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

Edwin I. Hatch Nuclear Plant
Response to Request for Additional Information on Multiple Technical
Specification Changes

Ladies and Gentlemen:

By letter dated October 10, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14288A226), Southern Nuclear Operating Company (SNC) submitted a license amendment request for the Hatch Nuclear Plant, Units 1 and 2, to adopt various previously approved Technical Specifications Task Force Travelers. In order to continue the review, the U.S. Nuclear Regulatory Commission staff (NRC) requested additional information as discussed in letter dated March 27, 2015 (ADAMS Accession No. ML15077A526). Enclosure 1 contains the SNC response to the NRC request for additional information (RAIs). Enclosures 2 and 3 contain revised marked Technical Specification (TS) and TS Bases changes, respectively, required as a result of the SNC response to the NRC RAIs. Enclosure 4 contains the corresponding revised clean TS pages. The pages in Enclosures 2 – 4 are a direct replacement for the equivalent pages provided in the October 10, 2014 letter.

This letter contains no NRC commitments. If you have any questions, please contact Ken McElroy at (205) 992-7369.

Mr. C. R. Pierce states he is Regulatory Affairs Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

C. R. Pierce

C. R. Pierce
Regulatory Affairs Director

CRP/RMJ

Sworn to and subscribed before me this 4 day of May, 2015.

Laura L. Crompton
Notary Public

My commission expires: 10-8-2017

- Enclosures: 1. SNC Response to NRC RAIs
2. Revised Marked TS Pages
3. Revised Marked TS Bases Pages
4. Revised Clean TS Pages

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. D. R. Vineyard, Vice President – Hatch
Mr. M. D. Meier, Vice President – Regulatory Affairs
Mr. D. R. Madison, Vice President – Fleet Operations
Mr. B. J. Adams, Vice President – Engineering
Mr. G. L. Johnson, Regulatory Affairs Manager - Hatch
RType: CHA02.004

U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Senior Project Manager – Hatch
Mr. D. H. Hardage, Senior Resident Inspector – Hatch

State of Georgia
Mr. J. H. Turner, Director - Environmental Protection Division

**Edwin I. Hatch Nuclear Plant
Response to Request for Additional Information on Multiple Technical
Specification Changes**

Enclosure 1

SNC Response to NRC RAIs

1. RAI 3.6.1-1 for TSTF-30, and TS 3.6.1.3 and Bases:

To explain the difference between TSTF-30-A requirements and the proposed changes to Hatch TS 3.6.1.3 and its associated Bases, the licensee states that:

"... the Hatch Technical Specifications provide a separate Action (Condition D) for penetration flow paths with leakage not within limit with a Completion Time of 4 hours. As a result, a penetration flow path with an inoperable PCIV due to leakage not within limit will continue to have a 4-hour Completion Time instead of the 72 hour Completion Time provided in TSTF-30-A.

...Additional text is added to the Bases for TS 3.6.1.3, Condition C, describing the 4 hour Completion Time for inoperable PCIVs in penetrations [other than those associated] with a closed system and excess flow check valves (EFCVs)."

The staff's understanding of the above statement is that for Hatch, there are penetrations with one PCIV other than those associated with closed systems and EFCVs, and the 4-hour completion time (CT) is retained for these cases. Further, an inoperable PCIV, due to leakage not within limit, will fall under the existing Action D.1, not under the revised Action C.1.

The staff requests that the licensee provide examples of cases where the 4-hour CT would be applicable. The staff needs this information to ensure correct implementation of TSTF-30-A requirements.

SNC Response to NRC RAI:

The requirement for inoperable PCIVs due to leakage not within limit is not changing per this amendment request, and will continue to fall under the existing conditions.

HNP Unit 1 and Unit 2 each have several penetration flow paths with one PCIV that are not associated with a closed system or an EFCV. Unit 1 Penetration 27D contains a process flow line for a Drywell Pressure instrument. Its inboard isolation device is an orifice on the sensing line in close proximity to the process line and its outboard barrier is a PCIV, specifically a globe valve. Reg Guide 1.11, "Instrument Lines Penetrating the Primary Reactor Containment", deems this as an acceptable alternative to having a double isolation valve arrangement. In fact, there are several cases of this in the Unit 1 primary containment as well as in the Unit 2 containment. For example, penetrations 206B and 206A, on Unit 1 and Unit 2 respectively, each contain process flow paths for torus water level instruments which are protected by an orifice and a single PCIV. These type lines (instrument lines with an orifice in the sensing line) are the primary type of penetration that would fall within the guidelines of LCO Condition 3.6.3.C and would thus have the 4 hour CT. Action C would apply except in the case of leakage not within limits. There are no changes proposed to Action 3.6.3.D; it would continue to apply to the appropriate penetrations with leakage not within limits.

Another example of a penetration with one PCIV is the Traversing In-Core Probe (TIP) Nitrogen Purge line, penetrations 35E for both Unit 1 and Unit 2. These penetrations contain the TIP Nitrogen purge lines for the system and are protected by a single isolation valve.

