Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-19-084

January 17, 2020

10 CFR 50.90

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

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License Nos. NPF-90 and NPF-96
NRC Docket Nos. 50-390 and 50-391

Subject: **Second Supplement to Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program (WBN-TS-18-14) (EPID L-2018-LLA-0279)**

References:

1. TVA Letter to NRC, CNL-18-067, "Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program (WBN-TS-18-14)," dated October 12, 2018 (ML18288A352)

2. TVA Letter to NRC, CNL-19-035, "Response to Request for Additional Information Regarding Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program (WBN-TS-18-14) (EPID L-2018-LLA-0279)," dated May 7, 2019 (ML19127A323)

3. TVA Letter to NRC, CNL-19-054, "Correction to Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program (WBN-TS-18-14) (EPID L-2018-LLA-0279)," dated June 6, 2019 (ML19157A302)

4. TVA Letter to NRC, CNL-19-060, "Supplement to Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program (WBN-TS-18-14) (EPID L-2018-LLA-0279)," dated August 29, 2019 (ML19242D967)

5. NRC Letter to TVA, “Sequoyah Nuclear Plant, Units 1 and 2; Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendments Regarding Request to Change Technical Specification 3.3.1 and Surveillance Requirement 3.2.4 (EPID L-2017-LLA-0287),” dated August 30, 2018 (ML18197A307)

6. NRC Letter to TVA, “Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendments Regarding Technical Specification Changes Pertaining to 120-Volt Alternating Current Vital Buses (EPID L-2018-LLA-0050),” dated June 7, 2019 (ML19098A774)

7. NRC Letter to TVA, “Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendment Nos. 129 and 32 Regarding Changes to Technical Specifications 3.8.1, 3.8.7, 3.8.8, and 3.8.9 (EPID L-2018-LLA-0492),” dated November 26, 2019 (ML19238A005)

8. NRC Letter to TVA, “Browns Ferry Nuclear Plant, Units 1, 2, and 3; Sequoyah Nuclear Plant, Units 1 and 2; Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendment Nos. 309, 332, 292, 345, 339, 128, and 31 Regarding Unbalanced Voltage Protection (EPID L-2017-LLA-0391),” dated August 27, 2019 (ML18277A110)

9. NRC Letter to TVA, “Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendment Regarding Revision to Watts Bar Nuclear Plant, Unit 2, Technical Specification 4.2.1, "Fuel Assemblies," and Watts Bar Nuclear Plant, Units 1 and 2, Technical Specifications Related To Fuel Storage (EPID L-2017-LLA-0427),” dated May 22, 2019 (ML18347B330)

10. NRC letter to TVA, “Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendment Nos. 130 and 33 Regarding Adoption of Technical Specifications Task Force Traveler TSTF-500, ‘DC Electrical Rewrite - Update to TSTF-360’ (EPID L-2018-LLA-0494),” dated December 9, 2019 (ML19276E557)

In Reference 1, Tennessee Valley Authority (TVA) submitted a license amendment request (LAR) for the Watts Bar Nuclear Plant (WBN) Units 1 and 2 to modify the WBN Technical Specifications (TS), by relocating specific surveillance frequencies to a licensee-controlled program with the implementation of Nuclear Energy Institute (NEI) 04-10, “Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies,” in accordance with Technical Specification Task Force (TSTF) Standard Technical Specifications Change TSTF-425, Revision 3. In Reference 2, TVA submitted a response to a request for additional information (RAI) regarding this LAR. In Reference 3, TVA submitted a correction letter for an element of the LAR. In Reference 4, TVA submitted a supplement to the LAR to rescind one of the proposed Surveillance Requirements (SR) Frequency changes and to make several errata changes to the LAR.

The purpose of this letter is to provide an additional supplement to the Reference 1 LAR to address several overlapping licensing actions, as described below.

- In Reference 5, the Nuclear Regulatory Commission (NRC) issued License Amendments 122/21 for WBN Units 1 and 2, respectively, which revised Surveillance Requirements (SRs) 3.2.4.1 and 3.2.4.2 with frequencies that are also proposed to be controlled under the Surveillance Frequency Control Program (SFCP) by Reference 1. These amendments were inadvertently not included in the Reference 1 LAR.
- In Reference 6, the NRC issued License Amendments 126/29 for WBN Units 1 and 2, respectively, after the Reference 1 LAR had been submitted. These amendments revised TS Pages 3.8-42/3.8-38 that the Reference 1 LAR markup and clean pages had been based. In Reference 7, the NRC issued License Amendments 129/32 for WBN Units 1 and 2, respectively, which further revised these pages, and also revised SRs 3.8.7.1 and SRs 3.8.8.1 with frequencies that are also proposed to be controlled under the SFCP by Reference 1.
- In Reference 8, the NRC issued License Amendments 128/31 for WBN Units 1 and 2, respectively, after the Reference 1 LAR had been submitted. These amendments revised certain TS pages that the Reference 1 LAR markup and clean pages had been based.

Accordingly, in Enclosure 1, TVA is providing change instructions to update the Reference 1 LAR based on the pages issued with the Reference 5, 6, 7, and 8 License Amendments. Additional changes unrelated to the SFCP are included to correct administrative formatting in accordance with the TSTF-GG-05-01, Revision 1, “Writer’s Guide for Plant-Specific Improved Technical Specifications,” and the formatting conventions of NUREG-1431, Revision 4.0, “Standard Technical Specifications Westinghouse Plants.”

In Reference 9, the NRC issued License Amendments 125/27 for WBN Units 1 and 2, respectively, which revised an existing surveillance (SR 3.9.9.1) whose Frequency was proposed to be controlled under the SFCP in the Reference 1 LAR. These amendments also added a new SR 3.7.18.1 which is candidate for inclusion in the SFCP. However, as noted in Reference 9, Amendments 125/27 are not scheduled for implementation until “prior to startup from the outage where any number of tritium producing burnable absorber rods is inserted in the Watts Bar Nuclear Plant, Unit 2 reactor core, not to exceed December 31, 2022.” The tritium producing burnable absorber rods are currently scheduled to be inserted for WBN Unit 2 prior to the start of WBN Unit 2 Cycle 4 (projected in Fall 2020), which will exceed the requested 60-day implementation period for the Reference 1 LAR. In order to avoid having to submit a supplemental LAR to capture these SRs within the SFCP, TVA proposes a bifurcated implementation schedule for the Reference 1 LAR. The SR 3.7.18.1 and 3.9.9.1 Frequencies will be established under the SFCP consistent with the above License Amendments 125/27 implementation schedule, with the balance of the Reference 1 LAR proposed changes implemented within 60-days of approval. Finally, Amendments 125/27 established the Spent Fuel Storage Rack Monitoring Program under TS Section 5.7.2.21, which was also the proposed section number for the discussion of the

SFCP in the Reference 1 LAR. Accordingly, the SFCP location has been re-designated. Enclosure 2 provides the change instructions to update the Reference 1 LAR based on the pages issued with the Reference 9 License Amendments.

Lastly, in Reference 10, the NRC issued License Amendments 130/33 for WBN Units 1 and 2, respectively, that approved the adoption TSTF-500, "DC Electrical Rewrite - Update to TSTF-360." This amendment results in the deletion and revision of certain Surveillance Requirements (SRs) that were included in the Reference 1 LAR, and adds several new SRs that are candidates for their SR Frequencies being controlled under the SFCP. Accordingly, in Enclosure 3, TVA is providing change instructions to update the Reference 1 LAR to reflect these SR changes.

In Enclosure 4, TVA has provided a clean version of Attachment 7 to the Reference 1 LAR, showing the aggregate changes of this submittal and the previous changes made by References 3 and 4. A complete set of updated clean/re-typed TS pages for the Reference 1 LAR for WBN Units 1 and 2 will be transmitted via e-mail separately at a future date.

The enclosures to this letter do not change the no significant hazards consideration nor the environmental considerations contained in the Reference 1 LAR. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and the enclosure to the Tennessee Department of Environment and Conservation.

There are no new regulatory commitments associated with this submittal. Please address any questions regarding this request to Kimberly D. Hulvey, TVA Fleet Licensing Manager, at 423-751-3275.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 17th day of January 2020.

Respectfully,

James T. Polickoski
Director, Nuclear Regulatory Affairs

Enclosures

cc: See Page 5

Enclosures:

1. Change Instructions to the October 12, 2018, License Amendment Request Associated with License Amendments 122/21, 126/29, 128/31, and 129/32, and Other Miscellaneous Changes

2. Change Instructions to the October 12, 2018, License Amendment Request Associated with License Amendments 125/27

3. Change Instructions to the October 12, 2018, License Amendment Request Associated with License Amendments 130/33

4. Clean Version of Attachment 7 to the October 12, 2018, License Amendment Request Showing Revisions Made to Date

cc (Enclosures):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Watts Bar Nuclear Plant
NRC Project Manager – Watts Bar Nuclear Plant
Director, Division of Radiological Health - Tennessee State Department of Environment and Conservation

Enclosure 1

Change Instructions to the October 12, 2018, License Amendment Request
Associated with License Amendments 122/21, 126/29, 128/31, and 129/32,
and Other Miscellaneous Changes

(42 Pages)

Discussion

This Enclosure contains six addenda that are driving modifications to the October 12, 2018 License Amendment Request (LAR). Within each addendum, the modification pages are provided in the order that they appear in the LAR.

Addendum 1

License Amendments 122/21 (ML18197A307) were issued on August 30, 2018. These amendments have intersections with the TSTF-425 LAR in TS 3.2.4 as specified below.

- Surveillance Requirements (SRs) 3.2.4.1 and 3.2.4.2 were revised slightly. The revised SRs remain closely aligned with TSTF-425 SR 3.2.4.1 and 3.2.4.2, and the Frequency remains eligible to licensee control in accordance with the Surveillance Frequency Control Program (SFCP), consistent with the TSTF-425 Model Safety Evaluation (SE). These changes remain as administrative variations as described in Attachment 1, Section 2.2.1.1 of the TSTF-425 License Amendment Request (LAR).

Changes to Attachments 3.1, 3.2, 4.1, and 4.2 of the TSTF-425 LAR are provided that are reflective of these changes.

Addendum 2

License Amendments 126/29 (ML19098A774) were issued on June 7, 2019, which revised TS Pages 3.8-42/3.8-38 that had also been designated for change in the TSTF-425 LAR. License Amendments 129/32 (ML19238A005) were issued on November 26, 2019, which also affected these pages. Additionally, Amendments 129/32 have intersections with the TSTF-425 LAR in SR 3.8.7.1 and SR 3.8.8.1. As a result:

- Surveillance Requirements (SRs) 3.8.7.1 and 3.8.8.1 were revised. The new wording closely aligns with TSTF-425 SR 3.8.7.1 and 3.8.8.1, and the Frequencies remains eligible for licensee control in accordance with the Surveillance Frequency Control Program (SFCP), consistent with the TSTF-425 Model Safety Evaluation (SE). These changes remain as administrative variations as described in Attachment 1, Section 2.2.1.1 of the TSTF-425 LAR.

- TS 3.8.9 Conditions E and F were re-designated as Conditions G and H, and relocated from Page 3.8-42 to 3.8-42a for WBN1, which is also the page containing the change to SR 3.8.9.1 for control under the SFCP. The WBN2 change was similarly shifted from Page 3.8-38 to 3.8-38a.

Changes to Attachments 3.1, 3.2, 4.1, and 4.2 of the TSTF-425 LAR are provided that are reflective of these changes. Changes to Attachment 7, Page 35 of 37, for the SR 3.8.7.1 and SR 3.8.8.1 entries are shown in Enclosure 3, which has other changes on that same page.

Addendum 3

License Amendments 128/31 (ML18277A110) were issued on August 27, 2019. These amendments have intersections with several TS pages upon which the TSTF-425 LAR markup and clean pages were based. Corrections are also made to the alignment of WBN1 Page 3.3-50 for Required Action C.1 and its Completion Time, and the lower border line, as well as insertion of additional line spaces before the start of the Surveillance Requirements. These are administrative changes consistent with TSTF-GG-05-01, Revision 1, "Writer's Guide for Plant Specific Improved Technical Specifications" and NUREG-1431. Revised pages are provided for Attachments 3.1, 3.2, 4.1, and 4.2.

Addendum 4

License Amendment 68 (ML081620043) inserted the Notes for SR 3.3.6.2 and SR 3.3.6.3 on WBN1 Page 3.3-55. These Notes were reformatted in License Amendment 92 (ML13141A564) and was re-established as Page 3.3.54. In neither amendment were these Notes properly formatted in conformance with TSTF-GG-05-01. Page 3.3-54 is therefore revised to properly format these Notes consistent with TSTF-GG-05-01 and WBN2 Page 3.3-56, and contains no technical change in content.

Addendum 5

License Amendment 5 (ML020790130) revised the Frequency of WBN1 SR 3.6.2.1 on Page 3.6-7 to be "In accordance with the Containment Leakage Rate Testing Program." However, the placement of this Frequency was misaligned per the guidance of TSTF-GG-05-01. Page 3.6-7 is revised to properly align this Frequency consistent with WBN2 Page 3.6-6, and contains no technical change in content.

Addendum 6

With the issuance of the WBN2 Operating License, the Frequencies for SR 3.6.11.5 and SR 3.6.11.7 on Page 3.6-27 were misaligned per the guidance of the TSTF-GG-05-01. Page 3.6-27 is revised to properly align these Frequencies consistent with WBN1 Page 3.6-30, and contain no technical changes in content.

Note: General page instructions are provided in green font. Specific changes on each page are provided in red font.

Addendum 1

to Enclosure 1

Replace this page in Attachment 3.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.4.1	----------NOTES---------- 1. With input from one power range neutron flux channel inoperable and THERMAL POWER ≤ 75% RTP, the remaining three power range channels can be used for calculating QPTR. 2. SR 3.2.4.2 may be performed in lieu of this Surveillance if adequate power range neutron flux channel inputs are not OPERABLE. ---------- Verify QPTR is within limit by calculation.	~~7 days~~ AND Once within 12 hours and every 12 hours thereafter with the QPTR alarm inoperable
SR 3.2.4.2	----------NOTE---------- Only required to be performed if input to QPTR from one or more power range neutron flux channels are inoperable with THERMAL POWER > 75% RTP. ---------- Verify QPTR is within limit using either the movable incore detectors or the PDMS.	Once within 12 hours AND ~~12 hours thereafter~~

Insert 1

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Replace this page in Attachment 3.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.4.1	----------NOTES---------- a. With input from one power range neutron flux channel inoperable and THERMAL POWER ≤ 75% RTP, the remaining three power range channels can be used for calculating QPTR. b. SR 3.2.4.2 may be performed in lieu of this Surveillance if adequate power range neutron flux channel inputs are not OPERABLE. ---------- Verify QPTR is within limit by calculation.	~~7 days~~ AND Once within 12 hours and every 12 hours thereafter with the QPTR alarm inoperable
SR 3.2.4.2	----------NOTE---------- Only required to be performed if input to QPTR from one or more power range neutron flux channels are inoperable with THERMAL POWER > 75% RTP. ---------- Verify QPTR is within limit using the PDMS.	Once within 12 hours AND ~~every 12 hours thereafter~~

Insert 1

Replace this page in Attachment 4.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.4.1	----------NOTES---------- 1. With input from one power range neutron flux channel inoperable and THERMAL POWER ≤ 75% RTP, the remaining three power range channels can be used for calculating QPTR. 2. SR 3.2.4.2 may be performed in lieu of this Surveillance if adequate power range neutron flux channel inputs are not OPERABLE. --- Verify QPTR is within limit by calculation.	In accordance with the Surveillance Frequency Control Program AND Once within 12 hours and every 12 hours thereafter with the QPTR alarm inoperable
SR 3.2.4.2	----------NOTE---------- Only required to be performed if input to QPTR from one or more power range neutron flux channels are inoperable with THERMAL POWER > 75% RTP. --- Verify QPTR is within limit using either the movable incore detectors or the PDMS.	Once within 12 hours AND In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.4.1	----------NOTES---------- a. With input from one power range neutron flux channel inoperable and THERMAL POWER ≤ 75% RTP, the remaining three power range channels can be used for calculating QPTR. b. SR 3.2.4.2 may be performed in lieu of this Surveillance if adequate power range neutron flux channel inputs are not OPERABLE. ---------- Verify QPTR is within limit by calculation.	In accordance with the Surveillance Frequency Control Program AND Once within 12 hours and every 12 hours thereafter with the QPTR alarm inoperable
SR 3.2.4.2	----------NOTE---------- Only required to be performed if input to QPTR from one or more power range neutron flux channels are inoperable with THERMAL POWER > 75% RTP. ---------- Verify QPTR is within limit using the PDMS.	Once within 12 hours AND In accordance with the Surveillance Frequency Control Program

Addendum 2

to Enclosure 1

Replace this page in Attachment 3.1

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage, frequency, and alignment to required AC vital bus.	~~7 days~~

Insert 1

Replace this page in Attachment 3.1

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.8.1	Verify correct inverter voltage, frequency, and alignments to required AC vital bus.	~~7 days~~

Insert 1

Delete this page from Attachment 3.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 5.	6 hours 36 hours
E. Two trains with one or more inoperable distribution subsystems that result in a loss of safety function.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	~~7 days~~

Insert 1

Amendment ___

Add this page to Attachment 3.1

ACTIONS (continued)

CONDITION		REQUIRED ACTION		COMPLETION TIME
G.	Required Action and associated Completion Time not met.	G.1	Be in MODE 3.	6 hours
		AND		
		G.2	Be in MODE 5.	36 hours
H.	Two trains with one or more inoperable distribution subsystems that result in a loss of safety function.	H.1	Enter LCO 3.0.3.	Immediately

Insert two line spaces

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	~~7 days~~

Insert 1

Replace this page in Attachment 3.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage, frequency, and alignment to required AC vital bus.	~~7 days~~

Insert 1

Replace this page in Attachment 3.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Verify correct inverter voltage, frequency, and alignments to required AC vital bus.	~~7 days~~

Insert 1

Delete this page from Attachment 3.2

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	6 hours
	AND		
	D.2	Be in MODE 5.	36 hours
E. Two trains with one or more inoperable distribution subsystems that result in a loss of safety function.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	~~7 days~~

Insert 1

Amendment ___

Add this page to Attachment 3.2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Required Action and associated Completion Time not met.	G.1 Be in MODE 3. AND G.2 Be in MODE 5.	6 hours 36 hours
H. Two trains with one or more inoperable distribution subsystems that result in a loss of safety function.	H.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	~~7 days~~

Insert 1

Replace this page in Attachment 4.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage, frequency, and alignment to required AC vital bus.	In accordance with the Surveillance Frequency Control Program

Replace this page in Attachment 4.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Verify correct inverter voltage, frequency, and alignments to required AC vital bus.	In accordance with the Surveillance Frequency Control Program

Delete this page from Attachment 4.1

ACTIONS (continued)

CONDITION		REQUIRED ACTION		COMPLETION TIME
D.	Required Action and associated Completion Time not met.	D.1 AND D.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
E.	Two trains with one or more inoperable distribution subsystems that result in a loss of safety function.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

Add this page to Attachment 4.1

ACTIONS (continued)

CONDITION		REQUIRED ACTION		COMPLETION TIME
G.	Required Action and associated Completion Time not met.	G.1 AND G.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
H.	Two trains with one or more inoperable distribution subsystems that result in a loss of safety function.	H.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

Replace this page in Attachment 4.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage, frequency, and alignment to required AC vital bus.	In accordance with the Surveillance Frequency Control Program

Replace this page in Attachment 4.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Verify correct inverter voltage, frequency, and alignments to required AC vital bus.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	6 hours
	AND		
	D.2	Be in MODE 5.	36 hours
E. Two trains with one or more inoperable distribution subsystems that result in a loss of safety function.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

Add this page to Attachment 4.2

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
G. Required Action and associated Completion Time not met.	G.1	Be in MODE 3.	6 hours
	AND		
	G.2	Be in MODE 5.	36 hours
H. Two trains with one or more inoperable distribution subsystems that result in a loss of safety function.	H.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

Addendum 3

to Enclosure 1

Replace this page in Attachment 3.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
----------NOTE---------- Only applicable to Function 5 ----------		
C. One or more Functions with one channel per bus inoperable.	C.1 Restore channel to OPERABLE status.	1 hour
D. Required Action and associated Completion Time not met.	D.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

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SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each LOP Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	----------NOTE---------- Verification of relay setpoints not required. ---------- Perform TADOT.	~~92 days~~
SR 3.3.5.2	Perform CHANNEL CALIBRATION.	~~6 months~~
SR 3.3.5.3	Perform CHANNEL CALIBRATION.	~~18 months~~

Insert 1

Insert new Page 3.3-50a

Delete this page from Attachment 3.2

ACTIONS continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time not met.	C.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each LOP Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	----------NOTE---------- Verification of relay setpoints not required. ---------- Perform TADOT.	~~92 days~~
SR 3.3.5.2	Perform CHANNEL CALIBRATION.	~~6 months~~
SR 3.3.5.3	Perform CHANNEL CALIBRATION.	~~18 months~~

Insert 1

Amendment ___

Add this page to Attachment 3.2

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each LOP Function.

