Time for restoring one HPSW subsystem to OPERABLE status, is based on the Completion Times provided for the RHR suppression pool cooling and spray functions.

The Required Action is modified by a Note indicating that the applicable Conditions of LCO 3.4.7, be entered and Required Actions taken if an inoperable HPSW subsystem results in an inoperable RHR shutdown cooling subsystem. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

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