2. RAI 3.6.1-2 for TSTF-30 and Bases 3.6.1.3:

In Enclosure 3 of the application, the licensee provides a copy of applicable marked-up TS Bases pages. The staff noted the following:

1. On Page B 3.6-20, Discussion C, the phrase "and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3" is not needed to justify the CT of "72 hours" for PCIV in closed system.
2. On Page B 3.6-27 (Unit 2), "FSAR, Section 3.1" is added as Reference 8. This added reference is different from a similar proposed change provided on Page B 3.6-26 (Unit 1) which states "7. FSAR, Section 5.2.2.5.1."
3. On Page B 3.6.1.3 (Unit 1), "Unit 2 FSAR, Section 15.3" is listed as Reference 1. Should an equivalent FSAR section for Unit 1 be used for this reference in the Unit 1 TS Bases?

The staff requests that the licensee address the above noted observations. The staff requests this information to ascertain that the supporting discussions in the TS Bases reflect the system design as described in the FSAR.

SNC Response to NRC RAI:

The SNC response to each of the three sub-questions is listed below:

1. This change has been incorporated into the revised TS Bases markup. See Enclosure 3 for the revised pages.
2. The revised TS Bases for Condition C state that the closed system must meet the requirements of Reference 7 (Unit 1) / 8 (Unit 2). Unit 1 Reference 7 refers to Section 5.2.2.5.1 of the FSAR. Chapter 5 of the Unit 1 FSAR is titled "Containment Systems", and section 5.2.2.5.1 of the Unit 1 FSAR lists General Criteria for PCIVs. The Unit 2 FSAR does not have a similar FSAR Chapter for containment systems. Section 3.1 of the Unit 2 FSAR describes the Appendix A to Part 50 General Design Criteria (GDC), and how they are met. (Unit 1 received its construction permit prior to the issuance of the current GDC.) Applicable criterion discussed in Section 3.1 of the Unit 2 FSAR applicable to this TS Bases change include GDC Criterion 54, Piping Systems Penetrating Containment, Criterion 55, Reactor Coolant Pressure Boundary Penetrating Containment, Criterion 56, Primary Containment Isolation, and Criterion 57, Closed System Isolation Valves.

3. The Unit 2 Chapter 15 FSAR Safety Analysis is applicable to both Unit 1 and Unit 2. The Unit 1 Safety Analysis Chapter, Chapter 14, simply states "See HNP-2-FSAR chapter 15, Safety Analysis."

3. RAI 3.6.2-1 for TSTF-458 and Bases B3.6.2.1:

TS 3.6.2.1 Conditions D and F are revised to clarify the intent of TS requirements. The staff noted the following editorial errors in the Bases discussion of the revised Conditions D and F:

1. In the discussion of Actions D.1, D.2 and D.3, the third sentence is no longer applicable. This sentence should be removed.
2. In the heading, "E.2" is no longer applicable.

SNC Response to NRC RAI:

The SNC response to each of the two sub-questions is listed below:

1. This change has been incorporated into the revised TS Bases markup. See Enclosure 3 for the revised pages.
2. This change has been incorporated into the revised TS Bases markup. See Enclosure 3 for the revised pages.

4. RAI 3.6.4-1 for TSTF-322, and SR 3.6.4.1.4 and Bases:

SRs 3.6.4.1.3 and 3.6.4.1.4 are revised to clarify the intent of the secondary containment pressure draw down test requirements. The staff noted the following oversight in the revised SR 3.6.4.1.4:

Due to the unique secondary containment configuration supported by standby gas treatment (SGT) subsystems in both Hatch, Units 1 & 2, the phrase "for each subsystem" after "< 4000 CFM" should be replaced with "per subsystem" instead of being deleted.

The staff requests that the licensee address this oversight, and adjust the associated changes to the TS bases, as appropriate.

SNC Response to NRC RAI:

This change has been incorporated into the revised TS and TS Bases markup. See Enclosures 2 - 4 for the revised pages.

5. RAI 3.6.4-2 for TSTF-322 and Bases B3.6.4.1:

In Enclosure 3 of the application, the licensee provides a copy of applicable marked-up TS Bases pages. The staff noted the following:

On Page B3.6-79, in the replacement insert for discussions of SR 3.6.4.1.3 and SR 3.6.4.1.4, the sentence "The SGT subsystem(s) used for these Surveillances are staggered to ensure that in addition to the requirements of LCO 3.6.4.3, the required SGT subsystem(s) will perform this test," needs further explanation clarifying the discussion on 'staggered test,' particularly since the definition has been removed with implementation of the surveillance frequency control program (SFCP). The staff requests that the licensee address this inconsistency in the Hatch TS Bases.

SNC Response to NRC RAI:

The TS Bases discussion for SR 3.6.4.1.3 and SR 3.6.4.1.4 has been revised to be consistent with the Standard Technical Specification Bases Revision 4.0 for GE BWR/4 plants (NUREG-1433 Volume 2) regarding the discussion on staggered test. The current TS Bases state "The Surveillance Frequency is controlled under the Surveillance Frequency Control Program" at the end of this discussion. The Hatch Surveillance Frequency Control Program defines the term "STAGGERED TEST BASIS" and provides the Bases for the frequency of SR 3.6.4.1.3 and SR 3.6.4.1.4. See Enclosure 3 for the revised pages.