	SURVEILLANCE	FREQUENCY
SR 3.3.5.1	----------NOTE---------- Verification of relay setpoints not required. --- Perform TADOT.	~~92 days~~
SR 3.3.5.2	Perform CHANNEL CALIBRATION.	~~6 months~~
SR 3.3.5.3	Perform CHANNEL CALIBRATION.	~~18 months~~

Insert 1

Replace this page in Attachment 4.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
----------NOTE---------- Only applicable to Function 5 ---------- C. One or more Functions with one channel per bus inoperable.	C.1 Restore channel to OPERABLE status.	1 hour
D. Required Action and associated Completion Time not met.	D.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each LOP Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	----------NOTE---------- Verification of relay setpoints not required. ---------- Perform TADOT.	In accordance with the Surveillance Frequency Control Program

(continued)

Add this page to Attachment 4.1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.5.2	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

Delete this page from Attachment 4.2

ACTIONS continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time not met.	C.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each LOP Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	----------NOTE---------- Verification of relay setpoints not required. ---------- Perform TADOT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

Add this page to Attachment 4.2

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each LOP Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	----------NOTE---------- Verification of relay setpoints not required. ---------- Perform TADOT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

Addendum 4

to Enclosure 1

Replace this page in Attachment 3.1

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.6-1 to determine which SRs apply for each Containment Vent Isolation Function.

SURVEILLANCE		FREQUENCY
SR 3.3.6.1	Perform CHANNEL CHECK.	~~12 hours~~
	This surveillance is only applicable to the actuation logic of the ESFAS instrumentation.	
SR 3.3.6.2	Perform ACTUATION LOGIC TEST.	~~92 days on a STAGGERED TEST BASIS~~
	This surveillance is only applicable to the master relays of the ESFAS instrumentation.	
SR 3.3.6.3	Perform MASTER RELAY TEST.	~~92 days on a STAGGERED TEST BASIS~~
SR 3.3.6.4	Perform COT.	~~92 days~~
SR 3.3.6.5	Perform SLAVE RELAY TEST.	~~92 days OR 18 months for Westinghouse type AR relays~~
SR 3.3.6.6	----------NOTE---------- Verification of setpoint is not required. ---------- Perform TADOT.	~~18 months~~
SR 3.3.6.7	Perform CHANNEL CALIBRATION.	~~18 months~~

NOTE

Insert 1

Replace this page in Attachment 4.1

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.6-1 to determine which SRs apply for each Containment Vent Isolation Function.

SURVEILLANCE		FREQUENCY
SR 3.3.6.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.2	----------NOTE---------- This surveillance is only applicable to the actuation logic of the ESFAS instrumentation. --- Perform ACTUATION LOGIC TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.3	----------NOTE---------- This surveillance is only applicable to the master relays of the ESFAS instrumentation. --- Perform MASTER RELAY TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.4	Perform COT.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.5	Perform SLAVE RELAY TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.6	----------NOTE---------- Verification of setpoint is not required. ---------- Perform TADOT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.7	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

Addendum 5

to Enclosure 1

Replace this page in Attachment 3.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.1	----------NOTES---------- 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. ---------- Perform required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program.
SR 3.6.2.2	----------NOTE---------- Only required to be performed upon entry or exit through the containment air lock. ---------- Verify only one door in the air lock can be opened at a time.	~~184 days~~

Insert 1

Sentence case

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.1	----------NOTES---------- 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. ---------- Perform required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program.
SR 3.6.2.2	----------NOTE---------- Only required to be performed upon entry or exit through the containment air lock. ---------- Verify only one door in the air lock can be opened at a time.	In accordance with the Surveillance Frequency Control Program

Addendum 6

to Enclosure 1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.11.5	----------NOTE---------- The requirements of this SR are satisfied if the boron concentration and pH values obtained from averaging the individual sample results are within the limits specified below. --- Verify, by chemical analysis of the stored ice in at least one randomly selected ice basket from each ice condenser bay, that ice bed: a. Boron concentration is ≥ 1800 ppm and ≤2000 ppm; and b. pH is ≥ 9.0 and ≤ 9.5.	~~54 months~~
SR 3.6.11.6	Visually inspect, for detrimental structural wear, cracks, corrosion, or other damage, two ice baskets from each azimuthal group of bays.	~~40 months~~
SR 3.6.11.7	----------NOTE---------- The chemical analysis may be performed on either the liquid solution or on the resulting ice. --- Verify, by chemical analysis, that ice added to the ice condenser meets the boron concentration and pH requirements or SR 3.6.11.5.	Each ice addition

Insert 1

Amendment ___

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.11.5	----------NOTE---------- The requirements of this SR are satisfied if the boron concentration and pH values obtained from averaging the individual sample results are within the limits specified below. ---------- Verify, by chemical analysis of the stored ice in at least one randomly selected ice basket from each ice condenser bay, that ice bed: a. Boron concentration is ≥ 1800 ppm and ≤2000 ppm; and b. pH is ≥ 9.0 and ≤ 9.5.	In accordance with the Surveillance Frequency Control Program
SR 3.6.11.6	Visually inspect, for detrimental structural wear, cracks, corrosion, or other damage, two ice baskets from each azimuthal group of bays.	In accordance with the Surveillance Frequency Control Program
SR 3.6.11.7	----------NOTE---------- The chemical analysis may be performed on either the liquid solution or on the resulting ice. ---------- Verify, by chemical analysis, that ice added to the ice condenser meets the boron concentration and pH requirements or SR 3.6.11.5.	Each ice addition

Enclosure 2

Change Instructions to the October 12, 2018, License Amendment Request Associated with License Amendments 125/27

(23 Pages)

Discussion

License Amendments 125/27 (ML18347B330) were issued on May 22, 2019. These amendments have an intersection with the TSTF-425 License Amendment Request (LAR) in TS 3.7.18 and TS 3.9.9, as well as in TS Section 5.7.2.21. Specifically:

- Surveillance Requirement (SR) 3.7.18.1 is a new surveillance. The SR closely aligns with TSTF-425 SR 3.7.16.1, and the Frequency is eligible for licensee control in accordance with the Surveillance Frequency Control Program (SFCP), consistent with the TSTF-425 Model Safety Evaluation (SE). Its addition qualifies as an administrative variation as described in Attachment 1, Section 2.2.1.1 of the TSTF-425 LAR. Page 3.7-40 is added to Attachments 3.1 and 4.1, and Page 3.7-38 is added to Attachments 3.2 and 4.2. Bases Page B 3.7-93 is added to Attachment 5. Page 26 of 37 of Attachment 7 is revised.

- SR 3.9.9.1 was revised to change the fuel storage pool boron concentration from ≥ 2000 ppm to ≥ 2300 ppm and additionally removed a Frequency requirement "Prior to movement of fuel in the spent fuel pool." Although there is no analogous TSTF-425 SR, it remains eligible for licensee control in accordance with the SFCP, consistent with the TSTF-425 Model SE. The revised SR remains an administrative variation as described in Attachment 1, Section 2.2.1.5 of the TSTF-425 LAR. Page 3.9-16 is replaced in Attachment 3.1 and 4.1, and Page 3.9-12 is replaced in Attachment 3.2 and 4.2. Page 37 of 37 of Attachment 7 is revised.

- The Spent Fuel Storage Rack Monitoring Program is now described in TS Section 5.7.2.21, which was also the proposed location for the description of the SFCP. TS Section 5.7.2.22 has been assigned to the Battery Monitoring and Maintenance Program, as described in Enclosure 3. Accordingly, the SFCP location has been re-assigned to TS Section 5.7.2.23. Specifically, Insert 2 from Attachments 3.1 and 3.2 are replaced. Pages 5.0-25a is deleted and Page 5.0-25b is added to Attachment 3.1. Page 5.0-27 is deleted and Page 5.0-27b is added to Attachment 3.2. Page 5.0-25a is deleted and Page 5.0-25c is added to Attachment 4.1. Pages 5.0-27 and 5.0-27a are deleted and Page 5.0-27a is added in Attachment 4.2. Page 37 of 37 from Attachment 7 is replaced.

The above changes to Attachments 3.1, 3.2, 4.1, 4.2, 5, and 7 of the TSTF-425 LAR are provided in the following pages as they are ordered in the LAR. Note: General page instructions are provided in green font. Specific changes on each page are provided in red font.

Replace this page in Attachment 3.1

INSERT 1

In accordance with the Surveillance Frequency Control Program

23

INSERT 2

5.7.2.~~21~~ Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

Add this page to Attachment 3.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.18.1	Verify the fuel storage pool boron concentration is within limit.	~~72 hours~~ Insert 1

Replace this page in Attachment 3.1

3.9 REFUELING OPERATIONS

3.9.9 Spent Fuel Pool Boron Concentration

LCO 3.9.9 Boron concentration of the spent fuel pool shall be ≥ 2300 ppm.

APPLICABILITY: Whenever any fuel assembly is stored in the flooded spent fuel pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Boron concentration not within limit.	A.1 Initiate action to restore fuel storage pool boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.9.1	Verify boron concentration in the spent fuel pool is ≥ 2300 ppm.	~~72 hours~~ Insert 1

Delete this page from Attachment 3.1

5.7 Procedures, Programs, and Manuals

5.7.2.20 Control Room Envelope Habitability Program (continued)

d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREVS, operating at the flow rate defined in the Ventilation Filter Testing Program (VFTP), at a Frequency of 18 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 18 month assessment of the CRE boundary.

e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 3.0.2 are applicable to the frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

Insert 2

Add this page to Attachment 3.1

5.7 Procedures, Programs, and Manuals

5.7.2.22 Battery Monitoring and Maintenance Program

This Program provides controls for battery restoration and maintenance. The program shall be in accordance with IEEE Standard (Std) 450-2002, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," as endorsed by Regulatory Guide 1.129, Revision 2 (RG), with RG exceptions and program provisions as identified below:

a. The program allows the following RG 1.129, Revision 2 exceptions:

1. Battery temperature correction may be performed before or after conducting discharge tests.

2. RG 1.129, Regulatory Position 1, Subsection 2, "References," is not applicable to this program.

3. In lieu of RG 1.129, Regulatory Position 2, Subsection 5.2, "Inspections," the following shall be used: "Where reference is made to the pilot cell, pilot cell selection shall be based on the lowest voltage cell in the battery."

4. In Regulatory Guide 1.129, Regulatory Position 3, Subsection 5.4.1, "State of Charge Indicator," the following statements in paragraph (d) may be omitted: "When it has been recorded that the charging current has stabilized at the charging voltage for three consecutive hourly measurements, the battery is near full charge. These measurements shall be made after the initially high charging current decreases sharply and the battery voltage rises to approach the charger output voltage."

5. In lieu of RG 1.129, Regulatory Position 7, Subsection 7.6, "Restoration", the following may be used: "Following the test, record the float voltage of each cell of the string."

b. The program shall include the following provisions:

1. Actions to restore battery cells with float voltage < 2.13 V;

2. Actions to determine whether the float voltage of the remaining battery cells is ≥ 2.13 V when the float voltage of a battery cell has been found to be < 2.13 V;

3. Actions to equalize and test battery cells that had been discovered with electrolyte level below the top of the plates;

4. Limits on average electrolyte temperature, battery connection resistance, and battery terminal voltage; and

Insert 2

5. A requirement to obtain specific gravity readings of all cells at each discharge test, consistent with manufacturer recommendations.

Insert new Page 5.0-25c after this page

Replace this page in Attachment 3.2

INSERT 1

In accordance with the Surveillance Frequency Control Program

INSERT 2

23

5.7.2.~~21~~ Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

Add this page to Attachment 3.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.18.1	Verify the fuel storage pool boron concentration is within limit.	~~72 hours~~ Insert 1

Replace this page in Attachment 3.2

3.9 REFUELING OPERATIONS

3.9.9 Spent Fuel Pool Boron Concentration

LCO 3.9.9 Boron concentration of the spent fuel pool shall be ≥ 2300 ppm.

APPLICABILITY: Whenever any fuel assembly is stored in the flooded spent fuel pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Boron concentration not within limit.	A.1 Initiate action to restore fuel storage pool boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.9.1	Verify boron concentration in the spent fuel pool is ≥ 2300 ppm.	~~72 hours~~ Insert 1

Delete this page from Attachment 3.2

5.7.2.20 Control Room Envelope Habitability Program (continued)

c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREVS, operating at the flow rate defined in the Ventilation Filter Testing Program (VFTP), at a Frequency of 18 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 18 month assessment of the CRE boundary.

e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 3.0.2 are applicable to the frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

Insert 2

Insert new Page 5.0-27a after this page

Add this page to Attachment 3.2

5.7 Procedures, Programs, and Manuals

5.7.2.22 Battery Monitoring and Maintenance Program (continued)

3. Actions to equalize and test battery cells that had been discovered with electrolyte level below the top of the plates;

4. Limits on average electrolyte temperature, battery connection resistance, and battery terminal voltage; and

5. A requirement to obtain specific gravity readings of all cells at each discharge test, consistent with manufacturer recommendations.

Insert 2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.18.1	Verify the fuel storage pool boron concentration is within limit.	In accordance with the Surveillance Frequency Control Program

3.9 REFUELING OPERATIONS

3.9.9 Spent Fuel Pool Boron Concentration

LCO 3.9.9 Boron concentration of the spent fuel pool shall be ≥ 2300 ppm.

APPLICABILITY: Whenever any fuel assembly is stored in the flooded spent fuel pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Boron concentration not within limit.	A.1 Initiate action to restore fuel storage pool boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.9.1	Verify boron concentration in the spent fuel pool is ≥ 2300 ppm.	In accordance with the Surveillance Frequency Control Program

Delete this page in Attachment 4.1

5.7 Procedures, Programs, and Manuals

5.7.2.20 Control Room Envelope Habitability Program (continued)

d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREVS, operating at the flow rate defined in the Ventilation Filter Testing Program (VFTP), at a Frequency of 18 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 18 month assessment of the CRE boundary.

e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 3.0.2 are applicable to the frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

5.7.2.21 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

Add this page to Attachment 4.1

5.7 Procedures, Programs, and Manuals

5.7.2.23 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

Add this page to Attachment 4.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.18.1	Verify the fuel storage pool boron concentration is within limit.	In accordance with the Surveillance Frequency Control Program

3.9 REFUELING OPERATIONS

3.9.9 Spent Fuel Pool Boron Concentration

LCO 3.9.9 Boron concentration of the spent fuel pool shall be ≥ 2300 ppm.

APPLICABILITY: Whenever any fuel assembly is stored in the flooded spent fuel pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Boron concentration not within limit.	A.1 Initiate action to restore fuel storage pool boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.9.1	Verify boron concentration in the spent fuel pool is ≥ 2300 ppm.	In accordance with the Surveillance Frequency Control Program

5.7.2.20 Control Room Envelope Habitability Program (continued)

c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREVS, operating at the flow rate defined in the Ventilation Filter Testing Program (VFTP), at a Frequency of 18 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 18 month assessment of the CRE boundary.

e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 3.0.2 are applicable to the frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

5.7.2.21 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.

(continued)

Delete this page in Attachment 4.2

5.7.2.21 Surveillance Frequency Control Program (continued)

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREVS, operating at the flow rate defined in the Ventilation Filter Testing Program (VFTP), at a Frequency of 18 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 18 month assessment of the CRE boundary.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program The provisions of SR 3.0.2 are applicable to the frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

Add this page to Attachment 4.2

5.7.2.22 Battery Monitoring and Maintenance Program (continued)

3. Actions to equalize and test battery cells that had been discovered with electrolyte level below the top of the plates;

4. Limits on average electrolyte temperature, battery connection resistance, and battery terminal voltage; and

5. A requirement to obtain specific gravity readings of all cells at each discharge test, consistent with manufacturer recommendations.

5.7.2.23 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

Add this page to Attachment 5

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.7.18.1

This SR verifies that the concentration of boron in the fuel storage pool is within the required limit. As long as this SR is met, the analyzed accidents are fully addressed. ~~The 72 hour Frequency is appropriate because no major replenishment of pool water is expected to take place over such a short period of time.~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. Double contingency principle of ANSI N16.1-1975, as specified in the April 14, 1978 NRC letter (Section 1.2) and implied in the proposed revision to Regulatory Guide 1.13 (Section 1.4, Appendix A)

2. FSAR, Section 4.3.2.7

Replace this page in Attachment 7

3.7.18

Fuel Storage Pool Boron Concentration

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
3.7.15	**Fuel Storage Pool Water Level**	**3.7.13**	**Fuel Storage Pool Water Level**	
3.7.15.1	Verify the fuel storage pool water level is ≥ 23 ft above the top of the irradiated fuel assemblies seated in the storage racks.	3.7.13.1	Verify the fuel storage pool water level is ≥ 23 ft above the top of the irradiated fuel assemblies seated in the storage racks.	Administrative Variation – Section 2.2.1.1
3.7.16	**Fuel Storage Pool Boron Concentration**	~~**N/A**~~	~~**N/A**~~	
3.7.16.1	Verify the fuel storage pool boron concentration is within limit.	~~N/A~~	~~N/A~~	Administrative Variation – Section 2.2.1.2
3.7.18	**Secondary Specific Activity**	**3.7.14**	**Secondary Specific Activity**	
3.7.18.1	Verify the specific activity of the secondary coolant is ≤ [0.10] µCi/gm DOSE EQUIVALENT I-131.	3.7.14.1	Verify the specific activity of the secondary coolant is ≤ 0.10 µCi/gm DOSE EQUIVALENT I-131.	Administrative Variation – Section 2.2.1.1
N/A	**N/A**	**3.7.16**	**Component Cooling System (CCS) - Shutdown**	
N/A	N/A	3.7.16.1	Verify correct breaker alignment and indicated power available to the required pump(s) that is not in operation.	Administrative Variation – Section 2.2.1.5
N/A	N/A	3.7.16.2	Verify two CCS pumps are aligned to CCS Train B.	Administrative Variation – Section 2.2.1.5
N/A	**N/A**	**3.7.17**	**Essential Raw Cooling Water (ERCW) System - Shutdown**	
N/A	N/A	3.7.17.1	Verify correct breaker alignment and indicated power available to the required pump(s) that is not in operation.	Administrative Variation – Section 2.2.1.5
3.8.1	**AC Sources - Operating**	**3.8.1**	**AC Sources - Operating**	
3.8.1.1	Verify correct breaker alignment and indicated power availability for each [required] offsite circuit.	3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	No variation
3.8.1.2	Verify each DG starts from standby conditions and achieves steady state voltage ≥ [3740] V and ≤ [4580] V, and frequency ≥ [58.8] Hz and ≤ [61.2] Hz. [Frequency – 31 days]	3.8.1.2	Verify each DG starts from standby conditions and achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency of 60 Hz nominal. [Frequency – As specified in Table 3.8.1-1]	Administrative Variation – Section 2.2.1.1 The SFCP is not adopted for this SR

3.7.18.1

Verify the fuel storage pool concentration is within limit.

1

Replace this page in Attachment 7

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
3.9.7	**Refueling Cavity Water Level**	**3.9.7**	**Refueling Cavity Water Level**	
3.9.7.1	Verify refueling cavity water level is ≥ 23 ft above the top of reactor vessel flange.	3.9.7.1	Verify refueling cavity water level is ≥ 23 ft above the top of reactor vessel flange.	No variation
N/A	**N/A**	**3.9.9**	**Spent Fuel Pool Boron Concentration**	
N/A	N/A	3.9.9.1	Verify boron concentration in the spent fuel pool is ≥ ~~2000~~ ppm.	Administrative Variation – Section 2.2.1.5
5.5.	**Programs and Manuals**	**5.7**	**Procedures, Programs, and Manuals**	
5.5.18	Surveillance Frequency Control Program	~~5.7.2.21~~	Surveillance Frequency Control Program	Administrative Variation – Section 2.2.1.1

2300

5.7.2.23

Enclosure 3

Change Instructions to the October 12, 2018, License Amendment Request Associated with License Amendments 130/33

(49 Pages)

Discussion

License Amendments 130/33 (ML19276E557) were issued on December 9, 2019. These amendments have intersections with the TSTF-425 LAR in TS 3.8.4, and 3.8.6. These amendments require updates be made to the TSTF-425 License Amendment Request. Specifically, the proposed updates are as follows:

- Surveillance Requirements (SRs) 3.8.4.1 and 3.8.4.2 are revised. The new wording closely aligns with TSTF-425 SR 3.8.4.1, and the Frequency remains eligible for licensee control in accordance with the Surveillance Frequency Control Program (SFCP), consistent with the TSTF-425 Model Safety Evaluation (SE).

- SRs 3.8.4.5, 3.8.4.6, 3.8.4.7, 3.8.4.8, 3.8.4.9, 3.8.4.10, 3.8.4.11, and 3.8.4.12 are deleted. Therefore, the previously proposed Frequency changes to the SFCP are no longer applicable.

- SR 3.8.4.14 is relocated to SR 3.8.6.7, and SR 3.8.4.13 Note 1 is revised reflect that change (and is re-designated as SR 3.8.4.7 to reflect the prior SR deletions, as noted below). The previously proposed SR 3.8.4.14 Frequency change to the SFCP remains applicable.

- New SR 3.8.4.5 is proposed. The SR closely aligns with TSTF-425 SR 3.8.4.2, and the Frequency is eligible for licensee control in accordance with the SFCP, consistent with the TSTF-425 Model SE.

- New SR 3.8.4.6 is proposed. The SR partially aligns with TSTF-425 SR 3.8.4.2, and the Frequency is eligible for licensee control in accordance with the SFCP, consistent with the TSTF-425 Model SE.