6. RAI 3.8.1-1 for TSTF-283, and TS 3.8.1 and Bases:

TSTF-283 uses two sets of inserts for the TS and Bases for surveillance notes. One set is for when a full surveillance is used to reestablish operability and the other when portions of surveillance can be used to reestablish operability. In adopting TSTF-283 the applicant made the following changes in the application of the notes without explaining the changes.

1. In both sets of inserts to the TS surveillances, the applicant replaced the word "reestablish" with "establish." The inserts for the associated Bases discussions retain the word "reestablish." Request the applicant make the inserts consistent both with each respective Bases and with TSTF-283, or if deemed appropriate justify this change and make the Bases consistent.
2. The wrong insert was inserted into TS SR 3.8.1.9 and TS SR 3.8.1.17; Insert 2 should be used in each case, not Insert 1.
3. The wrong insert was inserted into TS SR 3.8.1.11; Insert 1 should be used, not Insert 2.
4. The wrong insert was inserted into Bases SR 3.8.1.15; Bases Insert 1 should be used, not Bases Insert 2. The NRC request the above inconsistencies be corrected.

SNC Response to NRC RAI:

The SNC response to each of the four sub-questions is listed below:

Enclosure 1 to NL-15-0704
SNC Response to NRC RAIs

1. The TS markups have been revised to state "reestablish", which is consistent with TSTF-283. See Enclosures 2 - 4 for revised pages.
 2. The TS and TS Bases markups for TSTF-283 related to TS or TS Bases "Insert 1" versus "Insert 2" have been revised to be consistent with this Traveler. See Enclosures 2 - 4 for revised pages.
 3. The TS and TS Bases markups for TSTF-283 related to TS or TS Bases "Insert 1" versus "Insert 2" have been revised to be consistent with this Traveler. See Enclosures 2 - 4 for revised pages.
 4. The TS and TS Bases markups for TSTF-283 related to TS or TS Bases "Insert 1" versus "Insert 2" have been revised to be consistent with this Traveler. See Enclosures 2 - 4 for revised pages.
- 7. RAI 3.8.4-1 for TSTF-283, and SR 3.8.4.6, SR 3.8.4.7, SR 3.8.4.8 and Bases:**

The TSTF-283 changes for SR 3.8.4.6, SR 3.8.4.7 and SR 3.8.4.8 were not adopted for either Hatch 1 or 2.

NRC suggests the appropriate TSTF-283 inserts be adopted for SR 3.8.4.6, SR 3.8.4.7 and SR 3.8.4.8 TS and Bases for Hatch 1 and 2.

SNC Response to NRC RAI:

The TS and TS Bases markups have been revised to include the TSTF-283 inserts for SR 3.8.4.7, and SR 3.8.4.8 TS and Bases for Unit 1 and Unit 2. The Hatch Unit 1 and 2 SR 3.8.4.6 does not contain the Note that is modified, so the changes are therefore not applicable to these Hatch SRs.

**Edwin I. Hatch Nuclear Plant
Response to Request for Additional Information on Multiple Technical
Specification Changes**

Enclosure 2

Revised Marked TS Pages

TSTF-322

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.4.1.4</p> <p>-----NOTE-----</p> <p>The number of SGT subsystem(s) required for this Surveillance is dependent on the secondary containment configuration, and shall be one less than the number required to meet LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," for the given configuration.</p> <p>Verify required SGT subsystem(s) can maintain ≥ 0.20 inch of vacuum water gauge in the secondary containment for 1 hour at a flow rate ≤ 4000 cfm for each subsystem using required SGT subsystem(s)</p> <p>per subsystem</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

the secondary containment can be maintained

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.6</p> <p>NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify automatic and manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.7</p> <p>NOTES normally</p> <ol style="list-style-type: none"> 1. This Surveillance shall not be performed in MODE 1 or 2, except for the swing DG. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 1 controls. Credit may be taken for unplanned events that satisfy this SR. 2. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and:</p> <ol style="list-style-type: none"> a. Following load rejection, the frequency is ≤ 65.5 Hz; and b. Within 3 seconds following load rejection, the voltage is ≥ 3740 V and ≤ 4580 V. 	<p>However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.</p> <p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.1.8	<p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. This Surveillance shall not be performed in MODE 1 or 2, except for the swing DG. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 1 controls. Credit may be taken for unplanned events that satisfy this SR. 2. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 3. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG operating at a power factor ≤ 0.88 does not trip and voltage is maintained ≤ 4800 V during and following a load rejection of ≥ 2775 kW.</p>	<p>However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.</p> <p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

TSTF-283

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9</p> <p style="text-align: center;"><u>NOTES</u></p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. Energizes permanently connected loads in ≤ 12 seconds, 2. Energizes auto-connected shutdown loads through automatic load sequence timing devices, 3. Maintains steady state voltage ≥ 3740 V and ≤ 4243 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

normally

However, credit

(continued)