- SR 3.8.4.13 is re-designated as SR 3.8.4.7, and revises Note 1. This as-revised SR closely aligns with TSTF-425 SR 3.8.4.3, and the Frequency is eligible for licensee control in accordance with the SFCP, consistent with the TSTF-425 Model SE.

- SRs 3.8.6.1, 3.8.6.2, and 3.8.6.3 are being deleted. Therefore, the previously proposed Frequency changes to the SFCP are no longer applicable.

- New SRs 3.8.6.1, 3.8.6.2, 3.8.6.3, 3.8.6.4, 3.8.6.5, and 3.8.6.6 are proposed. The SRs closely align with TSTF-425 SR 3.8.6.1, 3.8.6.2, 3.8.6.3, 3.8.6.4, 3.8.6.5, and 3.8.6.6, and the Frequencies are eligible for licensee control in accordance with the SFCP, consistent with the TSTF-425 Model SE.

- TS Section 5.7.2.22 now describes the Battery Monitoring and Maintenance Program, which along with Amendments 125/27 have caused relocation of the Surveillance Frequency Control Program description to TS Section 5.7.2.23. This is described in further detail in Enclosure 2.

- A correction is made to the WBN1 Page 3.8-36 header to state “Battery Parameters” versus “Battery Cell Parameters.”

The net results of the above changes on the LAR are as follows:

Attachment 3.1

- Delete Page 3.8-25
- Replace Pages 3.8-26 and 3.8-27
- Delete Pages 3.8-28, 3.8-29, and 3.8-34
- Replace Page 3.8-35
- Add Page 3.8-36
- Changes to Pages 5.0-25a and 5.0-25b are described in Enclosure 2

Attachment 3.2

- Delete Page 3.8-22
- Replace Page 3.8-23 and 3.8-24
- Delete Page 3.8-25
- Replace Page 3.8-31
- Add Page 3.8-32
- Changes to Pages 5.0-27 and 5.0-27b are described in Enclosure 2

Attachment 4.1

- Delete Page 3.8-25
- Replace Pages 3.8-26 and 3.8-27
- Delete Pages 3.8-28, 3.8-29, and 3.8-34
- Replace Page 3.8-35
- Add Page 3.8-36
- Changes to Pages 5.0-25a and 5.0-25c are described in Enclosure 2

Attachment 4.2

- Delete Page 3.8-22, 3.8-25
- Replace Pages 3.8-23, 3.8-24, 3.8-31
- Add Page 3.8-32
- Changes to Pages 5.0-27 and 5.0-27b are described in Enclosure 2

Attachment 5

- Delete Page B 3.8-60 and B 3.8-61
- Replace Page B 3.8-62
- Add Pages B 3.8-62a and B 3.8-63
- Replace Page B 3.8-64
- Deleted Pages B 3.8-66, B 3.8-68, B 3.8-76, and B 3.8-77
- Add Pages B 3.8-80, B-3.8-81, and B 3.8-82

Attachment 7

- Replace Pages 32, 33, 34, and 35 (as revised by Amendment 125/27 in Enclosure 2)

The following pages are ordered as they appear in the LAR. General page instructions are provided in Green font. Specific changes on each page are provided in red font.

Delete this page from Attachment 3.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify vital battery terminal voltage is ≥ 128 V (132 V for vital battery V) on float charge.	~~7 days~~
SR 3.8.4.2	Verify DG battery terminal voltage is ≥ 124 V on float charge.	~~7 days~~
SR 3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	~~7 days~~
SR 3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger.	~~7 days~~

Insert 1

(continued)

Amendment ___

Replace this page in Attachment 3.1

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify vital battery terminal voltage is greater than or equal to the minimum established float voltage.	~~7 days~~
SR 3.8.4.2	Verify DG battery terminal voltage is greater than or equal to the minimum established float voltage.	~~7 days~~
SR 3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	~~7 days~~
SR 3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger.	~~7 days~~
SR 3.8.4.5	Verify each vital battery charger supplies ≥ 200 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. OR Verify each vital battery charger can recharge the battery to the fully charged state within 36 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	~~18 months~~

Insert 1

(continued)

Replace this page in Attachment 3.1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.6	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	~~18 months~~
SR 3.8.4.7	----------NOTES---------- 1. The modified performance discharge test in SR 3.8.6.7 may be performed in lieu of the service test in SR 3.8.4.7. 2. This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads and any connected nonsafety loads for the design duty cycle when subjected to a battery service test.	~~18 months~~

Insert 1

Delete this page from Attachment 3.1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.4.12 ----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each diesel generator battery charger is capable of recharging its associated battery from a service or capacity discharge test while supplying normal loads.	~~18 months~~
SR 3.8.4.13 ----------NOTES---------- 1. The modified performance discharge test in SR 3.8.4.14 may be performed in lieu of the service test in SR 3.8.4.13 once per 60 months. 2. This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads and any connected nonsafety loads for the design duty cycle when subjected to a battery service test.	~~18 months~~

Insert 1

(continued)

Delete this page from Attachment 3.1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.14	----------NOTE---------- This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	~~60 months~~ ← Insert 1 AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

Delete this page from Attachment 3.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. OR One or more batteries with average electrolyte temperature of the representative cells < 60°F for vital batteries and < 50°F for DG batteries. OR One or more batteries with one or more battery cell parameters not within Category C values.	B.1 Declare associated battery inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE			FREQUENCY
SR	3.8.6.1	Verify battery cell parameters meet Table 3.8.6-1 Category A limits.	~~7 days~~

Insert 1

(continued)

Amendment ___

Replace this page in Attachment 3.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	----------NOTE---------- Not required to be met when vital battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.1. ---------- Verify each vital battery float current is ≤ 2 amps.	~~7 days~~
SR 3.8.6.2	----------NOTE---------- Not required to be met when DG battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.2. ---------- Verify each DG battery float current is ≤ 1 amp.	~~7 days~~
SR 3.8.6.3	Verify each required vital battery and each DG battery pilot cell float voltage is ≥ 2.07 V.	~~31 days~~
SR 3.8.6.4	Verify each required vital battery and each DG battery connected cell electrolyte level is greater than or equal to minimum established design limits.	~~31 days~~
SR 3.8.6.5	Verify each required vital battery and each DG battery pilot cell temperature is greater than or equal to minimum established design limits.	~~31 days~~
SR 3.8.6.6	Verify each required vital battery and each DG battery connected cell float voltage is ≥ 2.07 V.	~~92 days~~

Insert 1

(continued)

Add this page to Attachment 3.1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.6.7	----------NOTES---------- This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ----------	
	Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	~~60 months~~ Insert 1 AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

Delete this page from Attachment 3.2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify vital battery terminal voltage is ≥ 128 V (132 V for vital battery V) on float charge.	~~7 days~~
SR 3.8.4.2	Verify DG battery terminal voltage is ≥ 124 V on float charge.	~~7 days~~
SR 3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	~~7 days~~
SR 3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger	~~7 days~~
SR 3.8.4.5	Verify no visible corrosion at terminals and connectors for the vital batteries. OR Verify connection resistance for the vital batteries is ≤ 80 E-6 ohm for inter-cell connections, ≤ 50 E-6 ohm for inter-rack connections, ≤ 120 E-6 ohm for inter-tier connections, and ≤ 50 E-6 ohm for terminal connections.	~~92 days~~
SR 3.8.4.6	Verify no visible corrosion at terminals and connectors for the DG batteries. OR Verify connection resistance for the DG batteries is ≤ 80 E-6 ohm for inter-cell connections, ≤ 50 E-6 ohm for inter-tier connections, and ≤ 50 E-6 ohm for terminal connections.	~~92 days~~

Insert 1

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(continued)

Amendment ___

Replace this page in Attachment 3.2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify vital battery terminal voltage is greater than or equal to the minimum established float voltage.	~~7 days~~
SR 3.8.4.2	Verify DG battery terminal voltage is greater than or equal to the minimum established float voltage.	~~7 days~~
SR 3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	~~7 days~~
SR 3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger	~~7 days~~
SR 3.8.4.5	Verify each vital battery charger supplies ≥ 200 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. OR Verify each vital battery charger can recharge the battery to the fully charged state within 36 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	~~18 months~~
SR 3.8.4.6	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	~~18 months~~

Insert 1

(continued)

Roll this onto next page

Roll in SR 3.8.4.6 from previous page

Replace this page in Attachment 3.2

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.7	----------NOTES---------- 1. The modified performance discharge test in SR 3.8.6.7 may be performed in lieu of the service test in SR 3.8.4.7. 2. This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads and any connected nonsafety loads for the design duty cycle when subjected to a battery service test.	~~18 months~~

Insert 1

Delete this page from Attachment 3.2

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.14	----------NOTE---------- This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	~~60 months~~ Insert 1 AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

Amendment ___

Replace this page in Attachment 3.2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.6.1	----------NOTE---------- Not required to be met when vital battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.1. ---------- Verify each vital battery float current is ≤ 2 amps.	~~7 days~~
SR 3.8.6.2	----------NOTE---------- Not required to be met when DG battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.2. ---------- Verify each DG battery float current is ≤ 1 amp.	~~7 days~~
SR 3.8.6.3	Verify each required vital battery and each DG battery pilot cell float voltage is ≥ 2.07 V.	~~31 days~~
SR 3.8.6.4	Verify each required vital battery and each DG battery connected cell electrolyte level is greater than or equal to minimum established design limits.	~~31 days~~
SR 3.8.6.5	Verify each required vital battery and each DG battery pilot cell temperature is greater than or equal to minimum established design limits.	~~31 days~~
SR 3.8.6.6	Verify each required vital battery and each DG battery connected cell float voltage is ≥ 2.07 V.	~~92 days~~

Insert 1

(continued)

Add this page to Attachment 3.2

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.6.7	----------NOTES---------- This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ----------	
	Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	~~60 months~~ Insert 1 AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

Delete this page from Attachment 4.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify vital battery terminal voltage is ≥ 128 V (132 V for vital battery V) on float charge.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2	Verify DG battery terminal voltage is ≥ 124 V on float charge.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger.	In accordance with the Surveillance Frequency Control Program

(continued)

Replace this page in Attachment 4.1

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify vital battery terminal voltage is greater than or equal to the minimum established float voltage.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2	Verify DG battery terminal voltage is greater than or equal to the minimum established float voltage.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.5	Verify each vital battery charger supplies ≥ 200 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. OR Verify each vital battery charger can recharge the battery to the fully charged state within 36 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.6	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG DC battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.7	----------NOTES---------- 1. The modified performance discharge test in SR 3.8.6.7 may be performed in lieu of the service test in SR 3.8.4.7. 2. This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads and any connected nonsafety loads for the design duty cycle when subjected to a battery service test.	In accordance with the Surveillance Frequency Control Program

Delete this page from Attachment 4.1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.12	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each diesel generator battery charger is capable of recharging its associated battery from a service or capacity discharge test while supplying normal loads.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.13	----------NOTES---------- 1. The modified performance discharge test in SR 3.8.4.14 may be performed in lieu of the service test in SR 3.8.4.13 once per 60 months. 2. This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads and any connected nonsafety loads for the design duty cycle when subjected to a battery service test.	In accordance with the Surveillance Frequency Control Program

(continued)

Delete this page from Attachment 4.1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.14	----------NOTES---------- This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ----------	
	Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	In accordance with the Surveillance Frequency Control Program AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

Delete this page from Attachment 4.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. OR One or more batteries with average electrolyte temperature of the representative cells < 60°F for vital batteries and < 50°F for DG batteries. OR One or more batteries with one or more battery cell parameters not within Category C values.	B.1 Declare associated battery inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	Verify battery cell parameters meet Table 3.8.6-1 Category A limits.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	----------NOTE---------- Not required to be met when vital battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.1. ---------- Verify each vital battery float current is ≤ 2 amps.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.2	----------NOTE---------- Not required to be met when DG battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.2. ---------- Verify each DG battery float current is ≤ 1 amp.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.3	Verify each required vital battery and each DG battery pilot cell float voltage is ≥ 2.07 V.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.4	Verify each required vital battery and each DG battery connected cell electrolyte level is greater than or equal to minimum established design limits.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.5	Verify each required vital battery and each DG battery pilot cell temperature is greater than or equal to minimum established design limits.	In accordance with the Surveillance Frequency Control Program

(continued)

Add this page to Attachment 4.1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.6.6	Verify each required vital battery and each DG battery connected cell float voltage is ≥ 2.07 V.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.7	----------NOTES---------- This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ----------	
	Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	In accordance with the Surveillance Frequency Control Program AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

Delete this page from Attachment 4.2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify vital battery terminal voltage is ≥ 128 V (132 V for vital battery V) on float charge.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2	Verify DG battery terminal voltage is ≥ 124 V on float charge.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.5	Verify no visible corrosion at terminals and connectors for the vital batteries. OR Verify connection resistance for the vital batteries is ≤ 80 E-6 ohm for inter-cell connections, ≤ 50 E-6 ohm for inter-rack connections, ≤ 120 E-6 ohm for inter-tier connections, and ≤ 50 E-6 ohm for terminal connections.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.6	Verify no visible corrosion at terminals and connectors for the DG batteries. OR Verify connection resistance for the DG batteries is ≤ 80 E-6 ohm for inter-cell connections, ≤ 50 E-6 ohm for inter-tier connections, and ≤ 50 E-6 ohm for terminal connections.	In accordance with the Surveillance Frequency Control Program

(continued)

Replace this page in Attachment 4.2

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify vital battery terminal voltage is greater than or equal to the minimum established float voltage.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2	Verify DG battery terminal voltage is greater than or equal to the minimum established float voltage.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.5	Verify each vital battery charger is supplies ≥ 200 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. OR Verify each vital battery charger can recharge the battery to the fully charged state within 36 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.6	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG DC battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.7	----------NOTES---------- 1. The modified performance discharge test in SR 3.8.6.7 may be performed in lieu of the service test in SR 3.8.4.7. 2. This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads and any connected nonsafety loads for the design duty cycle when subjected to a battery service test.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.14	----------NOTE---------- This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	In accordance with the Surveillance Frequency Control Program AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

Replace this page in Attachment 4.2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	----------NOTE---------- Not required to be met when vital battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.1. ---------- Verify each vital battery float current is ≤ 2 amps.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.2	----------NOTE---------- Not required to be met when DG battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.2. ---------- Verify each DG battery float current is ≤ 1 amp.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.3	Verify each required vital battery and each DG battery pilot cell float voltage is ≥ 2.07 V.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.4	Verify each required vital battery and each DG battery connected cell electrolyte level is greater than or equal to minimum established design limits.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.5	Verify each required vital battery and each DG battery pilot cell temperature is greater than or equal to minimum established design limits.	In accordance with the Surveillance Frequency Control Program

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.6.6	Verify each required vital battery and each DG battery connected cell float voltage is ≥ 2.07 V.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.7	----------NOTES---------- This Surveillance is not performed in MODE 1, 2, 3, or 4 for required vital batteries. Credit may be taken for unplanned events that satisfy this SR. ----------	
	Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	In accordance with the Surveillance Frequency Control Program AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1 and SR 3.8.4.2

Verifying battery terminal voltage while on float charge for the batteries helps to ensure the effectiveness of the charging system and the ability of the batteries to perform their intended function. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery (or battery cell) and maintain the battery (or a battery cell) in a fully charged state. The voltage requirements are based on the critical design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. ~~The 7 day Frequency is consistent with manufacturer recommendations and IEEE-450 (Ref. 9).~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.3

Verifying that for the vital batteries that the alternate feeder breakers to each required battery charger is open ensures that independence between the power trains is maintained. ~~The 7-day Frequency is based on engineering judgement, is consistent with procedural controls governing breaker operation, and ensures correct breaker position.~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.4

This SR demonstrates that the DG 125V DC distribution panel and associated charger are functioning properly, with all required circuit breakers closed and buses energized from normal power. ~~The 7 day Frequency takes into account the redundant DG capability and other indications available in the control room that will alert the operator to system malfunctions.~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.5 and SR 3.8.4.6

Visual inspection to detect corrosion of the battery cells and connections, or measurement of the resistance of each intercell, interrack, intertier, and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

(continued)

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.5 and SR 3.8.4.6 (continued)

The limits established for this SR must be no more than 20% above the resistance as measured during installation, or not above the ceiling value established by the manufacturer.

~~The Surveillance Frequency for these inspections, which can detect conditions that can cause power losses due to resistance heating, is 92 days. This Frequency is considered acceptable based on operating experience related to detecting corrosion trends.~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.7

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

~~The 12 month Frequency for this SR is consistent with IEEE-450 (Ref. 9), which recommends detailed visual inspection of cell condition and rack integrity on a yearly basis.~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.8, SR 3.8.4.9 and SR 3.8.4.10

Visual inspection and resistance measurements of intercell, interrack, intertier, and terminal connections provide an indication of physical damage or abnormal deterioration that could indicate degraded battery condition. The anticorrosion material is used to help ensure good electrical connections and to reduce terminal deterioration. The visual inspection for corrosion is not intended to require removal of and inspection under each terminal connection. The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR provided visible corrosion is removed during performance of SR 3.8.4.8. For the purposes of trending, inter-cell (vital and DG batteries) and inter-tier (vital and DG batteries) connections are measured from battery post to battery post. Inter-rack (vital batteries), inter-tier (DG Batteries), and terminal connections (vital and DG batteries) are measured from terminal lug to battery post.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1 and SR 3.8.4.2

Verifying battery terminal voltage while on float charge for the batteries helps to ensure the effectiveness of the battery chargers, which support the ability of the batteries to perform their intended function. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery and maintain the battery in a fully charged state while supplying the continuous steady state loads of the associated DC subsystem. On float charge, battery cells will receive adequate current to optimally charge the battery. The voltage requirements are based on the nominal design voltage of the battery and are consistent with the minimum float voltage established by the battery manufacturer (2.20 Vpc times the number of connected cells or 132 V at the battery terminals for a 60 cell vital battery; 127.6 V at the battery terminals for a 58 cell DG battery). This voltage maintains the battery plates in a condition that supports maintaining the grid life. ~~The 7-day Frequency is consistent with manufacturer recommendations.~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.3

Verifying that for the vital batteries that the alternate feeder breakers to each required battery charger is open ensures that independence between the power trains is maintained. ~~The 7-day Frequency is based on engineering judgement, is consistent with procedural controls governing breaker operation, and ensures correct breaker position.~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.4

This SR demonstrates that the DG 125V DC distribution panel and associated charger are functioning properly, with all required circuit breakers closed and buses energized from normal power. ~~The 7-day Frequency takes into account the redundant DG capability and other indications available in the control room that will alert the operator to system malfunctions.~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.5

This SR verifies the design capacity of the vital battery chargers. According to Regulatory Guide 1.32 (Ref. 5), the battery charger supply is recommended to be based on the largest combined demands of the various steady state loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state, irrespective of the status of the plant during these demand occurrences. The minimum required amperes and duration ensure that these requirements can be satisfied.

(continued)

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BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.4.5 (continued)

This SR provides two options. One option requires that each battery charger be capable of supplying 200 amps at the minimum established float voltage (132 V DC) for 4 hours. The ampere requirements are based on the output rating of the chargers. The voltage requirements are based on the charger voltage level after a response to a loss of AC power.

The other option requires that each vital battery charger be capable of recharging the battery after a service test coincident with supplying the largest coincident demands of the various continuous steady state loads (irrespective of the status of the plant during which these demands occur). This level of loading may not normally be available following the battery service test and will need to be supplemented with additional loads. The duration for this test may be longer than the charger sizing criteria since the battery recharge is affected by float voltage, temperature, and the exponential decay in charging current. The battery is recharged when the measured charging current is ≤ 2 amps.

~~The Surveillance Frequency is acceptable, given the plant conditions required to perform the test and the other administrative controls existing to ensure adequate charger performance during these 18 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.4.6

This SR verifies the design capacity of the DG battery chargers. According to Regulatory Guide 1.32 (Ref. 5), the battery charger supply is recommended to be based on the largest combined demands of the various steady state loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state, irrespective of the status of the plant during these demand occurrences. The minimum required amperes and duration ensure that these requirements can be satisfied.

This SR requires that each DG battery charger be capable of recharging the battery after a service test coincident with supplying the largest coincident demands of the various continuous steady state loads (irrespective of the status of the plant during which these demands occur). This level of loading may not normally be available following the battery service test and will need to be supplemented with additional loads. The duration for this test may be longer than the charger sizing criteria since the battery recharge is affected by float voltage, temperature, and the exponential decay in charging current. The battery is recharged when the measured charging current is ≤ 1 amp.

~~The Surveillance Frequency is acceptable, given the administrative controls existing to ensure adequate charger performance during these 18 month intervals.~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.4.6 (continued)

For the DG DC electrical subsystem, this Surveillance may be performed in MODES 1, 2, 3, or 4 in conjunction with LCO 3.8.1.B since the DG DC electrical power subsystem supplies loads only for the inoperable diesel generator and would not otherwise challenge safety systems supplied from vital electrical distribution systems. If available, the C-S DG and its associated DC electrical power subsystem may be substituted in accordance with LCO Note 2. Additionally, credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

1) Unexpected operational events which cause the equipment to perform the function specified by this Surveillance, for which adequate documentation of the required performance is available; and

2) Post corrective maintenance testing that requires performance of this Surveillance in order to restore the component to OPERABLE, provided the maintenance was required, or performed in conjunction with maintenance required to maintain OPERABILITY or reliability.

SR 3.8.4.7

A battery service test is a special test of battery capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length should correspond to worst case design duty cycle requirements based on References 8 and 10.