SURVEILLANCE REQUIREMENTS (continued)

TSTF-283

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.10</p> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. normally 2. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> a. In ≤ 12 seconds after auto-start achieves voltage ≥ 3740 V, and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V; b. In ≤ 12 seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and c. Operates for ≥ 5 minutes. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

SURVEILLANCE REQUIREMENTS (continued)		TSTF-283
SURVEILLANCE	FREQUENCY	TSTF-400
<div>SR 3.8.1.11</div> <div>However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit</div> <div>NOTE: ^{normally} This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</div> <div>^{non-critical} Verify each DG's automatic trips are bypassed on actual or simulated loss of voltage signal on the emergency bus concurrent with an actual or simulated ECCS initiation signal except.</div> <div><div>a. Engine overspeed;</div><div>b. Generator differential current; and</div><div>c. Low lube oil pressure.</div></div>	In accordance with the Surveillance Frequency Control Program	
(continued)		

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. This Surveillance shall not be performed in MODE 1 or 2, unless the other two DGs are OPERABLE. <i>normally</i> If either of the other two DGs becomes inoperable, this surveillance shall be suspended. Credit may be taken for unplanned events that satisfy this SR. 3. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 4. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <hr/> <p>Verify each DG operating at a power factor ≤ 0.88 operates for ≥ 24 hours:</p> <ol style="list-style-type: none"> a. For ≥ 2 hours loaded ≥ 3000 kW; and b. For the remaining hours of the test loaded ≥ 2775 kW and ≤ 2825 kW. 	<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.</p> </div> <p style="margin-top: 20px;">In accordance with the Surveillance Frequency Control Program</p>

(continued)

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.13</p> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2565 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <hr/> <p>Verify each DG starts and achieves, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.14</p> <p style="text-align: center;">NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</p> <hr/> <p>Verify each DG:</p> <ol style="list-style-type: none"> 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.15</p> <p>NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by:</p> <ol style="list-style-type: none"> Returning DG to ready-to-load operation; and Automatically energizing the emergency load from offsite power. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.16</p> <p>NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify interval between each sequenced load block is within $\pm 10\%$ of design interval for each load sequence timing device.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.17</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. normally 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. <p>Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. Energizes permanently connected loads in ≤ 12 seconds, 2. Energizes auto-connected emergency loads through automatic load sequence timing devices, 3. Achieves steady state voltage ≥ 3740 V and ≤ 4243 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

(continued)

SURVEILLANCE REQUIREMENTS (continued)

TSTF-283

SURVEILLANCE		FREQUENCY
SR 3.8.4.6	Verify each required battery charger supplies ≥ 400 amps for station service subsystems, and ≥ 100 amps for DG subsystems at ≥ 129 V for ≥ 1 hour.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.7	<p>NOTES</p> <ol style="list-style-type: none"> The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7. This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, credit may be taken for unplanned events that satisfy this SR. <p>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.</p>	In accordance with the Surveillance Frequency Control Program

normally

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.
Credit

(continued)

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.8</p> <p style="text-align: right;">NOTE</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify battery capacity is $\geq 80\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.</p>	<p style="text-align: right;">normally</p> <p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>12 months when battery shows degradation or has reached 85% of expected life with capacity $< 100\%$ of manufacturer's rating</p> <p><u>AND</u></p> <p>24 months when battery has reached 85% of expected life with capacity $\geq 100\%$ of manufacturer's rating</p>
<p>SR 3.8.4.9</p> <p>For required Unit 2 DC sources, the SRs of Unit 2 Specification 3.8.4 are applicable.</p>	<p>In accordance with applicable SRs</p>

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

TSTF-322

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.4.1.4</p> <p>-----NOTE----- The number of SGT subsystem(s) required for this Surveillance is dependent on the secondary containment configuration, and shall be one less than the number required to meet LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," for the given configuration.</p> <p>the secondary containment can be maintained</p> <p>Verify required SGT subsystem(s) can maintain ≥ 0.20 inch of vacuum water gauge in the secondary containment for 1 hour at a flow rate ≤ 4000 cfm for each subsystem.</p> <p>using required SGT subsystem(s)</p> <p>per subsystem</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.6</p> <p>NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify automatic and manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.7</p> <p>NOTES normally</p> <ol style="list-style-type: none"> 1. This Surveillance shall not be performed in MODE 1 or 2, except for the swing DG. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 2 controls. Credit may be taken for unplanned events that satisfy this SR. 2. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and:</p> <ol style="list-style-type: none"> a. Following load rejection, the frequency is ≤ 65.5 Hz; and b. Within 3 seconds following load rejection, the voltage is ≥ 3740 V and ≤ 4580 V. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.1.8	<p style="text-align: center;"><u>NOTES</u></p> <ol style="list-style-type: none"> 1. This Surveillance shall not be performed in MODE 1 or 2, except for the swing DG. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 2 controls. Credit may be taken for unplanned events that satisfy this SR. 2. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 3. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG operating at a power factor ≤ 0.88 does not trip and voltage is maintained ≤ 4800 V during and following a load rejection of ≥ 2775 kW.</p>	<p>However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.</p> <p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. normally 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. Energizes permanently connected loads in ≤ 12 seconds, 2. Energizes auto-connected shutdown loads through automatic load sequence timing devices, 3. Maintains steady state voltage ≥ 3740 V and ≤ 4243 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