~~The Surveillance Frequency of 18 months is consistent with the recommendations of Regulatory Guide 1.32 (Ref. 5) and Regulatory Guide 1.129 (Ref. 9), which state that the battery service test should be performed during refueling operations or at some other outage, with intervals between tests, not to exceed 18 months.~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by two Notes. Note 1 allows the performance of a modified performance discharge test in lieu of a service test.

The reason for Note 2 is that performing the Surveillance may perturb the vital electrical distribution system and challenge safety systems. However, this Surveillance may be performed in MODES I, 2, 3, or 4 provided that Vital Battery V is substituted in accordance with LCO Note I. For the DG DC electrical subsystem, this surveillance may be performed in MODES I, 2, 3, or 4 in conjunction with LCO 3.8.I.B since the supplied loads are only for the inoperable diesel generator and would not otherwise challenge safety system loads which are supplied from vital electrical distribution systems. If available, the C-S DG and its associated DC electrical power subsystem may be substituted in accordance with LCO Note 2. Additionally, credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.7 (continued)

1) Unexpected operational events which cause the equipment to perform the function specified by this Surveillance, for which adequate documentation of the required performance is available; and

2) Post corrective maintenance testing that requires performance of this Surveillance in order to restore the component to OPERABLE, provided the maintenance was required, or performed in conjunction with maintenance required to maintain OPERABILITY or reliability.

REFERENCES

1. Title 10, Code of Federal Regulations, Part 50, Appendix A, General Design Criterion 17, “Electric Power System.”

2. Regulatory Guide 1.6, “Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems,” U.S. Nuclear Regulatory Commission, March 10, 1971.

3. IEEE-308-1971, “IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations,” Institute of Electrical and Electronic Engineers.

4. Watts Bar FSAR, Section 8.3.2, “DC Power System.”

5. Regulatory Guide 1.32, “Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants,” February 1977, U.S. Nuclear Regulatory Commission.

6. Watts Bar FSAR, Section 15, “Accident Analysis” and Section 6 “Engineered Safety Features.”

7. Regulatory Guide 1.93, “Availability of Electric Power Sources,” U.S. Nuclear Regulatory Commission, December 1974.

8. TVA Calculation WBN EEB-MS-TI11-0003, “125 VDC Vital Battery and Charger Evaluation.”

9. ~~Regulatory Guide 1.129, “Maintenance Testing and Replacement of Large Lead Storage Batteries for Generating Stations and Subsystems,” U.S. Nuclear Regulatory Commission, February 1978.~~Deleted

10. TVA Calculation WBN EEB-MS-TI11-0062, "125 V DC Diesel Generator Control Power System Evaluation."

SURVEILLANCE REQUIREMENTS

SR 3.8.4.13 (continued)

2) Post corrective maintenance testing that requires performance of this Surveillance in order to restore the component to OPERABLE, provided the maintenance was required, or performed in conjunction with maintenance required to maintain OPERABILITY or reliability.

SR 3.8.4.14

A battery performance discharge test is a test of constant current capacity of a battery, normally done in the as found condition, after having been in service, to detect any change in the capacity determined by the acceptance test. The test is intended to determine overall battery degradation due to age and usage.

A battery modified performance discharge test is described in the Bases for 3.8.4.13. Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.4.14; however, only the modified performance discharge test may be used to satisfy SR 3.8.4.14 while satisfying the requirements of SR 3.8.4.13 at the same time.

The acceptance criteria for this Surveillance are consistent with IEEE-450 (Ref. 9) and IEEE-485 (Ref. 5). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer rating. A capacity of 80% shows that the battery rate of deterioration is increasing, even if there is ample capacity to meet the load requirements.

~~The Surveillance Frequency for this test is normally 60 months.~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. If the battery shows degradation, or if the battery has reached 85% of its expected life and capacity is < 100% of the manufacturer's rating, the Surveillance Frequency is reduced to 12 months. However, if the battery shows no degradation but has reached 85% of its expected life, the Surveillance Frequency is only reduced to 24 months for batteries that retain capacity ≥ 100% of the manufacturer's rating. Degradation is indicated, according to IEEE-450 (Ref. 9), when the battery capacity drops by more than 10% relative to its capacity on the previous performance test or when it is ≥ 10% below the manufacturer rating. These Frequencies are consistent with the recommendations in IEEE-450 (Ref. 9).

(continued)

BASES (continued)

REFERENCES

1. Title 10, Code of Federal Regulations, Part 50, Appendix A, General Design Criterion 17, “Electric Power System.”

2. Regulatory Guide 1.6, “Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems,” U.S. Nuclear Regulatory Commission, March 10, 1971.

3. IEEE-308-1971, “IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations,” Institute of Electrical and Electronic Engineers.

4. Watts Bar FSAR, Section 8.3.2, “DC Power System.”

5. IEEE-485-1983, “Recommended Practices for Sizing Large Lead Storage Batteries for Generating Stations and Substations,” Institute of Electrical and Electronic Engineers.

6. Regulatory Guide 1.32, “Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants,” February 1977, U.S. Nuclear Regulatory Commission.

7. Watts Bar FSAR, Section 15, “Accident Analysis” and Section 6 “Engineered Safety Features.”

8. Regulatory Guide 1.93, “Availability of Electric Power Sources,” U.S. Nuclear Regulatory Commission, December 1974.

9. IEEE-450-1980/1995, “IEEE Recommended Practice for Maintenance Testing and Replacement of Large Lead Storage Batteries for Generating Stations and Subsystems,” Institute of Electrical and Electronic Engineers.

10. TVA Calculation WBN EEB-MS-TI11-0003, “125 VDC Vital Battery and Charger Evaluation.”

11. ~~Regulatory Guide 1.129, “Maintenance Testing and Replacement of Large Lead Storage Batteries for Generating Stations and Subsystems,” U.S. Nuclear Regulatory Commission, February 1978.~~Deleted

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BASES

ACTIONS

A.1, A.2, and A.3 (continued)

parameters are not severely degraded, this time is considered reasonable. The verification is repeated at 7 day intervals until the parameters are restored to Category A and B limits. This periodic verification is consistent with the normal Frequency of pilot cell surveillances.

Continued operation is only permitted for 31 days before battery cell parameters must be restored to within Category A and B limits. With the consideration that, while battery capacity is degraded, sufficient capacity exists to perform the intended function and to allow time to fully restore the battery cell parameters to normal limits, this time is acceptable prior to declaring the battery inoperable.

B.1

With one or more batteries with one or more battery cell parameters outside the Category C limits for any connected cell, sufficient capacity to supply the maximum expected load requirement is not assured and the corresponding vital DC or DG DC electrical power subsystem must be declared inoperable. Additionally, other potentially extreme conditions, such as not completing the Required Actions of Condition A within the required Completion Time or average electrolyte temperature of representative cells falling below 60°F for the vital batteries or 50°F for DG batteries, are also cause for immediately declaring the associated vital DC or DG DC electrical power subsystem inoperable.

SURVEILLANCE REQUIREMENTS

SR 3.8.6.1

This SR verifies that Category A battery cell parameters are consistent with IEEE-450 (Ref. 2), ~~which recommends regular battery inspections (at least one per month)~~ including voltage, specific gravity, and electrolyte temperature of pilot cells. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

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BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.6.2

The ~~quarterly~~ inspection of specific gravity and voltage is consistent with IEEE-450 (Ref. 2). In addition, within 24 hours of a battery discharge < 110 V (113.5V for Vital Battery V or 106.5 for DG batteries) or a battery overcharge > 150 V (155 V for Vital Battery V or 145 V for DG batteries), the battery must be demonstrated to meet Category B limits. Transients, such as motor starting transients, which may momentarily cause battery voltage to drop to ≤ 110 V (113.5 V for Vital Battery V or 106.5 V for DG batteries), do not constitute a battery discharge provided the battery terminal voltage and float current return to pre-transient values. This inspection is also consistent with IEEE-450 (Ref. 2), which recommends special inspections following a severe discharge or overcharge, to ensure that no significant degradation of the battery occurs as a consequence of such discharge or overcharge. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.6.3

This Surveillance verification that the average temperature of representative cells is ≥ 60°F for the vital batteries and ≥ 50°F for the DG batteries, is consistent with a recommendation of IEEE-450 (Ref. 2), that states that the temperature of electrolytes in representative cells should be determined ~~on a quarterly basis~~. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

Lower than normal temperatures act to inhibit or reduce battery capacity. This SR ensures that the operating temperatures remain within an acceptable operating range. This limit is based on manufacturer recommendations.

Table 3.8.6-1

This table delineates the limits on electrolyte level, float voltage, and specific gravity for three different categories. The meaning of each category is discussed below.

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.6.1 and SR 3.8.6.2

Verifying battery float current while on float charge is used to determine the state of charge of the battery. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery and maintain the battery in a charged state. The equipment used to monitor float current must have the necessary accuracy and capability to measure electrical currents in the expected range. The float current requirements are based on the float current indicative of a charged battery. ~~The 7 day Frequency is consistent with IEEE-450 (Ref. 2).~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.6.1 is modified by a Note that states the float current requirement is not required to be met when battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.1. When this float voltage is not maintained the Required Actions of LCO 3.8.4 ACTION A are being taken, which provide the necessary and appropriate verifications of the battery condition. Furthermore, the float current limit of 2 amps is established based on the nominal float voltage value and is not directly applicable when this voltage is not maintained.

SR 3.8.6.2 is modified by a Note that states the float current requirement is not required to be met when battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.2. When this float voltage is not maintained the Required Actions of LCO 3.8.4 ACTION D are being taken, which provide the necessary and appropriate verifications of the battery condition. Furthermore, the float current limit of 1 amp is established based on the nominal float voltage value and is not directly applicable when this voltage is not maintained.

SR 3.8.6.3 and SR 3.8.6.6

Optimal long term battery performance is obtained by maintaining a float voltage greater than or equal to the minimum established design limits provided by the battery manufacturer, which corresponds to 132 V at the battery terminals, or 2.20 VDC. This provides adequate overpotential, which limits the formation of lead sulfate and self discharge, which could eventually render the battery inoperable. Float voltages in this range or less, but greater than 2.07 VDC, are addressed in Specification 5.7.2.22. SRs 3.8.6.3 and 3.8.6.6 require verification that the cell float voltages are equal to or greater than the short term absolute minimum voltage of 2.07 V. ~~The Frequency for cell voltage verification every 31 days for pilot cell and 92 days for each connected cell is consistent with IEEE-450 (Ref. 2).~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.6.4

The limit specified for electrolyte level ensures that the plates suffer no physical damage and maintains adequate electron transfer capability. The minimum design electrolyte level is the minimum level indication mark on the battery cell jar. ~~The~~

(continued)

~~Frequency is consistent with IEEE-450 (Ref. 2).~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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SURVEILLANCE REQUIREMENTS

SR 3.8.6.5

This Surveillance verifies that the pilot cell temperature is greater than or equal to the minimum established design limit (i.e., 60°F for the vital batteries and 50°F for the DG batteries). Pilot cell electrolyte temperature is maintained above this temperature to assure the battery can provide the required current and voltage to meet the design requirements. Temperatures lower than assumed in battery sizing calculations act to inhibit or reduce battery capacity. ~~The Frequency is consistent with IEEE-450 (Ref. 2).~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.6.7

A battery performance discharge test is a test of constant current capacity of a battery, normally done in the as found condition, after having been in service, to detect any change in the capacity determined by the acceptance test. The test is intended to determine overall battery degradation due to age and usage.

Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.6.7; however, only the modified performance discharge test may be used to satisfy the battery service test requirements of SR 3.8.4.7.

A modified discharge test is a test of the battery capacity and its ability to provide a high rate, short duration load (usually the highest rate of the duty cycle). This will often confirm the battery's ability to meet the critical period of the load duty cycle, in addition to determining its percentage of rated capacity. Initial conditions for the modified performance discharge test should be identical to those specified for a service test.

It may consist of just two rates; for instance the one minute rate for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance test, both of which envelope the duty cycle of the service test. Since the ampere-hours removed by a one minute discharge represents a very small portion of the battery capacity, the test rate can be changed to that for the performance test without compromising the results of the performance discharge test. The battery terminal voltage for the modified performance discharge test must remain above the minimum battery terminal voltage specified in the battery service test for the duration of time equal to that of the service test.

The acceptance criteria for this Surveillance are consistent with IEEE-450 (Ref. 2) and IEEE-485 (Ref. 4). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating. A capacity of 80% shows that the battery rate of deterioration is increasing, even if there is ample capacity to meet the load requirements. Furthermore, the battery is sized to meet the assumed duty cycle loads when the battery design capacity reaches this 80% limit.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.6.7 (continued)

~~The Surveillance Frequency for this test is normally 60 months.~~ The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. If the battery shows degradation, or if the battery has reached 85% of its expected life and capacity is < 100% of the manufacturer's rating, the Surveillance Frequency is reduced to 12 months. However, if the battery shows no degradation but has reached 85% of its expected life, the Surveillance Frequency is only reduced to 24 months for batteries that retain capacity ≥ 100% of the manufacturer's ratings. Degradation is indicated, according to IEEE-450 (Ref. 2), when the battery capacity drops by more than 10% relative to its capacity on the previous performance test or when it is ≥ 10% below the manufacturer's rating. These Frequencies are consistent with the recommendations in IEEE-450 (Ref. 2).

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would perturb the electrical distribution system and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR.

REFERENCES

1. Watts Bar FSAR, Section 15, "Accident Analysis," and Section 6, "Engineered Safety Features."

2. IEEE-450-2002, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications."

3. Watts Bar FSAR, Section 8, "Electric Power."

4. IEEE-485-1983, "IEEE Recommended Practice for Sizing Large Lead Storage Batteries for Generating Stations and Substations."

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TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
3.8.3	**Diesel Fuel Oil, Lube Oil, and Starting Air**	**3.8.3**	**Diesel Fuel Oil, Lube Oil, and Starting Air**	
3.8.3.1	Verify each fuel oil storage tank contains ≥ [33,000] gal of fuel.	3.8.3.1	Verify each 7 day fuel oil storage tank contains ≥ 56,754 gal of fuel.	Administrative Variation – Section 2.2.1.1
3.8.3.2	Verify lubricating oil inventory is ≥ a [500] gal.	3.8.3.2	Verify lubricating oil inventory is ≥ 287 gal per engine.	Administrative Variation – Section 2.2.1.1
3.8.3.4	Verify each DG air start receiver pressure is ≥ [225] psig.	3.8.3.4	Verify each DG air start receiver pressure is ≥ 190 psig.	No variation
3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	3.8.3.5	Check for and remove accumulated water from each of the four interconnected tanks which constitute the 7 day fuel oil storage tank.	Administrative Variation – Section 2.2.1.1
N/A	N/A	3.8.3.6	Perform a visual inspection for leaks in the exposed fuel oil system piping while the DG is running.	Administrative Variation – Section 2.2.1.5
N/A	N/A Verify DG battery terminal voltage is greater than or equal to the minimum established float voltage. 3.8.4.2	3.8.3.7	For each of the four interconnected tanks which constitute the 7 day fuel oil storage tank: a. Drain the fuel oil; b. Remove the sediment, and c. Clean the tank.	Administrative Variation – Section 2.2.1.5
3.8.4	**DC Sources - Operating**	**3.8.4**	**DC Sources - Operating**	
3.8.4.1	Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	3.8.4.1	~~Verify vital battery terminal voltage is ≥ 128 V (132 V for vital battery V) on float charge.~~	Administrative Variation – Section 2.2.1.1
3.8.4.2	Verify each battery charger supplies ≥ [400] amps at greater than or equal to the minimum established float voltage for ≥ [8] hours. OR 3.8.4.5 Verify each battery charger can recharge the battery to the fully charged state within [24] hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	~~N/A~~	~~N/A~~	Administrative Variation – Section ~~2.2.1.2~~

Verify vital battery terminal voltage is greater than or equal to the minimum established float voltage.

Verify each vital battery charger supplies ≥ 200 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours.

OR

Verify each vital battery charger can recharge the battery to the fully charged state within 36 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.

2.2.1.1

Replace this page of Attachment 7

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
~~N/A~~	~~N/A~~	~~3.8.4.2~~	~~Verify DG battery terminal voltage is ≥ 124 V on float charge.~~	~~Administrative Variation – Section 2.2.1.5~~
N/A	N/A	3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	Administrative Variation – Section 2.2.1.5
N/A	N/A	3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger.	Administrative Variation – Section 2.2.1.5
~~N/A~~	~~N/A~~	~~3.8.4.5~~	~~Verify no visible corrosion at terminals and connectors for the vital batteries.~~ ~~OR~~ ~~Verify connection resistance for the vital batteries is ≤ 80 E-6 ohm for inter-cell connections, ≤ 50 E-6 ohm for inter-rack connections, ≤ 120 E-6 ohm for inter-tier connections, and ≤ 50 E-6 ohm for terminal connections.~~	~~Administrative Variation – Section 2.2.1.5~~
~~N/A~~	~~N/A~~	3.8.4.6	~~Verify no visible corrosion at terminals and connectors for the DG batteries.~~ ~~OR~~ ~~Verify connection resistance for the DG batteries is ≤ 80 E-6 ohm for inter-cell connections, ≤ 50 E-6 ohm for inter-tier connections, and ≤ 50 E-6 ohm for terminal connections.~~	Administrative Variation – Section 2.2.1.5
~~N/A~~	~~N/A~~	~~3.8.4.7~~	~~Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration.~~	~~Administrative Variation – Section 2.2.1.5~~
~~N/A~~	~~N/A~~	~~3.8.4.8~~	~~Remove visible terminal corrosion and verify battery cell to cell and terminal connections are coated with anti-corrosion material.~~	~~Administrative Variation – Section 2.2.1.5~~

(See 3.8.4.2)

Verify each DG battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.

Replace this page in Attachment 7

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
~~N/A~~	~~N/A~~	~~3.8.4.9~~	~~Verify connection resistance for the vital batteries is ≤ 80 E-6 ohm for inter-cell connections, ≤ 50 E-6 for inter-rack connections, ≤ 120 E-6 ohm for inter-tier connections, and ≤ 50 E-6 ohm for terminal connections.~~	~~Administrative Variation – Section 2.2.1.5~~
~~N/A~~	~~N/A~~	~~3.8.4.10~~	~~Verify connection resistance for the DG batteries is ≤ 80 E-6 ohm for inter-cell connections, ≤ 50 E-6 ohm for inter-tier connections, and ≤ 50 E-6 ohm for terminal connections.~~	~~Administrative Variation – Section 2.2.1.5~~
~~N/A~~	~~N/A~~	~~3.8.4.11~~	~~Verify each vital battery charger is capable of recharging its associated battery from a service or capacity discharge test while supplying normal loads.~~ ~~OR~~ ~~Verify each vital battery charger is capable of operating for ≥ 4 hours at current limit 220 – 250 amps.~~	~~Administrative Variation – Section 2.2.1.5~~
~~N/A~~	~~N/A~~	~~3.8.4.12~~	~~Verify each diesel generator battery charger is capable of recharging its associated battery from a service or capacity discharge test while supplying normal loads.~~	~~Administrative Variation – Section 2.2.1.5~~
3.8.4.3	Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	~~3.8.4.13~~	Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads and any connected nonsafety loads for the design duty cycle when subjected to a battery service test.	Administrative Variation – Section 2.2.1.1
~~N/A~~	~~N/A~~	~~3.8.4.14~~	~~Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.~~	~~Administrative Variation – Section 2.2.1.5~~

3.8.4.7

Replace this page in Attachment 7

Verify each required vital battery and each DG battery pilot cell float voltage is ≥ 2.07 V.

Verify each vital battery float current is ≤ 2 amps.

Verify each DG battery float current is ≤ 1 amp.

2.2.1.1

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
3.8.6	**Battery Parameters**	**3.8.6**	**Battery Parameters**	
3.8.6.1	Verify each battery float current is ≤ [2] amps.	~~N/A~~	~~N/A~~	Administrative Variation – Section ~~2.2.1.2~~
~~N/A~~	~~N/A~~	~~3.8.6.1~~	~~Verify battery cell parameters meet Table 3.8.6-1 Category A limits.~~	~~Administrative Variation – Section 2.2.1.5~~
3.8.6.2	Verify each battery pilot cell float voltage is ≥ [2.07] V.	~~N/A~~	~~N/A~~	Administrative Variation – Section ~~2.2.1.2~~
~~N/A~~	~~N/A~~	~~3.8.6.2~~	~~Verify battery cell parameters meet Table 3.8.6-1 Category B limits.~~	~~Administrative Variation – Section 2.2.1.5~~
3.8.6.3	Verify each battery connected cell electrolyte level is greater than or equal to minimum established design limits.	~~N/A~~	~~N/A~~	Administrative Variation – Section ~~2.2.1.2~~
3.8.6.4	Verify each battery pilot cell temperature is greater than or equal to minimum established design limits.	~~3.8.6.3~~	~~Verify average electrolyte temperature of representative cells is ≥ 60°F for vital batteries and ≥ 50°F for the DG batteries.~~	Administrative Variation – Section 2.2.1.1
3.8.6.5	Verify each battery connected cell float voltage is ≥ [2.07] V.	~~N/A~~	~~N/A~~	Administrative Variation – Section ~~2.2.1.2~~
3.8.6.6	Verify battery capacity is ≥ [80%] of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	~~N/A~~	~~N/A~~	Administrative Variation – Section ~~2.2.1.2~~
3.8.7	**Inverters - Operating**	**3.8.7**	**Inverte**	
3.8.7.1	Verify correct inverter voltage, [frequency], and alignment to required AC vital buses.	3.8.7.1	Verify correct inverter voltage, frequency, and alignment to required AC vital bus and from associated vital battery board ~~and 480 V shutdown board~~.	Administrative Variation – Section 2.2.1.1
3.8.8	**Inverters - Shutdown**	**3.8.8**	**Inverters - Shutdown**	
3.8.8.1	Verify correct inverter voltage, [frequency,] and alignments to required AC vital buses.	3.8.8.1	Verify correct inverter voltage, frequency, and alignments to required AC vital bus ~~and from associated vital battery board and 480 V shutdown board~~.	Administrative Variation – Section 2.2.1.1
3.8.9	**Distribution System - Operating**	**3.8.9**	**Distribution Systems - Operating**	
3.8.9.1	Verify correct breaker alignments and voltage to [required] AC, DC, and AC vital bus electrical power distribution subsystems.	3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	Administrative Variation – Section 2.2.1.1

3.8.6.1
3.8.6.2

3.8.6.3

3.8.6.4

3.8.6.5

3.8.6.6

3.8.6.7

Verify each required vital battery and each DG battery connected cell float voltage is ≥ 2.07 V.

Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.

Verify each required vital battery and each DG battery pilot cell temperature is greater than or equal to minimum established design limits.

Verify each required vital battery and each DG battery connected cell electrolyte level is greater than or equal to minimum established design limits.

Enclosure 4

Clean Version of Attachment 7 to the October 12, 2018, License Amendment Request
Showing Revisions Made to Date

TSTF-425 vs. WBN Cross-Reference

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
1.1	Staggered Test Basis put in brackets	1.1	Retained Staggered Test Basis	No variation
3.1.1	**Shutdown Margin (SDM)**	**N/A**	**N/A**	
3.1.1.1	Verify SDM to be within the limits specified in the COLR.	N/A	N/A	Administrative Variation - Section 2.2.1.2
N/A	**N/A**	**3.1.1**	**Shutdown Margin (SDM) –T_{avg} > 200°F**	
N/A	N/A	3.1.1.1	Verify SDM is ≥ 1.6% Δk/k.	Administrative Variation - Section 2.2.1.5
N/A	**N/A**	**3.1.2**	**Shutdown Margin (SDM) –T_{avg} ≤ 200°F**	
N/A	N/A	3.1.2.1	Verify SDM is ≥ 1.0% Δk/k.	Administrative Variation - Section 2.2.1.5
3.1.2	**Core Reactivity**	**3.1.3**	**Core Reactivity**	
3.1.2.1	Verify measured core reactivity is within ± 1% Δk/k of predicted values.	3.1.3.1	Verify measured core reactivity is within ± 1% Δk/k of predicted values.	Administrative Variation - Section 2.2.1.1
3.1.4	**Rod Group Alignment Limits**	**3.1.5**	**Rod Group Alignment Limits**	
3.1.4.1	Verify individual rod positions within alignment limit.	3.1.5.1	Verify position of individual rods within alignment limit.	Administrative Variation - Section 2.2.1.1
3.1.4.2	Verify rod freedom of movement (trippability) by moving each rod not fully inserted in the core ≥ 10 steps in either direction.	3.1.5.2	Verify rod freedom of movement (trippability) by moving each rod not fully inserted in the core ≥ 10 steps in either direction.	Administrative Variation - Section 2.2.1.1
3.1.5	**Shutdown Bank Insertion Limits**	**3.1.6**	**Shutdown Bank Insertion Limits**	
3.1.5.1	Verify each shutdown bank is within the insertion limits specified in the COLR.	3.1.6.1	Verify each shutdown bank is within the insertion limits specified in the COLR.	Administrative Variation - Section 2.2.1.1
3.1.6	**Control Bank Insertion Limits**	**3.1.7**	**Control Bank Insertion Limits**	
3.1.6.2	Verify each control bank insertion is within the insertion limits specified in the COLR.	3.1.7.2	Verify each control bank insertion is within the limits specified in the COLR.	Administrative Variation - Section 2.2.1.1
3.1.6.3	Verify sequence and overlap limits specified in the COLR are met for control banks not fully withdrawn from the core.	3.1.7.3	Verify sequence and overlap limits specified in the COLR are met for control banks not fully withdrawn from the core.	Administrative Variation - Section 2.2.1.1
N/A	**N/A**	**3.1.9**	**Physics Tests Exceptions – Mode 1**	
N/A	N/A	3.1.9.1	Verify THERMAL POWER is ≤ 85% RTP.	Administrative Variation - Section 2.2.1.5
N/A	N/A	3.1.9.3	Perform SR 3.2.1.1 and SR 3.2.2.1.	Administrative Variation - Section 2.2.1.5

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
N/A	N/A	3.1.9.4	Verify SDM is ≥ 1.6% Δk/k.	Administrative Variation - Section 2.2.1.5
3.1.8	**Physics Tests Exceptions – Mode 2**	**3.1.10**	**Physics Tests Exceptions – Mode 2**	
3.1.8.2	Verify the RCS lowest loop average temperature is ≥ [531]°F.	3.1.10.2	Verify the RCS lowest loop average temperature is ≥ 541°F.	Administrative Variation - Section 2.2.1.1
3.1.8.3	Verify THERMAL POWER is ≤5% RTP.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.1.8.4	Verify SDM is within the limits specified in the COLR.	3.1.10.3	Verify SDM is ≥ 1.6% Δk/k.	Administrative Variation - Section 2.2.1.1
3.2.1C	**Heat Flux Hot Channel ($F_Q(Z)$ (CAOC-W(Z) Methodology)**	**3.2.1**	**Heat Flux Hot Channel Factor ($F_Q(Z)$)**	
3.2.1.1	Verify $F^C_Q(Z)$ is within limit.	3.2.1.1	Verify $F^C_Q(Z)$ is within limit.	No variation
3.2.1.2	Verify $F^W_Q(Z)$ is within limit.	3.2.1.2	Verify $F^W_Q(Z)$ is within limit.	No variation
3.2.2	**Nuclear Enthalpy Rise Hot Channel Factor ($F^N_{\Delta H}$)**	**3.2.2**	**Nuclear Enthalpy Rise Hot Channel Factor ($F^N_{\Delta H}$)**	
3.2.2.1	Verify $F^N_{\Delta H}$ is within limits specified in the COLR.	3.2.2.1	Verify $F^N_{\Delta H}$ is within limits specified in the COLR.	No variation
3.2.3B	**Axial Flux Difference (AFD) (RAOC Methodology)**	**3.2.3**	**Axial Flux Difference (AFD)**	
3.2.3.1	Verify AFD within limits for each OPERABLE excore channel.	3.2.3.1	Verify AFD within limits for each OPERABLE excore channel.	Administrative Variation - Section 2.2.1.1
3.2.4	**Quadrant Power Tilt Ratio (QPTR)**	**3.2.4**	**Quadrant Power Tilt Ratio (QPTR)**	
3.2.4.1	Verify QPTR is within limit by calculation.	3.2.4.1	Verify QPTR is within limit by calculation.	Administrative Variation - Section 2.2.1.1
3.2.4.2	Verify QPTR is within limit using the movable incore detectors. [Frequency – 12 hours]	3.2.4.2	Unit 1 - Verify QPTR is within limit using either the movable incore detectors or the PDMS. [Frequency – AND 12 hours thereafter] Unit 2 - Verify QPTR is within limit using the PDMS. [Frequency – AND every 12 hours thereafter]	Administrative Variation - Section 2.2.1.1
3.3.1	**Reactor Trip System (RTS) Instrumentation**	**3.3.1**	**RTS Instrumentation**	
3.3.1.1	Perform CHANNEL CHECK. [Functions 2a/b, 4, 5, 6, 7, 8a/b, 9, 10, 14, 15, 18f]	3.3.1.1	Perform CHANNEL CHECK. [Functions 2a/b, 4, 5, 6, 7, 8a/b, 9, 10, 13]	Administrative Variation - Section 2.2.1.3

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
3.3.1.2	Compare results of calorimetric heat balance calculation to power range channel output. Adjust power range channel output if calorimetric heat balance calculations results exceed power range channel output by more than +2% RTP. [Function 2a]	3.3.1.2	Compare results of calorimetric heat balance calculation to Nuclear Instrumentation System (NIS) channel output. [Function 2a]	Administrative Variation - Section 2.2.1.3
3.3.1.3	Compare results of the incore detector measurements to Nuclear Instrumentation System (NIS) AFD. Adjust NIS channel if absolute difference is ≥ 3%. [Function 6]	3.3.1.3	Unit 1 - Compare results of the incore detector or PDMS measurements to NIS AFD. [Function 6] Unit 2 - Compare results of the PDMS measurements to NIS AFD. [Function 6]	Administrative Variation - Section 2.2.1.3
3.3.1.4	Perform TADOT [Trip Actuating Device Operational Test]. [Function 19 and 20]	3.3.1.4	Perform TADOT. [Functions 17, 18]	Administrative Variation - Section 2.2.1.3
3.3.1.5	Perform ACTUATION LOGIC TEST. [Functions 18b, 21]	3.3.1.5	Perform ACTUATION LOGIC TEST. [Function 19]	Administrative Variation - Section 2.2.1.3
3.3.1.6	Calibrate excore channels to agree with incore detector measurements. [Function 6]	3.3.1.6	Unit 1 - Calibrate excore channels to agree with incore detectors or PDMS measurements. [Function 6] Unit 2 - Calibrate excore channels to agree with the PDMS measurements. [Function 6]	Administrative Variation - Section 2.2.1.3
3.3.1.7	Perform COT [Channel Operational Test]. [Functions 2a, 3a/b, 5, 6, 7, 8a/b, 9, 10, 14, 15]	3.3.1.7	Perform COT. [Functions 2a/b, 3a, 6, 7, 8a/b, 9, 10, 13]	Administrative Variation - Section 2.2.1.3
3.3.1.8	Perform COT. [Functions 2b, 4, 5]	3.3.1.8	Perform COT. [Functions 4, 5]	Administrative Variation - Section 2.2.1.3
3.3.1.9	Perform TADOT. [Functions 12, 13]	3.3.1.9	Perform TADOT. [Functions 11, 12]	Administrative Variation - Section 2.2.1.3
3.3.1.10	Perform CHANNEL CALIBRATION. [Functions 8a/b, 9, 10, 12, 13, 14, 15, 16a/b, 18f]]	3.3.1.10	Perform CHANNEL CALIBRATION. [Functions 8a/b, 9, 10, 11, 12, 13, 14a/b, 16f]	Administrative Variation - Section 2.2.1.3
3.3.1.11	Perform CHANNEL CALIBRATION. [Functions 2a/b, 3a/b, 4, 5, 18a/c/d/e]	3.3.1.11	Perform CHANNEL CALIBRATION. [Functions 2a/b, 3a, 4, 5, 16a/b/c/d/e]	Administrative Variation - Section 2.2.1.3
3.3.1.12	Perform CHANNEL CALIBRATION. [Functions 6, 7]	3.3.1.10	Perform CHANNEL CALIBRATION. [Functions 6, 7]	Administrative Variation - Section 2.2.1.3
3.3.1.13	Perform COT. [Functions 18a/c/d/e/f]	3.3.1.12	Perform COT. [Functions 16a/b/c/d/e/f]	Administrative Variation - Section 2.2.1.3

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
3.3.1.14	Perform TADOT. [Functions 1, 11a/b, 17]	3.3.1.13	Perform TADOT. [Functions 1, 15]	Administrative Variation - Section 2.2.1.3
3.3.1.16	Verify RTS RESPONSE TIME is within limits. [Functions 2a/b, 3b, 5, 6, 7, 8a/b, 10, 12, 13, 14, 15]	3.3.1.15	Verify RTS RESPONSE TIME is within limits. [Functions 2a/b, 5, 6, 7, 8a/b, 10, 11, 12, 13]	Administrative Variation - Section 2.2.1.3
3.3.2	**Engineered Safety Feature Actuation System (ESFAS) Instrumentation**	**3.3.2**	**ESFAS Instrumentation**	
3.3.2.1	Perform CHANNEL CHECK. [Functions 1c/d/e(1)(2)/f/g, 2c/d, 3b(3), 4c/d(1)(2)/e/f/g/h, 5b, 6c/h, 7b/c, 8b/c]	3.3.2.1	Perform CHANNEL CHECK. [Functions 1c/d/e, 2c, 3b(3), 4c/d(1)(2), 5b, 6b, 7b, 8b(1)(2)	Administrative Variation - Section 2.2.1.3
3.3.2.2	Perform ACTUATION LOGIC TEST. [Functions 1b, 2b, 3a(2)/b(2). 4b, 5a, 6a, 7a]	3.3.2.2	Perform ACTUATION LOGIC TEST. [Functions 1b, 2b, 3a(2)/b(2), 4b, 5a, 6a, 7a]	No variation
3.3.2.3	Perform ACTUATION LOGIC TEST. [Function 6b]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.2.4	Perform MASTER RELAY TEST. [Functions 1b, 2b, 3a(2)/b(2), 4b, 5a, 6a, 7a]	3.3.2.3	Perform MASTER RELAY TEST. [Functions 1b, 2b, 3a(2)/b(2), 4b, 5a, 6a, 7a]	Administrative Variation - Section 2.2.1.3
3.3.2.5	Perform COT. [Functions 1c/d/e(1)(2)/f/g, 2c/d, 3b(3), 4c/d(1)(2)/e/f/g/h, 5b, 6c, 7b/c, 8b/c]	3.3.2.4	Perform COT. [Functions 1c/d/e, 2c, 3b(3), 4c/d(1)(2), 5b, 6b, 7b, 8b(1)(2)]	Administrative Variation - Section 2.2.1.3
3.3.2.6	Perform SLAVE RELAY TEST. [Functions 1b, 2b, 3a(2)/b(2), 4b, 5a, 6a, 7a]	3.3.2.5	Perform SLAVE RELAY TEST. [Functions 1b, 2b, 3a(2)/b(2), 4b, 5a, 6a, 7a]	Administrative Variation - Section 2.2.1.3
3.3.2.7	Perform TADOT. [Functions 6e/f/h]	3.3.2.6	Perform TADOT. [Functions 5d/e, 6f]	Administrative Variation - Section 2.2.1
N/A	N/A	3.3.2.7	Perform SLAVE RELAY TEST on slave relays K603A, K603B, K604A, K604B, K607A, K607B, K609A, K609B, K612A, K625A, and K625B. [Functions 1b, 3a(2)/b(2)]	Administrative Variation - Section 2.2.1.5
3.3.2.8	Perform TADOT. [Functions 1a, 2a, 3a(1)/b(1), 4a, 6g]	3.3.2.8	Perform TADOT [Functions 1a, 2a, 3a(1)/b(1), 4a, 6e]	Administrative Variation - Section 2.2.1.3
3.3.2.9	Perform CHANNEL CALIBRATION. [Functions 1c/d/e(1)(2)/f/g, 2c/d, 3b(3), 4c/d(1)(2)/e/f/g/h, 5b, 6c/e/f/g/h, 7b/c, 8b/c]	3.3.2.9	Perform CHANNEL CALIBRATION. [Functions 1c/d/e, 2c, 3b(3), 4c/d(1)(2), 5b/d/e, 6b/e/f, 7b, 8b(1)(2)	Administrative Variation - Section 2.2.1.3
3.3.2.10	Verify ESFAS RESPONSE TIMES are within limit. [Functions 1c/d/e(1)(2)/f/g, 2c/d, 3b(3), 4c/d(1)(2)/e/f/g/h, 5b, 6c/e/f/g, 7b/c]	3.3.2.10	Verify ESFAS RESPONSE TIMES are within limit. [Functions 1c/d/e, 2c, 3b(3), 4c/d(1)(2), 5b, 6b/e/f, 7b]	Administrative Variation - Section 2.2.1.3

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
3.3.3	**Post Accident Monitoring (PAM) Instrumentation**	**3.3.3**	**PAM Instrumentation**	
3.3.3.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	3.3.3.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	No variation
3.3.3.2	Perform CHANNEL CALIBRATION.	3.3.3.2	Perform CHANNEL CALIBRATION.	Administrative Variation – Section 2.2.1.1 (SR Notes are different)
N/A	N/A	3.3.3.3	Perform TADOT.	Administrative Variation - Section 2.2.1.5
3.3.4	**Remote Shutdown System**	**3.3.4**	**Remote Shutdown System**	
3.3.4.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	3.3.4.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	No variation
3.3.4.2	Verify each required control circuit and transfer switch is capable of performing the intended function.	3.3.4.2	Verify each required control circuit and transfer switch is capable of performing the intended function.	No variation
3.3.4.3	Perform CHANNEL CALIBRATION for each required instrumentation channel.	3.3.4.3	Perform CHANNEL CALIBRATION for each required instrumentation channel.	No variation
3.3.4.4	Perform TADOT of the reactor trip breaker open/closed indication.	3.3.4.4	Perform TADOT of the reactor trip breaker open/closed indication.	No variation
3.3.5	**Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation**	**3.3.5**	**LOP DG Start Instrumentation**	
3.3.5.1	Perform CHANNEL CHECK.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.5.2	Perform TADOT.	3.3.5.1	Perform TADOT. [Functions 1a, 2a, 3, 4]	Administrative Variation - Section 2.2.1.3
N/A	N/A	3.3.5.2	Perform CHANNEL CALIBRATION. {Functions 1a, 2a, 3, 4]	Administrative Variation - Section 2.2.1.5
3.3.5.3	Perform CHANNEL CALIBRATION with [Nominal Trip Setpoint and Allowable Value] as follows: […]	3.3.5.3	Perform CHANNEL CALIBRATION. [Functions 1b, 2b]	Administrative Variation - Section 2.2.1.3
3.3.6	**Containment Purge and Exhaust Isolation Instrumentation**	**3.3.6**	**Containment Vent Isolation Instrumentation**	
3.3.6.1	Perform CHANNEL CHECK. [Functions 3a/b/c/d]	3.3.6.1	Perform CHANNEL CHECK. [Function 3]	Administrative Variation - Section 2.2.1.3

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3.3.6.2	Perform ACTUATION LOGIC TEST. [Function 2]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.6.3	Perform MASTER RELAY TEST. [Function 2]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.6.4	Perform ACTUATION LOGIC TEST. [Function 2]	3.3.6.2	Perform ACTUATION LOGIC TEST. [Function 2]	Administrative Variation - Section 2.2.1.3
3.3.6.5	Perform MASTER RELAY TEST. [Function 2]	3.3.6.3	Perform MASTER RELAY TEST. [Function 2]	Administrative Variation - Section 2.2.1.3
3.3.6.6	Perform COT. [Functions 3a/b/c/d]	3.3.6.4	Perform COT. [Function 3]	Administrative Variation - Section 2.2.1.3
3.3.6.7	Perform SLAVE RELAY TEST. [Function 2]	3.3.6.5	Perform SLAVE RELAY TEST. [Function 2]	Administrative Variation - Section 2.2.1.3
3.3.6.8	Perform TADOT. [Function 1]	3.3.6.6	Perform TADOT. [Function 1]	Administrative Variation - Section 2.2.1.3
3.3.6.9	Perform CHANNEL CALIBRATION. [Functions 3a/b/c/d]	3.3.6.7	Perform CHANNEL CALIBRATION. [Function 3]	Administrative Variation - Section 2.2.1.3
3.3.7	**Control Room Emergency Filtration System (CREFS) Actuation Instrumentation**	**3.3.7**	**Control Room Emergency Ventilation System (CREVS) Actuation Instrumentation**	
3.3.7.1	Perform CHANNEL CHECK. [Functions 3a/b]	3.3.7.1	Perform CHANNEL CHECK. [Function 2]	Administrative Variation - Section 2.2.1.3
3.3.7.2	Perform COT. [Functions 3a/b]	3.3.7.2	Perform COT. [Function 2]	Administrative Variation - Section 2.2.1.3
3.3.7.3	Perform ACTUATION LOGIC TEST. [Function 2]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.7.4	Perform MASTER RELAY TEST. [Function 2]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.7.5	Perform ACTUATION LOGIC TEST. [Function 2]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.7.6	Perform MASTER RELAY TEST. [Function 2]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.7.7	Perform SLAVE RELAY TEST. [Function 2]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.7.8	Perform TADOT. [Function 1]	3.3.7.3	Perform TADOT. [Function 1]	Administrative Variation - Section 2.2.1.3