However, portions of this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.10</p> <p>NOTES</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. normally 2. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> a. In ≤ 12 seconds after auto-start achieves voltage ≥ 3740 V, and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V; b. In ≤ 12 seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and c. Operates for ≥ 5 minutes. 	<p>In accordance with the Surveillance Frequency Control Program</p>

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

(continued)

SURVEILLANCE REQUIREMENTS (continued)

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SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11</p> <p>NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3. however, credit may be taken for unplanned events that satisfy this SR.</p> <p>non-critical</p> <p>Verify each DG's automatic trips are bypassed on actual or simulated loss of voltage signal on the emergency bus concurrent with an actual or simulated ECCS initiation signal except.</p> <div style="border: 1px solid black; padding: 5px;"> <p>a. Engine overspeed;</p> <p>b. Generator differential current; and</p> <p>c. Low lube oil pressure.</p> </div>	<p>TSTF-400</p> <p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12</p> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. This Surveillance shall not be performed in MODE 1 or 2, unless the other two DGs are OPERABLE. If either of the other two DGs becomes inoperable, this Surveillance shall be suspended. Credit may be taken for unplanned events that satisfy this SR. 3. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 4. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <hr/> <p>Verify each DG operating at a power factor ≤ 0.88 operates for ≥ 24 hours:</p> <ol style="list-style-type: none"> a. For ≥ 2 hours loaded ≥ 3000 kW; and b. For the remaining hours of the test loaded ≥ 2775 kW and ≤ 2825 kW. 	<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.</p> </div> <p style="margin-top: 20px;">In accordance with the Surveillance Frequency Control Program</p>

(continued)

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.13	<p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2565 kW. Momentary transients outside of load range do not invalidate this test. All DG starts may be preceded by an engine prelube period. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG starts and achieves, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.14	<p style="text-align: center;">NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify each DG:</p> <ol style="list-style-type: none"> Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; Transfers loads to offsite power source; and Returns to ready-to-load operation. 	In accordance with the Surveillance Frequency Control Program

However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

(continued)

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.15</p> <p>NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by:</p> <ol style="list-style-type: none"> Returning DG to ready-to-load operation; and Automatically energizing the emergency load from offsite power. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.16</p> <p>NOTE normally</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify interval between each sequenced load block is within $\pm 10\%$ of design interval for each load sequence timing device.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

TSTF-283

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.17</p> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. normally 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. Energizes permanently connected loads in ≤ 12 seconds, 2. Energizes auto-connected emergency loads through automatic load sequence timing devices, 3. Achieves steady state voltage ≥ 3740 V and ≤ 4243 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

SURVEILLANCE REQUIREMENTS (continued)

TSTF-283

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.7</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7. 2. This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, credit may be taken for unplanned events that satisfy this SR. <p>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.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

normally

SURVEILLANCE REQUIREMENTS (continued)

TSTF-283

	SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.8</p>	<p style="text-align: right;">normally</p> <p>NOTE</p> <p>This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify battery capacity is $\geq 80\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.</p>	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>12 months when battery shows degradation or has reached 85% of expected life with capacity $< 100\%$ of manufacturer's rating</p> <p><u>AND</u></p> <p>24 months when battery has reached 85% of expected life with capacity $\geq 100\%$ of manufacturer's rating</p>
<p>SR 3.8.4.9</p>	<p>For required Unit 1 DC sources, the SRs of Unit 1 Specification 3.8.4 are applicable.</p>	<p>In accordance with applicable SRs</p>

However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit

**Edwin I. Hatch Nuclear Plant
Response to Request for Additional Information on Multiple Technical
Specification Changes**

Enclosure 3

Revised Marked TS Bases Pages

BASES

TSTF-30

ACTIONS

TSTF-269

TSTF-323

The Completion Time of 4 hours for PCIVs other than those in penetrations with a closed system and EFCVs is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY in MODES 1, 2, and 3.

The closed system must meet the requirements of Reference 7.

C.1 and C.2 (continued)

for penetrations with a closed system

Required Action C.1 must be completed within 4 hours for lines other than excess flow check valve (EFCV) lines and 12 hours for EFCV lines. The Completion Time of 4 hours is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. The Completion Time of 12 hours is reasonable considering the instrument to act as a penetration isolation boundary and the small pipe diameter of the affected penetrations. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident are isolated.

72

also

for EFCVs

72

The Completion Time of once per 31 days for verifying each affected penetration is isolated is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low.

Condition C is modified by a Note indicating that this Condition is only applicable to penetration flow paths with only one PCIV. For penetration flow paths with two PCIVs, Conditions A and B provide the appropriate Required Actions.

two notes. Note 1

Required Action C.2 is modified by a Note that applies to valves and blind flanges located in high radiation areas and allows them to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is low.