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3.3.7.9	Perform CHANNEL CALIBRATION. [Functions 3a/b]	3.3.7.4	Perform CHANNEL CALIBRATION. [Function 2]	Administrative Variation - Section 2.2.1.3
3.3.8	**Fuel Building Air Cleanup System (FBACS) Actuation Instrumentation**	**N/A**	**N/A**	
3.3.8.1.	Perform CHANNEL CHECK. [Functions 3a/b]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.8.2	Perform COT. [Functions 3a/b]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.8.3	Perform ACTUATION LOGIC TEST. [Function 2]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.8.4	Perform TADOT. [Function 1]	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.8.5	Perform CHANNEL CALIBRATION. [Functions 3a/b]	N/A	N/A	Administrative Variation - Section 2.2.1.2
N/A	**N/A**	**3.3.8**	**Auxiliary Building Gas Treatment System (ABGTS) Actuation Instrumentation**	
N/A	N/A	3.3.8.1	Perform TADOT. [Function 1]	Administrative Variation - Section 2.2.1.5
3.3.9	**Boron Dilution Protection System (BDPS)**	**3.3.9**	**N/A**	
3.3.9.1	Perform CHANNEL CHECK.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.9.2	Perform COT.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.3.9.3	Perform CHANNEL CALIBRATION.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.4.1	**RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits**	**3.4.1**	**RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits**	
3.4.1.1	Verify pressurizer pressure is greater than or equal to the limit specified in the COLR.	3.4.1.1	Verify pressurizer pressure is $\geq$ 2214 psig.	Administrative Variation - Section 2.2.1.1
3.4.1.2	Verify RCS average temperature is less than or equal to the limit specified in the COLR.	3.4.1.2	Verify RCS average temperature is $\leq$ 593.2°F.	Administrative Variation - Section 2.2.1.1
3.4.1.3	Verify RCS total flow rate is ≥ [284,000] gpm and greater than or equal to the limit specified in the COLR.	3.4.1.3	Verify RCS total flow rate is $\geq$ 380,000 gpm (process computer or control board indication).	Administrative Variation - Section 2.2.1.1

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3.4.1.4	Verify by precision heat balance that RCS total flow rate is ≥ [284,000] gpm and greater than or equal to the limit specified in the COLR.	3.4.1.4	Unit 1 - Verify by precision heat balance or elbow tap Δp method that RCS total flow rate is ≥ 380,000 gpm. Unit 2 - Verify by precision heat balance method that RCS total flow rate is ≥ 380,000 gpm.	Administrative Variation - Section 2.2.1.1
3.4.2	**RCS Minimum Temperature for Criticality**	**3.4.2**	**RCS Minimum Temperature for Criticality**	
3.4.2.1	Verify RCS T_{avg} in each loop ≥ [541]°F.	3.4.2.1	Verify RCS T_{avg} in each loop ≥ 551°F.	No variation
3.4.3	**RCS Pressure and Temperature (P/T) Limits**	**3.4.3**	**RCS Pressure and Temperature (P/T) Limits**	
3.4.3.1	Verify RCS pressure, RCS temperature, and RCS heatup and cooldown rates are within the limits specified in the PTLR.	3.4.3.1	Verify RCS pressure, RCS temperature, and RCS heatup and cooldown rates are within the limits specified in the PTLR.	No variation
3.4.4	**RCS Loops - MODES 1 and 2**	**3.4.4**	**RCS Loops - MODES 1 and 2**	
3.4.4.1	Verify each RCS loop is in operation.	3.4.4.1	Verify each RCS loop is in operation.	No variation
3.4.5	**RCS Loops - MODE 3**	**3.4.5**	**RCS Loops - MODE 3**	
3.4.5.1	Verify required RCS loops are in operation.	3.4.5.1	Verify required RCS loops are in operation.	No variation
3.4.5.2	Verify steam generator secondary side water levels are ≥ [17]% for required RCS loops.	3.4.5.2	Unit 1 - Verify steam generator secondary side water levels are greater than or equal to 32% narrow range for required RCS loops. Unit 2 - Verify steam generator secondary side water levels are ≥ 6% narrow range for required RCS loops.	Administrative Variation - Section 2.2.1.1
3.4.5.3	Verify correct breaker alignment and indicated power are available to each required pump.	3.4.5.3	Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	Administrative Variation - Section 2.2.1.1
3.4.6	**RCS Loops - MODE 4**	**3.4.6**	**RCS Loops - MODE 4**	
N/A	N/A	3.4.6.1	Verify two RCS loops are in operation when the rod control system is capable of rod withdrawal.	Administrative Variation - Section 2.2.1.5
3.4.6.1	Verify required RHR or RCS loop is in operation.	3.4.6.2	Verify one required RHR or RCS loop is in operation when the rod control system is not capable of rod withdrawal.	Administrative Variation - Section 2.2.1.1

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3.4.6.2	Verify SG secondary side water levels are ≥ [17]% for required RCS loops.	3.4.6.3	Unit 1 - Verify SG secondary side water levels are greater than or equal to 32% narrow range for required RCS loops. Unit 2 - Verify SG secondary side water levels are greater than or equal to 6% narrow range for required RCS loops.	Administrative Variation - Section 2.2.1.1
3.4.6.3	Verify correct breaker alignment and indicated power are available to each required pump.	3.4.6.4	Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	Administrative Variation - Section 2.2.1.1
3.4.7	**RCS Loops - MODE 5, Loops Filled**	**3.4.7**	**RCS Loops - MODE 5, Loops Filled**	
3.4.7.1	Verify required RHR loop is in operation.	3.4.7.1	Verify one RHR loop is in operation.	Administrative Variation - Section 2.2.1.1
3.4.7.2	Verify SG secondary side water level is ≥ [17]% in required SGs.	3.4.7.2	Unit 1 - Verify SG secondary side water level is greater than or equal to 32% narrow range in required SGs. Unit 2 - Verify SG secondary side water level is greater than or equal to 6% narrow range in required SGs.	Administrative Variation - Section 2.2.1.1
3.4.7.3	Verify correct breaker alignment and indicated power are available to each required RHR pump.	3.4.7.3	Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	Administrative Variation - Section 2.2.1.1
3.4.8	**RCS Loops - MODE 5, Loops Not Filled**	**3.4.8**	**RCS Loops - MODE 5, Loops Not Filled**	
3.4.8.1	Verify required RHR loop is in operation.	3.4.8.1	Verify one RHR loop is in operation.	Administrative Variation - Section 2.2.1.1
3.4.8.2	Verify correct breaker alignment and indicated power are available to each required RHR pump.	3.4.8.2	Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	Administrative Variation - Section 2.2.1.1
3.4.9	**Pressurizer**	**3.4.9**	**Pressurizer**	
3.4.9.1	Verify pressurizer water level is ≤ [92]%.	3.4.9.1	Verify pressurizer water level is ≤ 92%.	No variation
3.4.9.2	Verify capacity of each required group of pressurizer heaters is ≥ [125] kW.	3.4.9.2	Verify capacity of each required group of pressurizer heaters is ≥ 150 kW.	No variation
3.4.9.3	Verify required pressurizer heaters are capable of being powered from an emergency power supply.	N/A	N/A	Administrative Variation - Section 2.2.1.2

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3.4.11	**Pressurizer Power Operated Relief Valves (PORVs)**	**3.4.11**	**Pressurizer Power Operated Relief Valves (PORVs)**	
3.4.11.1	Perform a complete cycle of each block valve.	3.4.11.1	Perform a complete cycle of each block valve.	No variation
3.4.11.2	Perform a complete cycle of each PORV.	3.4.11.2	Perform a complete cycle of each PORV.	No variation
3.4.11.3	Perform a complete cycle of each solenoid air control valve and check valve on the air accumulators in PORV control systems.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.4.11.4	Verify PORVs and block valves are capable of being powered from emergency power sources.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.4.12	**Low Temperature Overpressure Protection (LTOP) System**	**3.4.12**	**Cold Overpressure Mitigation System (COMS)**	
3.4.12.1	Verify a maximum of [one] [HPI] pump is capable of injecting into the RCS.	3.4.12.1	Verify no safety injection pumps are capable of injecting into the RCS.	Administrative Variation - Section 2.2.1.1
3.4.12.2	Verify a maximum of one charging pump is capable of injecting into the RCS.	3.4.12.2	Verify a maximum of one charging pump is capable of injecting into the RCS.	No variation
3.4.12.3	Verify each accumulator is isolated.	3.4.12.3	Verify each accumulator is isolated.	No variation
3.4.12.4	Verify RHR suction valve is open for each required RHR suction relief valve.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.4.12.5	Verify required RCS vent ≥ [2.07] square inches open.	3.4.12.4	Verify RCS vent open.	Administrative Variation - Section 2.2.1.1
3.4.12.6	Verify PORV block valve is open for each required PORV.	3.4.12.5	Verify PORV block valve is open for each required PORV.	Administrative Variation - Section 2.2.1.1
3.4.12.7	Verify associated RHR suction isolation valve is locked open with operator power removed for each required RHR suction relief valve.	3.4.12.6	Verify both RHR suction isolation valves are locked open with operator power removed for the required RHR suction relief valve.	Administrative Variation - Section 2.2.1.1
3.4.12.8	Perform a COT on each required PORV, excluding actuation.	3.4.12.7	Perform a COT on each required PORV, excluding actuation.	Administrative Variation - Section 2.2.1.1
3.4.12.9	Perform CHANNEL CALIBRATION for each required PORV actuation channel.	3.4.12.8	Perform CHANNEL CALIBRATION for each required PORV actuation channel.	Administrative Variation - Section 2.2.1.1
3.4.13	**RCS Operational LEAKAGE**	**3.4.13**	RCS Operational LEAKAGE	
3.4.13.1	Verify RCS operational LEAKAGE is within limits by performance of RCS water inventory balance.	3.4.13.1	Verify RCS operational LEAKAGE is within limits by performance of RCS water inventory balance.	No variation

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3.4.13.2	Verify primary to secondary LEAKAGE is ≤ 150 gallons per day through any one SG.	3.4.13.2	Verify primary-to-secondary LEAKAGE is less than or equal to 150 gallons per day through any one SG.	Administrative Variation - Section 2.2.1.1
3.4.14	**RCS Pressure Isolation Valve (PIV) Leakage**	**3.4.14**	**RCS Pressure Isolation Valve (PIV) Leakage**	
3.4.14.1	Verify leakage from each RCS PIV is equivalent to ≤ 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm at an RCS pressure ≥ [2215] psig and ≤ [2255] psig.	3.4.14.1	Verify leakage from each RCS PIV is equivalent to ≤ 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm at an RCS pressure ≥ 2215 psig and ≤ 2255 psig.	No variation
3.4.14.2	Verify RHR System autoclosure interlock prevents the valves from being opened with a simulated or actual RCS pressure signal ≥ [425] psig.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.4.14.3	Verify RHR System autoclosure interlock causes the valves to close automatically with a simulated or actual RCS pressure signal ≥ [600] psig.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.4.15	**RCS Leakage Detection Instrumentation**	**3.4.15**	**RCS Leakage Detection Instrumentation**	
3.4.15.1	Perform CHANNEL CHECK of the required containment atmosphere radioactivity monitor.	3.4.15.1	Perform CHANNEL CHECK of the required containment atmosphere particulate radioactivity monitor.	Administrative Variation - Section 2.2.1.1
3.4.15.2	Perform COT of the required containment atmosphere radioactivity monitor.	3.4.15.2	Unit 1 - Perform COT of the required containment atmosphere particulate radioactivity level monitor. Unit 2 - Perform COT of the required containment atmosphere particulate radioactivity monitor.	Administrative Variation - Section 2.2.1.1
3.4.15.3	Perform CHANNEL CALIBRATION of the required containment sump monitor.	3.4.15.3	Perform CHANNEL CALIBRATION of the required containment pocket sump level monitor.	Administrative Variation - Section 2.2.1.1
3.4.15.4	Perform CHANNEL CALIBRATION of the required containment atmosphere radioactivity monitor.	3.4.15.4	Perform CHANNEL CALIBRATION of the required containment atmosphere particulate radioactivity monitor.	Administrative Variation - Section 2.2.1.1
3.4.15.5	Perform CHANNEL CALIBRATION of the required containment air cooler condensate flow rate monitor.	N/A	N/A	Administrative Variation - Section 2.2.1.2

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3.4.16	**RCS Specific Activity**	**3.4.16**	**RCS Specific Activity**	
3.4.16.1	Verify reactor coolant gross specific activity ≤ 100/$\bar{E}$ µCi/gm.	3.4.16.1	Verify reactor coolant gross specific activity ≤ 100/ $\bar{E}$ µCi/gm.	No variation
3.4.16.2	Verify reactor coolant DOSE EQUIVALENT I-131 specific activity ≤ 1.0 µCi/gm.	3.4.16.2	Verify reactor coolant DOSE EQUIVALENT I-131 specific activity ≤ 0.265 µCi/gm.	Administrative Variation - Section 2.2.1.1
3.4.16.3	Determine $\bar{E}$ from a sample taken in MODE 1 after a minimum of 2 effective full power days and 20 days of MODE 1 operation have elapsed since the reactor was last subcritical for ≥ 48 hours.	3.4.16.3	Determine $\bar{E}$ from a sample taken in MODE 1 after a minimum of 2 effective full power days and 20 days of MODE 1 operation have elapsed since the reactor was last subcritical for ≥ 48 hours.	No variation
3.4.17	**RCS Loop Isolation Valves**	**N/A**	**N/A**	
3.4.17.1	Verify each RCS loop isolation valve is open and power is removed from each loop isolation valve operator.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.4.19	**RCS Loops – Test Exceptions**	**N/A**	**N/A**	
3.4.19.1	Verify THERMAL POWER is < P-7.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.5.1	**Accumulators**	**3.5.1**	**Accumulators**	
3.5.1.1	Verify each accumulator isolation valve is fully open.	3.5.1.1	Verify each accumulator isolation valve is fully open.	No variation
3.5.1.2	Verify borated water volume in each accumulator is ≥ [7853 gallons ( )% and ≤ 8171 gallons ( )%].	3.5.1.2	Verify borated water volume in each accumulator is ≥ 7630 gallons and ≤ 8000 gallons.	No variation
3.5.1.3	Verify nitrogen cover pressure in each accumulator is ≥ [385] psig and ≤ [481] psig.	3.5.1.3	Verify nitrogen cover pressure in each accumulator is ≥ 610 psig and ≤ 660 psig.	No variation
3.5.1.4	Verify boron concentration in each accumulator is ≥ [1900] ppm and ≤ [2100] ppm.	3.5.1.4	Verify boron concentration in each accumulator is ≥ 3000 ppm and ≤ 3300 ppm.	No variation
3.5.1.5	Verify power is removed from each accumulator isolation valve operator when RCS pressure is ≥ [2000] psig.	3.5.1.5	Verify power is removed from each accumulator isolation valve operator when pressurizer pressure is ≥ 1000 psig.	No variation
3.5.2	**ECCS - Operating**	**3.5.2**	**ECCS - Operating**	
3.5.2.1	Verify the following valves are in the listed position with power to the valve operator removed.	3.5.2.1	Verify the following valves are in the listed position with power to the valve operator removed.	No variation

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3.5.2.2	Verify each ECCS manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	3.5.2.2	Verify each ECCS manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	No variation
3.5.2.3	Verify ECCS piping is full of water.	3.5.2.3	Verify ECCS piping is full of water.	Administrative Variation – Section 2.2.1.4
3.5.2.5	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	3.5.2.5	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	No variation
3.5.2.6	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	3.5.2.6	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	No variation
3.5.2.7	Verify, for each ECCS throttle valve listed below, each position stop is in the correct position.	3.5.2.7	Verify for each ECCS throttle valve listed below, each position stop is in the correct position.	No variation
3.5.2.8	Verify, by visual inspection, each ECCS train containment sump suction inlet is not restricted by debris and the suction inlet trash racks and screens show no evidence of structural distress or abnormal corrosion.	3.5.2.8	Verify, by visual inspection, each ECCS train containment sump suction inlet is not restricted by debris and the suction inlet trash racks and screens show no evidence of structural distress or abnormal corrosion.	No variation
3.5.4	**Refueling Water Storage Tank (RWST)**	**3.5.4**	**Refueling Water Storage Tank (RWST)**	
3.5.4.1	Verify RWST borated water temperature is ≥ [35]°F and ≤ [100]°F.	3.5.4.1	Verify RWST borated water temperature is ≥ 60°F and ≤ 105°F.	No variation
3.5.4.2	Verify RWST borated water volume is ≥ [466,200 gallons ( )%].	3.5.4.2	Verify RWST borated water volume is ≥ 370,000 gallons.	No variation
3.5.4.3	Verify RWST boron concentration is ≥ [2000] ppm and ≤ [2200] ppm.	3.5.4.3	Verify boron concentration in the RWST is ≥ 3100 ppm and ≤ 3300 ppm.	Administrative Variation - Section 2.2.1.1
3.5.5	**Seal Injection Flow**	**3.5.5**	**Seal Injection Flow**	
3.5.5.1	Verify manual seal injection throttle valves are adjusted to give a flow [resistance] [of ≤ [40 gpm] with [centrifugal charging pump discharge header] pressure ≥ [2480] psig and the [charging flow] control valve full open or ≥ [0.2117] ft/gpm^2 or within the limit of Figure 3.5.5-1.]	3.5.5.1	Verify manual seal injection throttle valves are adjusted to give a flow within limit with charging pump discharge header pressure ≥ 2430 psig and the pressurizer level control valve full open.	No variation

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3.5.6	**Boron Injection Tank (BIT)**	**N/A**	**N/A**	
3.5.6.1	Verify BIT borated water temperature is ≥ [145]°F.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.5.6.2	Verify BIT borated water volume is ≥ [1100] gallons.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.5.6.3	Verify BIT boron concentration is ≥ [20,000] ppm and ≤ [22,500] ppm.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.6.2	**Containment Air Locks (Atmospheric, Subatmospheric, Ice Condenser, and Dual)**	**3.6.2**	**Containment Air Locks**	
3.6.2.2	Verify only one door in the air lock can be opened at a time.	3.6.2.2	Verify only one door in the air lock can be opened at a time.	No variation
3.6.3	**Containment Isolation Valves (Atmospheric, Subatmospheric, Ice Condenser, and Dual)**	**3.6.3**	**Containment Isolation Valves**	
3.6.3.1	Verify each [42] inch purge valve is sealed closed, except for one purge valve in a penetration flow path while in Condition E of this LCO.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.6.3.2	Verify each [8] inch purge valve is closed, except when the [8] inch containment purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	3.6.3.1	Verify each containment purge valve is closed, except when the containment purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	Administrative Variation - Section 2.2.1.1
3.6.3.3	Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	3.6.3.2	Verify each containment isolation manual valve and blind flange that is located outside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Administrative Variation - Section 2.2.1.1
3.6.3.5	Verify the isolation time of each automatic power operated containment isolation valve is within limits.	3.6.3.4	Verify the isolation time of each power operated and each automatic containment isolation valve is within limits.	Administrative Variation - Section 2.2.1.1

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3.6.3.6	Cycle each weight or spring loaded check valve testable during operation through one complete cycle of full travel, and verify each check valve remains closed when the differential pressure in the direction of flow is ≤ [1.2] psid and opens when the differential pressure in the direction of flow is ≥ [1.2] psid and < [5.0] psid.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.6.3.7	Perform leakage rate testing for containment purge valves with resilient seals.	3.6.3.5	Perform leakage rate testing for containment purge valves with resilient seals.	Administrative Variation - Section 2.2.1.2. This SR is ineligible for change due to WBN 1/2 License Amendment 123/24.
3.6.3.8	Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	3.6.3.6	Verify each automatic containment isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	Administrative Variation - Section 2.2.1.1
3.6.3.9	Cycle each weight or spring loaded check valve not testable during operation through one complete cycle of full travel, and verify each check valve remains closed when the differential pressure in the direction of flow is ≤ [1.2] psid and opens when the differential pressure in the direction of flow is ≥ [1.2] psid and < [5.0] psid.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.6.3.10	Verify each [ ] inch containment purge valve is blocked to restrict the valve from opening > [50]%.	3.6.3.7	Verify each 24 inch containment lower compartment purge supply and exhaust isolation valve is blocked to restrict the valve from opening > 50°.	Administrative Variation - Section 2.2.1.1
3.6.4A	**Containment Pressure (Atmospheric, Dual, and Ice Condenser)**	**3.6.4**	**Containment Pressure**	
3.6.4A.1	Verify containment pressure is within limits.	3.6.4.1	Verify containment pressure is within limits.	Administrative Variation - Section 2.2.1.1

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3.6.5B	**Containment Air Temperature (Ice Condenser)**	**3.6.5**	**Containment Air Temperature**	
3.6.5B.1	Verify containment upper compartment average air temperature is within limits.	3.6.5.1	Verify containment upper compartment average air temperature is within limits.	Administrative Variation - Section 2.2.1.1
3.6.5B.2	Verify containment lower compartment average air temperature is within limits.	3.6.5.2	Verify containment lower compartment average air temperature is within limits.	Administrative Variation - Section 2.2.1.1
3.6.6C	**Containment Spray System (Ice Condenser)**	**3.6.6**	**Containment Spray System**	
3.6.6C.1	Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	3.6.6.1	Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	Administrative Variation - Section 2.2.1.1
3.6.6C.3	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	3.6.6.3	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	Administrative Variation - Section 2.2.1.1
3.6.6C.4	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	3.6.6.4	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	Administrative Variation - Section 2.2.1.1
3.6.6C.5	Verify each spray nozzle is unobstructed.	3.6.6.5	Verify each spray nozzle is unobstructed.	Administrative Variation - Section 2.2.1.1
3.6.7	**Spray Additive System (Atmospheric, Subatmospheric, Ice Condenser, and Dual)**	**N/A**	**N/A**	
3.6.7.1	Verify each spray additive manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.6.7.2	Verify spray additive tank solution volume is ≥ [2568] gal and ≤ [4000] gal.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.6.7.3	Verify spray additive tank [NaOH] solution concentration is ≥ [30]% and ≤ [32]% by weight.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.6.7.4	Verify each spray additive automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the	N/A	N/A	Administrative Variation - Section 2.2.1.2