INSERT - BASES 3.6.1.3
Action C

D.1

With the MSIV leakage rate not within limit, the assumptions of the safety analysis may not be met. Therefore, the leakage must be restored to within limit within 4 hours. Restoration can be accomplished by isolating the penetration that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. When a penetration is isolated, the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation

(continued)

TSTF-458-T

BASES

ACTIONS
(continued)

C.1

Suppression pool average temperature is allowed to be > 100°F when any OPERABLE IRM channel is > 25/40 divisions of full scale on Range 7, and when testing that adds heat to the suppression pool is being performed. However, if temperature is > 105°F, all testing must be immediately suspended to preserve the heat absorption capability of the suppression pool. With the testing suspended, Condition A is entered and the Required Actions and associated Completion Times are applicable.

D.1, D.2, and D.3

Suppression pool average temperature > 110°F requires that the reactor be shut down immediately. This is accomplished by placing the reactor mode switch in the shutdown position. Further, cooldown to MODE 4 is required at normal cooldown rates (provided pool temperature remains ≤ 120°F). Additionally, when suppression pool temperature is > 110°F, increased monitoring of pool temperature is required to ensure that it remains ≤ 120°F. The once per 30 minute Completion Time is adequate, based on operating experience. Given the high suppression pool average temperature in this Condition, the monitoring Frequency is increased to twice that of Condition A. Furthermore, the 30 minute Completion Time is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool average temperature condition.

Additionally, the plant must be brought to a MODE in which the requirement does not apply. To achieve this status, the plant must be brought to at least MODE 4 within 36 hours.

E.1 and E.2

If suppression pool average temperature cannot be maintained at ≤ 120°F, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the reactor pressure must be reduced to < 200 psig within 12 hours, and the plant must be brought to at least MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

Time is

Continued addition of heat to the suppression pool with suppression pool temperature > 120°F could result in exceeding the design basis maximum allowable values for primary containment temperature or pressure. Furthermore, if a blowdown were to occur when the temperature was > 120°F, the maximum allowable bulk and local temperatures could be exceeded very quickly.

(continued)

BASES

ACTIONS

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

case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE
REQUIREMENTS

SR 3.6.4.1.1 and SR 3.6.4.1.2

Verifying that secondary containment equipment hatches and one access door in each access opening are closed ensures that the infiltration of outside air of such a magnitude as to prevent maintaining the desired negative pressure does not occur. Verifying that all such openings are closed provides adequate assurance that exfiltration from the secondary containment will not occur. SR 3.6.4.1.1 also requires equipment hatches to be sealed. In this application, the term "sealed" has no connotation of leak tightness. Maintaining secondary containment OPERABILITY requires verifying one door in the access opening is closed. An access opening contains one inner and one outer door. The intent is not to breach the secondary containment at any time when secondary containment is required. This is achieved by maintaining the inner or outer portion of the barrier closed at all times. However, all secondary containment access doors are normally kept closed, except when the access opening is being used for entry and exit or when maintenance is being performed on an access opening. When the secondary containment configuration excludes Zone I and/or Zone II, these SRs also include verifying the hatches and doors separating the common refueling floor zone from the reactor building(s). The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

INSERT - BASES 3.6.4.1
SR

SR 3.6.4.1.3 and SR 3.6.4.1.4

~~The Unit 1 and Unit 2 SGT Systems exhaust the secondary containment atmosphere to the environment through appropriate treatment equipment. To ensure that all fission products are treated, SR 3.6.4.1.3 verifies that the appropriate SGT System(s) will rapidly establish and maintain a negative pressure in the secondary containment. This is confirmed by demonstrating that the required SGT subsystem(s) will draw down the secondary containment to ≥ 0.20 inch of vacuum water gauge in ≤ 120 seconds (13 seconds of diesel generator startup and breaker closing time is included in the 120-second drawdown time). This cannot be accomplished if the secondary containment boundary is not intact. SR 3.6.4.1.4~~

(continued)

INSERT – Bases 3.6.4.1 SR

The SGT System exhausts the secondary containment atmosphere to the environment through appropriate treatment equipment. The SGT System is designed to draw down pressure in the secondary containment to ≥ 0.20 inches of vacuum water gauge in ≤ 120 seconds and maintain pressure in the secondary containment at ≥ 0.20 inches of vacuum water gauge for 1 hour at a flow rate ≤ 4000 CFM per subsystem. To ensure that all fission products released to the secondary containment are treated, SR 3.6.4.1.3 and SR 3.6.4.1.4 verify that a pressure in the secondary containment that is less than the lowest postulated pressure external to the secondary containment boundary can rapidly be established and maintained. When the SGT System is operating as designed, the establishment and maintenance of secondary containment pressure cannot be accomplished if the secondary containment boundary is not intact. Establishment of this pressure is confirmed by SR 3.6.4.1.3, which demonstrates that the secondary containment can be drawn down to ≥ 0.20 inches of vacuum water gauge in ≤ 120 seconds using the required SGT subsystem(s). SR 3.6.4.1.4 demonstrates that the pressure in the secondary containment can be maintained ≥ 0.20 inches of vacuum water gauge for 1 hour using the required SGT subsystem(s) at a flow rate ≤ 4000 CFM per subsystem. The 1 hour test period allows secondary containment to be in thermal equilibrium at steady state conditions. The primary purpose of these SRs is to ensure secondary containment boundary integrity. The secondary purpose of these SRs is to ensure that the SGT subsystem(s) being tested function as designed. There is a separate LCO with Surveillance Requirements which serves the primary purpose of ensuring OPERABILITY of the SGT System. The inoperability of the SGT System does not necessarily constitute a failure of these Surveillances relative to the secondary containment OPERABILITY.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.6.4.1.3 and SR 3.6.4.1.4 (continued)

~~demonstrates that the required SGT subsystem(s) can maintain ≥ 0.20 inch of vacuum water gauge for 1 hour at a flow rate ≤ 4000 cfm for each SGT subsystem. The 1 hour test period allows secondary containment to be in thermal equilibrium at steady state conditions. Therefore, these two tests are used to ensure secondary containment boundary integrity. Since these SRs are secondary containment tests, they need not be performed with each SGT subsystem. The SGT subsystems are tested on a STAGGERED TEST BASIS, however, to ensure that in addition to the requirements of LCO 3.6.4.3, each SGT subsystem or combination of subsystems will perform this test.~~ The number of SGT subsystems and the required combinations are dependent on the configuration of the secondary containment and are detailed in the Technical Requirements Manual (Ref. 3). The Note to SR 3.6.4.1.3 and SR 3.6.4.1.4 specifies that the number of required SGT subsystems be one less than the number required to meet LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," for the given configuration. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. FSAR, Subsection 14.4.3.
2. FSAR, Subsection 14.4.4.
3. Technical Requirements Manual, Section 8.0.
4. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.

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BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.6 (continued)

This SR is modified by a Note. The reason for the Note is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

INSERT 1 - BASES 3.8.1

This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1 or 2 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1 or 2 and the Unit 2 test should not be performed with Unit 2 in MODE 1 or 2.

normally

normally

SR 3.8.1.7

Each DG is provided with an engine overspeed trip to prevent damage to the engine. Recovery from the transient caused by the loss of a large load could cause diesel engine overspeed, which, if excessive, might result in a trip of the engine. This Surveillance demonstrates the DG load response characteristics and capability to reject the largest single load without exceeding predetermined voltage and frequency and while maintaining a specified margin to the overspeed trip. The largest single load for DGs 1A and 1C is a core spray pump at rated flow (1275 bhp). For DG 1B, the largest single load is a residual heat removal service water pump at rated flow (1225 bhp). This Surveillance may be accomplished by: a) tripping the DG output breaker with the DG carrying greater than or equal to its associated single largest post-accident load while paralleled to offsite power or while solely supplying the bus, or b) tripping its associated single largest post-accident load with the DG solely supplying the bus. Although Plant Hatch Unit 1 is not committed to IEEE-387-1984 (Ref. 12), this SR is consistent with the IEEE-387-1984 requirement that states the load rejection test is acceptable if the increase in diesel speed does not exceed 75% of the

(continued)

INSERT 1- Bases 3.8.1

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This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.7 (continued)

difference between synchronous speed and the overspeed trip setpoint, or 15% above synchronous speed, whichever is lower. For all DGs, this represents 65.5 Hz, equivalent to 75% of the difference between nominal speed and the overspeed trip setpoint.

The voltage and frequency specified are consistent with the nominal range for the DG. SR 3.8.1.7.a corresponds to the maximum frequency excursion, while SR 3.8.1.7.b is the voltage to which the DG must recover following load rejection. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by two Notes. The reason for Note 1 is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

INSERT 1 - BASES 3.8.1

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing is performed with only the DG providing power to the associated 4160 V ESF bus. The DG is not synchronized with offsite power.

To minimize testing of the swing DG, Note 2 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.8

This Surveillance demonstrates the DG capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits. The DG full load rejection may occur because of a system fault or inadvertent breaker tripping. This Surveillance ensures proper engine generator load response under the simulated test conditions. This test simulates the loss of the total connected load that the DG experiences following a full load rejection and verifies that the DG does not trip upon loss of the load. These acceptance criteria provide

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.8 (continued)

DG damage protection. While the DG is not expected to experience this transient during an event, and continues to be available, this response ensures that the DG is not degraded for future application, including reconnection to the bus if the trip initiator can be corrected or isolated.

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing must be performed using a power factor ≤ 0.88 . This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by three Notes. The reason for Note 1 is that during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that would challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR. Note 2 is provided in recognition that if the offsite electrical power distribution system is lightly loaded (i.e., system voltage is high), it may not be possible to raise voltage without creating an overvoltage condition on the ESF bus. Therefore, to ensure the bus voltage, supplied ESF loads, and DG are not placed in an unsafe condition during this test, the power factor limit does not have to be met if grid voltage or ESF bus loading does not permit the power factor limit to be met when the DG is tied to the grid. When this occurs, the power factor should be maintained as close to the limit as practicable.