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	correct position on an actual or simulated actuation signal.			
3.6.7.5	Verify spray additive flow [rate] from each solution's flow path.	N/A	N/A	Administrative Variation - Section 2.2.1.2
3.6.8	**Shield Building (Dual and Ice Condenser)**	**3.6.15**	**Shield Building**	
3.6.8.1	Verify annulus negative pressure is > [5] inches water gauge.	3.6.15.1	Verify annulus negative pressure is equal to or more negative than -5 inches water gauge with respect to the atmosphere.	Administrative Variation – Section 2.2.1.1
3.6.8.2	Verify one shield building access door in each access opening is closed.	3.6.15.2	Verify the door in each access opening is closed, except when the access opening is being used for normal transient entry and exit.	Administrative Variation – Section 2.2.1.1
3.6.8.4	Verify the shield building can be maintained at a pressure equal to or more negative than [- 0.5] inch water gauge in the annulus by one Shield Building Air Cleanup System train with final flow ≤ [ ] cfm within [22] seconds after a start signal.	3.6.15.4	Verify each Emergency Gas Treatment System train with final flow ≥ 3600 and ≤ 4400 cfm produces an annulus pressure equal to or more negative than -0.61 inch water gauge at elevation 783 with respect to the atmosphere and with an inleakage of ≤ 250 cfm.	Administrative Variation – Section 2.2.1.1
3.6.9	**Hydrogen Mixing System (HMS) (Atmospheric, Ice Condenser, and Dual)**	**N/A**	**N/A**	
3.6.9.1	Operate each HMS train for ≥ 15 minutes.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.6.9.2	Verify each HMS train flow rate on slow speed is ≥ [4000] cfm.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.6.9.3	Verify each HMS train starts on an actual or simulated actuation signal.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.6.10	**Hydrogen Ignition System (HIS) (Ice Condenser)**	**3.6.8**	**Hydrogen Mitigation System (HMS)**	
3.6.10.1	Energize each HIS train power supply breaker and verify ≥ [32] ignitors are energized in each train.	3.6.8.1	Energize each HMS train power supply breaker and verify ≥ 33 ignitors are energized in each train.	Administrative Variation – Section 2.2.1.4
3.6.10.2	Verify at least one hydrogen ignitor is OPERABLE in each containment region.	3.6.8.2	Verify at least one hydrogen ignitor is OPERABLE in each containment region.	Administrative Variation – Section 2.2.1.1

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3.6.10.3	Energize each hydrogen ignitor and verify temperature is ≥ [1700]°F.	3.6.8.3	Energize each hydrogen ignitor and verify temperature is ≥ 1700°F.	Administrative Variation – Section 2.2.1.1
3.6.13	**Shield Building Air Cleanup System (SBACS) (Dual and Ice Condenser)**	**3.6.9**	**Emergency Gas Treatment System (EGTS)**	
3.6.13.1	Operate each SBACS train for [≥ 10 continuous hours with heaters operating or (for systems without heaters) ≥ 15 minutes].	3.6.9.1	Operate each EGTS train for ≥ 15 continuous minutes with heaters operating.	Administrative Variation – Section 2.2.1.1
3.6.13.3	Verify each SBACS train actuates on an actual or simulated actuation signal.	3.6.9.3	Verify each EGTS train actuates on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1
3.6.13.4	Verify each SBACS filter bypass damper can be opened.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.6.13.5	Verify each SBACS train flow rate is ≥ [ ] cfm.	3.6.9.4	Verify each EGTS train produces a flow rate ≥ 3600 and ≤ 4400 cfm within 20 seconds from the initiation of a Containment Isolation Phase A signal.	Administrative Variation – Section 2.2.1.1
3.6.14	**Air Return System (ARS) (Ice Condenser)**	**3.6.10**	**Air Return System (ARS)**	
3.6.14.1	Verify each ARS fan starts on an actual or simulated actuation signal, after a delay of ≥ [9.0] minutes and ≤ [11.0] minutes, and operates for ≥ 15 minutes.	3.6.10.1	Verify each ARS fan starts on an actual or simulated actuation signal, after a delay of ≥ 8.0 minutes and ≤ 10.0 minutes, and operates for ≥ 15 minutes.	Administrative Variation – Section 2.2.1.1
3.6.14.2	Verify, with the ARS fan dampers closed, each ARS fan motor current is ≥ [20.5] amps and ≤ [35.5] amps [when the fan speed is ≥ [840] rpm and ≤ [900] rpm].	3.6.10.2	Verify, with the ARS fan dampers closed, each ARS fan motor current is ≥ 54 amps and ≤ 94 amps.	Administrative Variation – Section 2.2.1.1
3.6.14.3	Verify, with the ARS fan not operating, each ARS fan damper opens when ≤ [11.0] lb is applied to the counterweight.	3.6.10.3	Verify, with the ARS fan not operating, each ARS fan damper opens when ≤ 92.4 in-lb is applied.	Administrative Variation – Section 2.2.1.1
3.6.14.4	Verify each motor operated valve in the hydrogen collection header that is not locked, sealed, or otherwise secured in position, opens on an actual or simulated actuation signal after a delay of ≥ [9.0] minutes and ≤ [11.0] minutes.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.6.15	**Ice Bed (Ice Condenser)**	**3.6.11**	**Ice Bed**	
3.6.15.1	Verify maximum ice bed temperature is ≤ [27]°F.	3.6.11.1	Verify maximum ice bed temperature is ≤ 27°F.	Administrative Variation – Section 2.2.1.1

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3.6.15.2	Verify total mass of stored ice is ≥ [2,200,000] lbs by calculating the mass of stored ice, at a 95% confidence level, in each of three Radial Zones as defined below, by selecting a random sample of ≥30 ice baskets in each Radial Zone, and Verify: 1. Zone A (radial rows [7,8,9]), has a total mass of ≥ [733,400] lbs. 2. Zone B (radial rows [4,5,6]), has a total mass of ≥ [733,400] lbs. 3. Zone C (radial rows [1,2,3]), has a total mass of ≥ [733,400] lbs.	3.6.11.2	Verify total weight of stored ice is greater than or equal to 2,404,500 lb by: a. Weighing a representative sample of ≥ 144 ice baskets and verifying each basket contains greater than or equal to 1237 lb of ice; and b. Calculating total weight of stored ice, at a 95 percent confidence level, using all ice basket weights determined in SR 3.6.11.2.a.	Administrative Variation – Section 2.2.1.1
3.6.15.3	Verify that the ice mass of each basket sampled in SR 3.6.15.2 is ≥ 600 lbs.	3.6.11.3	Verify azimuthal distribution of ice at a 95 percent confidence level by subdividing weights, as determined by SR 3.6.11.2.a, into the following groups: a. Group 1-bays 1 through 8; b. Group 2-bays 9 through 16; and c. Group 3-bays 17 through 24. The average ice weight of the sample baskets in each group from radial rows 1, 2, 4, 6, 8, and 9 shall be greater than or equal to 1237 lb.	Administrative Variation – Section 2.2.1.1
3.6.15.4	Verify, by visual inspection, accumulation of ice on structural members comprising flow channels through the ice bed is ≤ 15 percent blockage of the total flow area for each safety analysis section.	3.6.11.4	Verify, by visual inspection, accumulation of ice on structural members comprising flow channels through the ice bed is less than or equal to 15 percent blockage of the total flow area for each safety analysis section.	Administrative Variation – Section 2.2.1.1
3.6.15.5	Verify, by chemical analysis of the stored ice in at least one randomly selected ice basket from each ice condenser bay, that ice bed:	3.6.11.5	Verify, by chemical analysis of the stored ice in at least one randomly selected ice basket from each ice condenser bay, that ice bed:	Administrative Variation – Section 2.2.1.1

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	a. Boron concentration is a ≥ [1800] ppm and ≤ [2000] ppm and b. pH is ≥ [9.0] and ≤ [9.5].		a. Boron concentration is ≥ 1800 ppm and ≤ 2000 ppm; and b. pH is ≥ 9.0 and ≤ 9.5.	
3.6.15.6	Visually inspect, for detrimental structural wear, cracks, corrosion, or other damage, two ice baskets from each group of bays as defined below: a. Group 1 - bays 1 through 8; b. Group 2 - bays 9 through 16; and c. Group 3 - bays 17 through 24.	3.6.11.6	Visually inspect, for detrimental structural wear, cracks, corrosion, or other damage, two ice baskets from each azimuthal group of bays. See SR 3.6.11.3.	Administrative Variation – Section 2.2.1.1
3.6.16	**Ice Condenser Doors (Ice Condenser)**	**3.6.12**	**Ice Condenser Doors**	
3.6.16.1	Verify all inlet doors indicate closed by the Inlet Door Position Monitoring System.	3.6.12.1	Verify all inlet doors indicate closed by the Inlet Door Position Monitoring System.	Administrative Variation – Section 2.2.1.1
3.6.16.2	Verify, by visual inspection, each intermediate deck door is closed and not impaired by ice, frost, or debris.	3.6.12.2	Verify, by visual inspection, each intermediate deck door is closed and not impaired by ice, frost, or debris.	Administrative Variation – Section 2.2.1.1
3.6.16.3	Verify, by visual inspection, each inlet door is not impaired by ice, frost, or debris.	3.6.12.3	Verify, by visual inspection, each inlet door is not impaired by ice, frost, or debris.	Administrative Variation – Section 2.2.1.4
3.6.16.4	Verify torque required to cause each inlet door to begin to open is ≤ [675] in-lb.	3.6.12.4	Verify torque required to cause each inlet door to begin to open is ≤ 675 in-lb.	Administrative Variation – Section 2.2.1.4
3.6.16.5	Perform a torque test on [a sampling of ≥ 25% of the] inlet doors.	3.6.12.5	Perform a torque test on a sampling of ≥ 50% of the inlet doors.	Administrative Variation – Section 2.2.1.4
3.6.16.6	Verify for each intermediate deck door: a. No visual evidence of structural deterioration, b. Free movement of the vent assemblies, and c. Free movement of the door.	3.6.12.6	Verify for each intermediate deck door: a. No visual evidence of structural deterioration; b. Free movement of the vent assemblies; and c. Free movement of the door.	Administrative Variation – Section 2.2.1.1
3.6.16.7	Verify, by visual inspection, each top deck [door]: a. Is in place; and b. Has no condensation, frost, or ice formed on the [door] that would restrict its opening.	3.6.12.7	Verify, by visual inspection, each top deck door: a. Is in place; b. Free movement of top deck vent assembly; and c. Has no condensation, frost, or ice formed on the door that would restrict its opening.	Administrative Variation – Section 2.2.1.1

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3.6.17	**Divider Barrier Integrity (Ice Condenser)**	**3.6.13**	**Divider Barrier Integrity**	
3.6.17.2	Verify, by visual inspection, that the seals and sealing surfaces of each personnel access door and equipment hatch have: a. No detrimental misalignments, b. No cracks or defects in the sealing surfaces, and c. No apparent deterioration of the seal material.	3.6.13.2	Verify, by visual inspection, that the seals and sealing surfaces of each personnel access door and equipment hatch have: a. No detrimental misalignments; b. No cracks or defects in the sealing surfaces; and c. No apparent deterioration of the seal material.	Administrative Variation – Section 2.2.1.1
3.6.17.4	Remove two divider barrier seal test coupons and verify: a. Both test coupons' tensile strength is ≥ [120] psi and [b. Both test coupons' elongation is ≥ [100]%.]	N/A	N/A	Administrative Variation – Section 2.2.1.1
3.6.17.5	Visually inspect ≥ [95]% of the divider barrier seal length, and verify: a. Seal and seal mounting bolts are properly installed and b. Seal material shows no evidence of deterioration due to holes, ruptures, chemical attack, abrasion, radiation damage, or changes in physical appearance.	3.6.13.5	Visually inspect ≥ 95% of the divider barrier seal length, and verify: a. Seal and seal mounting bolts are properly installed; and b. Seal material shows no evidence of deterioration due to holes, ruptures, chemical attack, abrasion, radiation damage, or changes in physical appearance.	Administrative Variation – Section 2.2.1.1
3.6.18	**Containment Recirculation Drains (Ice Condenser)**	**3.6.14**	**Containment Recirculation Drains**	
3.6.18.1	Verify, by visual inspection, that: a. Each refueling canal drain plug is removed, b. Each refueling canal drain is not obstructed by debris, and c. No debris is present in the upper compartment or refueling canal that could obstruct the refueling canal drain.	3.6.14.1	Verify, by visual inspection, that: a. Each refueling canal drain plug is removed; b. Each refueling canal drain is not obstructed by debris; and c. No debris is present in the upper compartment or refueling canal that could obstruct the refueling canal drain.	Administrative Variation – Section 2.2.1.1
3.6.18.2	Verify for each ice condenser floor drain that the: a. Valve opening is not impaired by ice, frost, or debris,	3.6.14.2	Verify for each ice condenser floor drain that the: a. Gate opening is not impaired by ice, frost, or debris;	Administrative Variation – Section 2.2.1.1

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	b. Valve seat shows no evidence of damage, c. Valve opening force is ≤ [66] lb, and d. Drain line from the ice condenser floor to the lower compartment is unrestricted.		b. Gate seat shows no evidence of damage; c. Gate opening force is ≤ 100 lb; and d. Drain line from the ice condenser floor to the lower compartment is unrestricted.	
3.7.2	**Main Steam Isolation Valves (MSIVs)**	**3.7.2**	**Main Steam Isolation Valves (MSIVs)**	
3.7.2.2	Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.	3.7.2.1	Verify closure time of each MSIV is ≤ 6.0 seconds on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1
3.7.3	**Main Feedwater Isolation Valves (MFIVs) and Main Feedwater Regulation Valves (MFRVs) and [Associated Bypass Valves]**	**3.7.3**	**Main Feedwater Isolation Valves (MFIVs) and Main Feedwater Regulation Valves (MFRVs) and Associated Bypass Valves**	
3.7.3.2	Verify each MFIV, MFRV[, and associated bypass valves] actuates to the isolation position on an actual or simulated actuation signal.	3.7.3.1	Verify the closure time of each MFIV, MFRV, and associated bypass valve is ≤ 6.5 seconds on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1
3.7.4	**Atmospheric Dump Valves (ADVs)**	**3.7.4**	**Atmospheric Dump Valves (ADVs)**	
3.7.4.1	Verify one complete cycle of each ADV.	3.7.4.1	Verify one complete cycle of each ADV.	No variation
3.7.4.2	Verify one complete cycle of each ADV block valve.	3.7.4.2	Verify one complete cycle of each ADV block valve.	No variation
3.7.5	**Auxiliary Feedwater (AFW) System**	**3.7.5**	**Auxiliary Feedwater (AFW) System**	
3.7.5.1	Verify each AFW manual, power operated, and automatic valve in each water flow path, [and in both steam supply flow paths to the steam turbine driven pump,] that is not locked, sealed, or otherwise secured in position, is in the correct position.	3.7.5.1	Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.	No variation
N/A	N/A	3.7.5.2	Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.	Technical Variation – Section 2.2.2.1
3.7.5.3	Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	3.7.5.3	Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	No variation
3.7.5.4	Verify each AFW pump starts automatically on an actual or simulated actuation signal.	3.7.5.4	Verify each AFW pump starts automatically on an actual or simulated actuation signal.	No variation

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3.7.6	**Condensate Storage Tank (CST)**	**3.7.6**	**Condensate Storage Tank (CST)**	
3.7.6.1	Verify the CST level is ≥ [110,000 gal].	3.7.6.1	Verify the CST level is ≥ 200,000 gal.	No variation
3.7.7	**Component Cooling Water (CCW) System**	**3.7.7**	**Component Cooling System (CCS)**	
N/A	N/A	3.7.7.1	Verify that the alternate feeder breaker to the C-S pump is open.	Administrative Variation – Section 2.2.1.5
3.7.7.1	Verify each CCW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	3.7.7.2	Verify each CCS manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	Administrative Variation – Section 2.2.1.1
3.7.7.2	Verify each CCW automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	3.7.7.3	Verify each CCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1
3.7.7.3	Verify each CCW pump starts automatically on an actual or simulated actuation signal.	3.7.7.4	Verify each CCS pump starts automatically on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1
N/A	N/A	3.7.7.5	Unit 1 - Verify CCS pump 2B-B is aligned to CCS Train B and is in operation. Unit 2 – Verify CCS pump 1B-B is aligned to CCS Train B and is in operation.	Administrative Variation – Section 2.2.1.5
3.7.8	**Service Water System (SWS)**	**3.7.8**	**Essential Raw Cooling Water (ERCW) System**	
3.7.8.1	Verify each SWS manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	3.7.8.1	Verify each ERCW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.	Administrative Variation – Section 2.2.1.1
3.7.8.2	Verify each SWS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	3.7.8.2	Verify each ERCW automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1
3.7.8.3	Verify each SWS pump starts automatically on an actual or simulated actuation signal.	3.7.8.3	Verify each ERCW pump starts automatically on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1

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3.7.9	**Ultimate Heat Sink (UHS)**	**3.7.9**	**Ultimate Heat Sink (UHS)**	
3.7.9.1	Verify water level of UHS is ≥ [562] ft [mean sea level].	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.9.2	Verify average water temperature of UHS is ≤ [90]°F.	3.7.9.1	Verify average water temperature of UHS is ≤ 85°F.	Administrative Variation – Section 2.2.1.1
3.7.9.3	Operate each cooling tower fan for ≥ [15] minutes.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.9.4	Verify each cooling tower fan starts automatically on an actual or simulated actuation signal.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.10	**Control Room Emergency Filtration System (CREFS)**	**3.7.10**	**Control Room Emergency Ventilation System (CREVS)**	
3.7.10.1	Operate each CREFS train for [≥ 10 continuous hours with the heaters operating or (for systems without heaters) ≥ 15 minutes].	3.7.10.1	Operate each CREVS train for ≥ 15 minutes.	Administrative Variation – Section 2.2.1.1
3.7.10.3	Verify each CREFS train actuates on an actual or simulated actuation signal.	3.7.10.3	Verify each CREVS train actuates on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1
3.7.10.4	Verify one CREFS train can maintain a positive pressure of ≥ [0.125] inches water gauge, relative to the adjacent [turbine building] during the pressurization mode of operation at a makeup flow rate of ≤ [3000] cfm.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.11	**Control Room Emergency Air Temperature Control System (CREATCS)**	**3.7.11**	**Control Room Emergency Air Temperature Control System (CREATCS)**	
3.7.11.1	Verify each CREATCS train has the capability to remove the assumed heat load.	3.7.11.1	Verify each CREATCS train has the capability to remove the assumed heat load.	No variation
3.7.12	**Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System (PREACS)**	**3.7.12**	**Auxiliary Building Gas Treatment System (ABGTS)**	
3.7.12.1	Operate each ECCS PREACS train for [≥ 10 continuous hours with the heaters operating or (for systems without heaters) ≥ 15 minutes].	3.7.12.1	Operate each ABGTS train for ≥ 15 continuous minutes with the heaters operating.	Administrative Variation – Section 2.2.1.1
3.7.12.3	Verify each ECCS PREACS train actuates on an actual or simulated actuation signal.	3.7.12.3	Verify each ABGTS train actuates on an actual or simulated actuation signal.	Administrative Variation – Section 2.2.1.1

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3.7.12.4	Verify one ECCS PREACS train can maintain a pressure ≤ [-0.125] inches water gauge relative to atmospheric pressure during the [post accident] mode of operation at a flow rate of ≤ [3000] cfm.	3.7.12.4	Verify one ABGTS train can maintain a pressure between -0.25 and -0.5 inches water gauge with respect to atmospheric pressure during the post accident mode of operation at a flow rate ≥ 9300 and ≤ 9900 cfm.	Administrative Variation – Section 2.2.1.1
3.7.12.5	Verify each ECCS PREACS filter bypass damper can be closed.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.13	**Fuel Building Air Cleanup System (FBACS)**	**N/A**	**N/A**	
3.7.13.1	Operate each FBACS train for [≥ 10 continuous hours with the heaters operating or (for systems without heaters) ≥ 15 minutes].	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.13.3	Verify each FBACS train actuates on an actual or simulated actuation signal.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.13.4	Verify one FBACS train can maintain a pressure ≤ [-0.125] inches water gauge with respect to atmospheric pressure during the [post accident] mode of operation at a flow rate ≤ [20,000] cfm.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.13.5	Verify each FBACS filter bypass damper can be closed.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.14	**Penetration Room Exhaust Air Cleanup System (PREACS)**	**N/A**	**N/A**	
3.7.14.1	Operate each PREACS train for [≥ 10 continuous hours with heaters operating or (for systems without heaters) ≥ 15 minutes].	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.14.3	Verify each PREACS train actuates on an actual or simulated actuation signal.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.14.4	Verify one PREACS train can maintain a pressure ≤ [-0.125] inches water gauge relative to atmospheric pressure during the [post accident] mode of operation at a flow rate of ≤ [3000] cfm.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.7.14.5	Verify each PREACS filter bypass damper can be closed.	N/A	N/A	Administrative Variation – Section 2.2.1.2

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3.7.15	**Fuel Storage Pool Water Level**	**3.7.13**	**Fuel Storage Pool Water Level**	
3.7.15.1	Verify the fuel storage pool water level is ≥ 23 ft above the top of the irradiated fuel assemblies seated in the storage racks.	3.7.13.1	Verify the fuel storage pool water level is ≥ 23 ft above the top of the irradiated fuel assemblies seated in the storage racks.	Administrative Variation – Section 2.2.1.1
3.7.16	**Fuel Storage Pool Boron Concentration**	**3.7.18**	**Fuel Storage Pool Water Level**	
3.7.16.1	Verify the fuel storage pool boron concentration is within limit.	3.7.18.1	Verify the fuel storage pool concentration is within limit.	Administrative Variation – Section 2.2.1.1
3.7.18	**Secondary Specific Activity**	**3.7.14**	**Secondary Specific Activity**	
3.7.18.1	Verify the specific activity of the secondary coolant is ≤ [0.10] µCi/gm DOSE EQUIVALENT I-131.	3.7.14.1	Verify the specific activity of the secondary coolant is ≤ 0.10 µCi/gm DOSE EQUIVALENT I-131.	Administrative Variation – Section 2.2.1.1
N/A	**N/A**	**3.7.16**	**Component Cooling System (CCS) - Shutdown**	
N/A	N/A	3.7.16.1	Verify correct breaker alignment and indicated power available to the required pump(s) that is not in operation.	Administrative Variation – Section 2.2.1.5
N/A	N/A	3.7.16.2	Verify two CCS pumps are aligned to CCS Train B.	Administrative Variation – Section 2.2.1.5
N/A	**N/A**	**3.7.17**	**Essential Raw Cooling Water (ERCW) System - Shutdown**	
N/A	N/A	3.7.17.1	Verify correct breaker alignment and indicated power available to the required pump(s) that is not in operation.	Administrative Variation – Section 2.2.1.5
3.8.1	**AC Sources - Operating**	**3.8.1**	**AC Sources - Operating**	
3.8.1.1	Verify correct breaker alignment and indicated power availability for each [required] offsite circuit.	3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	No variation
3.8.1.2	Verify each DG starts from standby conditions and achieves steady state voltage ≥ [3740] V and ≤ [4580] V, and frequency ≥ [58.8] Hz and ≤ [61.2] Hz. [Frequency – 31 days]	3.8.1.2	Verify each DG starts from standby conditions and achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency of 60 Hz nominal. [Frequency – As specified in Table 3.8.1-1]	Administrative Variation – Section 2.2.1.1 The SFCP is not adopted for this SR

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3.8.1.3	Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ [4500] kW and ≤ [5000] kW. [Frequency – 31 days]	3.8.1.3	Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 3960 kW and ≤ 4400 kW. [Frequency – As specified in Table 3.8.1-1]	Administrative Variation – Section 2.2.1.1 The SFCP is not adopted for this SR
3.8.1.4	Verify each day tank [and engine mounted tank] contains ≥ [220] gal of fuel oil.	3.8.1.4	Verify each skid mounted day tank contains ≥ 218.5 gal of fuel oil.	Administrative Variation – Section 2.2.1.1
3.8.1.5	Check for and remove accumulated water from each day tank [and engine mounted tank].	3.8.1.5	Check for and remove accumulated water from each skid mounted day tank.	Administrative Variation – Section 2.2.1.1
3.8.1.6	Verify the fuel oil transfer system operates to [automatically] transfer fuel oil from storage tank[s] to the day tank [and engine mounted tank].	3.8.1.6	Verify the fuel oil transfer system operates to automatically transfer fuel oil from 7 day storage tank to the skid mounted day tank.	Administrative Variation – Section 2.2.1.1
3.8.1.7	Verify each DG starts from standby condition and achieves: a. In ≤ [10] seconds, voltage ≥ [3740] V and frequency ≥ 58.8] Hz and b. Steady state voltage ≥ [3740] V and ≤ [4580] V, and frequency ≥ [58.8] Hz and ≤ [61.2] Hz.	3.8.1.7	Verify each DG starts from standby condition and achieves in ≤ 10 seconds, voltage ≥ 6800 V, and frequency ≥ 58.8 Hz. Verify after DG fast start from standby conditions that the DG achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency ≥ 59.8 Hz and ≤ 60.1 Hz.	Administrative Variation – Section 2.2.1.1
3.8.1.8	Verify [automatic [and] manual] transfer of AC power sources from the normal offsite circuit to each alternate [required] offsite circuit.	3.8.1.8	Verify automatic and manual transfer of each 6.9 kV shutdown board power supply from the normal offsite circuit to each alternate offsite circuit.	Administrative Variation – Section 2.2.1.1
3.8.1.9	Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: a. Following load rejection, the frequency is ≤ [63] Hz, b. Within [3] seconds following load rejection, the voltage is ≥ [3740] V and ≤ [4580] V, and c. Within [3] seconds following load rejection, the frequency is ≥ [58.8] Hz and ≤ [61.2] Hz.	3.8.1.9	Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 66.75 Hz; b. Within 3 seconds following load rejection, the voltage is ≥ 6555 V and ≤ 7260 V; and c. Within 4 seconds following load rejection, the frequency is ≥ 59.8 Hz and ≤ 60.1 Hz.	No variation

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3.8.1.10	Verify each DG does not trip and voltage is maintained ≤ [5000] V during and following a load rejection of ≥ [4500] kW and ≤ [5000] kW.	3.8.1.10	Verify each DG operating at a power factor ≥ 0.8 and ≤ 0.9 does not trip and voltage is maintained ≤ 8880 V during and following a load rejection of ≥ 3960 kW and ≤ 4400 kW and ≥ 2970 kVAR and ≤ 3300 kVAR.	Administrative Variation – Section 2.2.1.1
3.8.1.11	Verify on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses, b. Load shedding from emergency buses, c. DG auto-starts from standby condition and: 1. Energizes permanently connected loads in ≤ [10] seconds, 2. Energizes auto-connected shutdown loads through [automatic load sequencer], 3. Maintains steady state voltage ≥ [3740] V and ≤ [4580] V, 4. Maintains steady state frequency ≥ [58.8] Hz and ≤ [61.2] Hz, and 5. Supplies permanently connected [and auto-connected] shutdown loads for ≥ 5 minutes.	3.8.1.11	Verify on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 10 seconds, 2. energizes auto-connected shutdown loads through automatic load sequencer, 3. maintains steady state voltage ≥ 6800 V and ≤ 7260 V, 4. maintains steady state frequency ≥ 59.8 Hz and ≤ 60.1 Hz, and 5. supplies permanently connected and auto-connected shutdown loads for ≥ 5 minutes.	No variation
3.8.1.12	Verify on an actual or simulated Engineered Safety Feature (ESF) actuation signal each DG auto-starts from standby condition and: a. In ≤ [10] seconds after auto-start and during tests, achieves voltage ≥ [3740] V and frequency ≥ [58.8] Hz, b. Achieves steady state voltage ≥ [3740] V and ≤ [4580] V and frequency ≥ [58.8] Hz and ≤ [61.2] Hz, c. Operates for ≥ 5 minutes, d. Permanently connected loads remain energized from the offsite power system, and	3.8.1.12	Unit 1 - Verify on an actual or simulated Engineered Safety Feature (ESF) actuation signal each Unit 1 DG auto-starts from standby condition and: a. In ≤ 10 seconds after auto-start and during tests, achieves voltage ≥ 6800 V and frequency ≥ 58.8 Hz; b. After DG fast start from standby conditions the DG achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency ≥ 59.8 Hz and ≤ 60.1 Hz. c. Operates for ≥ 5 minutes;	Administrative Variation – Section 2.2.1.1

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	e. Emergency loads are energized [or autoconnected through the automatic load sequencer] from the offsite power system.		d. Permanently connected loads remain energized from the offsite power system; and e. Emergency loads are energized from the offsite power system. Unit 2 - Verify on an actual or simulated Engineered Safety Feature (ESF) actuation signal each Unit 2 DG auto-starts from standby condition and: a. In ≤ 10 seconds after auto-start and during tests, achieves voltage ≥ 6800 V and frequency ≥ 58.8 Hz; b. After DG fast start from standby conditions the DG achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency ≥ 59.8 Hz and ≤ 60.1 Hz. c. Operates for ≥ 5 minutes; d. Permanently connected loads remain energized from the offsite power system; and e. Emergency loads are energized from the offsite power system.	
3.8.1.13	Verify each DG's noncritical automatic trips are bypassed on [actual or simulated loss of voltage signal on the emergency bus concurrent with an actual or simulated ESF actuation signal].	3.8.1.13	Verify each DG's automatic trips are bypassed on automatic or emergency start signal except: a. Engine overspeed; and b. Generator differential current.	Administrative Variation – Section 2.2.1.1
3.8.1.14	Verify each DG operates for ≥ 24 hours: a. For ≥ [2] hours loaded ≥ [5250] kW and ≤ [5500] kW and b. For the remaining hours of the test loaded ≥ [4500] kW and ≤ [5000] kW.	3.8.1.14	Verify each DG operating at a power factor ≥ 0.8 and ≤ 0.9 operates for ≥ 24 hours: a. For ≥ 2 hours loaded ≥ 4620 kW and ≤ 4840 kW and ≥ 3465 kVAR and ≤ 3630 kVAR; and b. For the remaining hours of the test loaded ≥ 3960 kW and ≤ 4400 kW and ≥ 2970 kVAR and ≤ 3300 kVAR.	Administrative Variation – Section 2.2.1.1

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3.8.1.15	Verify each DG starts and achieves: a. In ≤ [10] seconds, voltage ≥ [3740] V and frequency ≥ [58.8] Hz and b. Steady state voltage ≥ [3740] V, and ≤ [4580] V and frequency ≥ [58.8] Hz and ≤ [61.2] Hz.	3.8.1.15	Verify each DG starts and achieves, in ≤ 10 seconds, voltage ≥ 6800 V, and frequency ≥ 58.8 Hz. Verify after DG fast start from standby conditions that the DG achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency ≥ 59.8 Hz and ≤ 60.1 Hz.	Administrative Variation – Section 2.2.1.1
3.8.1.16	Verify each DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power, b. Transfers loads to offsite power source, and c. Returns to ready-to-load operation.	3.8.1.16	Verify each DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation.	No variation
3.8.1.17	Verify, with a DG operating in test mode and connected to its bus, an actual or simulated ESF actuation signal overrides the test mode by: a. Returning DG to ready-to-load operation and b. [Automatically energizing the emergency load from offsite power].	3.8.1.17	Unit 1 - Verify, with each Unit 1 DG operating in test mode and connected to its bus, an actual or simulated ESF actuation signal overrides the test mode by: a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power. Unit 2 - Verify, DG 2A-A and 2B-B operating in test mode and connected to its bus, an actual or simulated ESF actuation signal overrides the test mode by: a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power.	Administrative Variation – Section 2.2.1.1
3.8.1.18	Verify interval between each sequenced load block is within ± [10% of design interval] for each emergency [and shutdown] load sequencer.	3.8.1.18	Verify the time delay setting for each sequenced load block is within limits for each accident condition and non-accident condition load sequence.	Administrative Variation – Section 2.2.1.1

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3.8.1.19	Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ESF actuation signal: a. De-energization of emergency buses, b. Load shedding from emergency buses, and c. DG auto-starts from standby condition and: 1. Energizes permanently connected loads in ≤ [10] seconds, 2. Energizes auto-connected emergency loads through load sequencer, 3. Achieves steady state voltage ≥ [3740] V and ≤ [4580] V, 4. Achieves steady state frequency ≥ [58.8] Hz and ≤ [61.2] Hz, and 5. Supplies permanently connected [and auto-connected] emergency loads for ≥ 5 minutes.	3.8.1.19	Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ESF actuation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 10 seconds, 2. energizes auto-connected emergency loads through load sequencer, 3. achieves steady state voltage: ≥ 6800 V and ≤ 7260 V, 4. achieves steady state frequency ≥ 59.8 Hz and ≤ 60.1 Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes.	No variation
3.8.1.20	Verify when started simultaneously from standby condition, each DG achieves: a. In ≤ [10] seconds, voltage ≥[3740] V and frequency ≥[58.8] Hz and b. Steady state voltage ≥[3744] V and ≤[4576] V, and frequency ≥[58.8] Hz and ≤[61.2] Hz.	3.8.1.20	Verify during idle operation that any automatic or emergency start signal disables the idle start circuitry and commands the engine to full speed.	Administrative Variation – Section 2.2.1.1
N/A	N/A	3.8.1.21	Verify when started simultaneously from standby condition, each DG achieves, in ≤ 10 seconds, voltage ≥ 6800 V and frequency ≥ 58.8 Hz. Verify after DG fast start from standby conditions that the DG achieves steady state voltage ≥ 6800 V and ≤ 7260 V, and frequency ≥ 59.8 Hz and ≤ 60.1 Hz.	Administrative Variation – Section 2.2.1.5
N/A	N/A	3.8.1.22	Verify automatic transfer of each 6.9 kV Unit Board 1B, 1C, 2B, and 2C power supply from the normal power supply to the alternate power supply.	Administrative Variation – Section 2.2.1.5

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3.8.3	**Diesel Fuel Oil, Lube Oil, and Starting Air**	**3.8.3**	**Diesel Fuel Oil, Lube Oil, and Starting Air**	
3.8.3.1	Verify each fuel oil storage tank contains ≥ [33,000] gal of fuel.	3.8.3.1	Verify each 7 day fuel oil storage tank contains ≥ 56,754 gal of fuel.	Administrative Variation – Section 2.2.1.1
3.8.3.2	Verify lubricating oil inventory is ≥ a [500] gal.	3.8.3.2	Verify lubricating oil inventory is ≥ 287 gal per engine.	Administrative Variation – Section 2.2.1.1
3.8.3.4	Verify each DG air start receiver pressure is ≥ [225] psig.	3.8.3.4	Verify each DG air start receiver pressure is ≥ 190 psig.	No variation
3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	3.8.3.5	Check for and remove accumulated water from each of the four interconnected tanks which constitute the 7 day fuel oil storage tank.	Administrative Variation – Section 2.2.1.1
N/A	N/A	3.8.3.6	Perform a visual inspection for leaks in the exposed fuel oil system piping while the DG is running.	Administrative Variation – Section 2.2.1.5
N/A	N/A	3.8.3.7	For each of the four interconnected tanks which constitute the 7 day fuel oil storage tank: a. Drain the fuel oil; b. Remove the sediment; and c. Clean the tank.	Administrative Variation – Section 2.2.1.5
3.8.4	**DC Sources - Operating**	**3.8.4**	**DC Sources - Operating**	
3.8.4.1	Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	3.8.4.1 3.8.4.2	Verify vital battery terminal voltage is greater than or equal to the minimum established float voltage. Verify DG battery terminal voltage is greater than or equal to the minimum established float voltage.	Administrative Variation – Section 2.2.1.1
3.8.4.2	Verify each battery charger supplies ≥ [400] amps at greater than or equal to the minimum established float voltage for ≥ [8] hours. OR Verify each battery charger can recharge the battery to the fully charged state within [24]	3.8.4.5	Verify each vital battery charger supplies ≥ 200 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. OR	Administrative Variation – Section 2.2.1.1

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	hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.		Verify each vital battery charger can recharge the battery to the fully charged state within 36 hours while supplying the largest combined demands of the various steady state loads, after a battery discharge to the bounding design basis event discharge state.	
N/A	N/A	3.8.4.3	Verify for the vital batteries that the alternate feeder breakers to each required battery charger are open.	Administrative Variation – Section 2.2.1.5
N/A	N/A	3.8.4.4	Verify correct breaker alignment and indicated power availability for each DG 125 V DC distribution panel and associated battery charger.	Administrative Variation – Section 2.2.1.5
(See 3.8.4.2)	(See 3.8.4.2)	3.8.4.6	Verify each DG battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various steady state loads, after a battery discharge to the bounding design basis event discharge state.	Administrative Variation – Section 2.2.1.5
3.8.4.3	Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	3.8.4.7	Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads and any connected nonsafety loads for the design duty cycle when subjected to a battery service test.	Administrative Variation – Section 2.2.1.1
3.8.6	**Battery Parameters**	**3.8.6**	**Battery Parameters**	
3.8.6.1	Verify each battery float current is ≤ [2] amps.	3.8.6.1 3.8.6.2	Verify each vital battery float current is ≤ 2 amps. Verify each DG battery float current is ≤ 1 amps.	Administrative Variation – Section 2.2.1.1
3.8.6.2	Verify each battery pilot cell float voltage is ≥ [2.07] V.	3.8.6.3	Verify each required vital battery and each DG battery pilot cell float voltage is ≥ 2.07 V.	Administrative Variation – Section 2.2.1.1
3.8.6.3	Verify each battery connected cell electrolyte level is greater than or equal to minimum established design limits.	3.8.6.4	Verify each required vital battery and each DG battery connected cell electrolyte level is	Administrative Variation – Section 2.2.1.1

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			greater than or equal to minimum established design limits.	
3.8.6.4	Verify each battery pilot cell temperature is greater than or equal to minimum established design limits.	3.8.6.5	Verify each required vital battery and each DG battery pilot cell temperature is greater than or equal to minimum established design limits.	Administrative Variation – Section 2.2.1.1
3.8.6.5	Verify each battery connected cell float voltage is ≥ [2.07] V.	3.8.6.6	Verify each required vital battery and each DG battery connected cell float voltage is ≥ 2.07 V.	Administrative Variation – Section 2.2.1.1
3.8.6.6	Verify battery capacity is ≥ [80%] of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	3.8.6.7	Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	Administrative Variation – Section 2.2.1.1
3.8.7	**Inverters - Operating**	**3.8.7**	**Inverters - Operating**	
3.8.7.1	Verify correct inverter voltage, [frequency], and alignment to required AC vital buses.	3.8.7.1	Verify correct inverter voltage, frequency, and alignment to required AC vital bus.	Administrative Variation – Section 2.2.1.1
3.8.8	**Inverters - Shutdown**	**3.8.8**	**Inverters - Shutdown**	
3.8.8.1	Verify correct inverter voltage, [frequency,] and alignments to required AC vital buses.	3.8.8.1	Verify correct inverter voltage, frequency, and alignments to required AC vital bus.	Administrative Variation – Section 2.2.1.1
3.8.9	**Distribution System - Operating**	**3.8.9**	**Distribution Systems - Operating**	
3.8.9.1	Verify correct breaker alignments and voltage to [required] AC, DC, and AC vital bus electrical power distribution subsystems.	3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	Administrative Variation – Section 2.2.1.1
3.8.10	**Distribution System - Shutdown**	**3.8.10**	**Distribution System - Shutdown**	
3.8.10.1	Verify correct breaker alignments and voltage to required AC, DC, and AC vital bus electrical power distribution subsystems.	3.8.10.1	Verify correct breaker alignments and voltage to required AC, vital DC, and AC vital bus electrical power distribution subsystems.	Administrative Variation – Section 2.2.1.1
3.9.1	**Boron Concentration**	**3.9.1**	**Boron Concentration**	
3.9.1.1	Verify boron concentration is within the limit specified in the COLR.	3.9.1.1	Verify boron concentration is within the limit specified in COLR.	No variation
3.9.2	**Unborated Water Source Isolation Valves**	**3.9.2**	**Unborated Water Source Isolation Valves**	
3.9.2.1	Verify each valve that isolates unborated water sources is secured in the closed position.	3.9.2.1	Verify each valve that isolates unborated water sources is secured in the closed position.	No variation

TSTF-425 Section/ SR No.	NUREG-1431 Technical Specification Section Title/Surveillance Description	WBN Section/ SR No.	WBN Technical Specification Section Title/Surveillance Description	Disposition and Attachment 1 Reference
3.9.3	**Nuclear Instrumentation**	**3.9.3**	**Nuclear Instrumentation**	
3.9.3.1	Perform CHANNEL CHECK.	3.9.3.1	Perform CHANNEL CHECK.	No variation
3.9.3.2	Perform CHANNEL CALIBRATION.	3.9.3.2	Perform CHANNEL CALIBRATION.	No variation
3.9.4	**Containment Penetrations**	**N/A**	**N/A**	
3.9.4.1	Verify each required containment penetration is in the required status.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.9.4.2	Verify each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal.	N/A	N/A	Administrative Variation – Section 2.2.1.2
3.9.5	**Residual Heat Removal (RHR) and Coolant Circulation - High Water Level**	**3.9.5**	**Residual Heat Removal (RHR) and Coolant Circulation - High Water Level**	
3.9.5.1	Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ [2800] gpm.	3.9.5.1	Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ 2500 gpm.	No variation
3.9.6	**Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level**	**3.9.6**	Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level	
3.9.6.1	Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ [2800] gpm.	3.9.6.1	Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ 2000 gpm.	No variation
3.9.6.2	Verify correct breaker alignment and indicated power available to the required RHR pump that is not in operation.	3.9.6.2	Verify correct breaker alignment and indicated power available to the required RHR pump that is not in operation.	No variation
3.9.7	**Refueling Cavity Water Level**	**3.9.7**	**Refueling Cavity Water Level**	
3.9.7.1	Verify refueling cavity water level is ≥ 23 ft above the top of reactor vessel flange.	3.9.7.1	Verify refueling cavity water level is ≥ 23 ft above the top of reactor vessel flange.	No variation
N/A	**N/A**	**3.9.9**	**Spent Fuel Pool Boron Concentration**	
N/A	N/A	3.9.9.1	Verify boron concentration in the spent fuel pool is ≥ 2300 ppm.	Administrative Variation – Section 2.2.1.5
5.5.	**Programs and Manuals**	**5.7**	**Procedures, Programs, and Manuals**	
5.5.18	Surveillance Frequency Control Program	5.7.2.23	Surveillance Frequency Control Program	Administrative Variation – Section 2.2.1.1