INSERT 1 - BASES 3.8.1

To minimize testing of the swing DG, Note 3 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

(continued)

No change. Included for
information only.

BASES

**SURVEILLANCE
REQUIREMENTS**
(continued)

SR 3.8.1.9

This Surveillance demonstrates the as designed operation of the standby power sources during loss of the offsite source and is consistent with Regulatory Guide 1.108 (Ref, 10), paragraph 2.a.(1). This test verifies all actions encountered from the loss of offsite power, including shedding of the nonessential loads and energization of the emergency buses and respective loads from the DG. It further demonstrates the capability of the DG to automatically achieve the required voltage and frequency within the specified time.

The DG auto-start time of 12 seconds is derived from requirements of the accident analysis for responding to a design basis large break LOCA. The Surveillance should be continued for a minimum of 5 minutes in order to demonstrate that all starting transients have decayed and stability has been achieved.

The requirement to verify the connection and power supply of permanent and auto-connected loads is intended to satisfactorily show the relationship of these loads to the DG loading logic. In certain circumstances, many of these loads cannot actually be connected or loaded without undue hardship or potential for undesired operation. For instance, Emergency Core Cooling Systems (ECCS) injection valves are not desired to be stroked open, or systems are not capable of being operated at full flow, or RHR systems performing a decay heat removal function are not desired to be realigned to the ECCS mode of operation. In lieu of actual demonstration of the connection and loading of these loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified. For the purpose of this testing, the DGs shall be started from standby conditions, that is, with the engine coolant and oil being continuously circulated and temperature maintained consistent with manufacturer recommendations.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by two Notes. The reason for Note 1 is to minimize wear and tear on the DGs during testing. The reason for Note 2 is that performing the Surveillance would remove a required

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.9 (continued)

INSERT 2 - BASES 3.8.1

offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1, 2, or 3 and the Unit 2 test should not be performed with Unit 2 in MODE 1, 2, or 3.

normally

normally

normally

SR 3.8.1.10

This Surveillance demonstrates that the DG automatically starts and achieves the required voltage and frequency within the specified time (12 seconds) from the design basis actuation signal (LOCA signal) and operates for ≥ 5 minutes. The 5 minute period provides sufficient time to demonstrate stability.

The requirement to verify the connection and power supply of permanent and autoconnected loads is intended to satisfactorily show the relationship of these loads to the loading logic for loading onto offsite power. In certain circumstances, many of these loads cannot actually be connected or loaded without undue hardship or potential for undesired operation. For instance, ECCS injection valves are not desired to be stroked open, low pressure injection systems are not capable of being operated at full flow, or RHR systems performing a decay heat removal function are not desired to be realigned to the ECCS mode of operation. In lieu of actual demonstration of the connection and loading of these loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified. For the purpose of this testing, the DGs must be started from standby conditions, that is, with the engine coolant and oil being continuously circulated and temperature maintained consistent with manufacturer recommendations.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

INSERT 2- Bases 3.8.1

TSTF-283

This restriction from normally performing the Surveillance in MODE 1, 2, or 3 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1, 2, or 3. Risk insights or deterministic methods may be used for this assessment.

BASES

TSTF-283

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.10 (continued)

TSTF-400

with the expected fuel cycle lengths. The 24 month Frequency is based on a review of the surveillance test history and Reference 15.

This SR is modified by two Notes. The reason for Note 1 is to minimize wear and tear on the DGs during testing. The reason for Note 2 is that during operation with the reactor critical, performance of this Surveillance could potentially cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1 or 2 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1 or 2 and the Unit 2 test should not be performed with Unit 2 in MODE 1 or 2.

INSERT 3 - BASES 3.8.1

normally

normally

normally

SR 3.8.1.11

This Surveillance demonstrates that DG non-critical protective functions (e.g., high jacket water temperature) are bypassed on a loss of voltage signal concurrent with an ECCS initiation signal and critical protective functions (engine overspeed, generator differential current, and low lubricating oil pressure) are available to trip the DG to avert substantial damage to the DG unit. The non-critical trips are bypassed during DBAs and provide an alarm on an abnormal engine condition. This alarm provides the operator with sufficient time to react appropriately. The DG availability to mitigate the DBA is more critical than protecting the engine against minor problems that are not immediately detrimental to emergency operation of the DG.

INSERT 4 - BASES 3.8.1

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

The SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required DG from

(continued)

INSERT 3- Bases 3.8.1

TSTF-283

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

INSERT 4 – Bases 3.8.1

TSTF-400

Non-critical automatic trips are all automatic trips except: a) engine overspeed, b) generator differential current, and c) low lube oil pressure.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.11 (continued)

INSERT 5 - BASES 3.8.1

service. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1 or 2 and the Unit 2 test should not be performed with Unit 2 in MODE 1, 2, or 3.

normally

normally

normally

SR 3.8.1.12

Regulatory Guide 1.108 (Ref. 10), paragraph 2.a.(3), requires demonstration once per 24 months that the DGs can start and run continuously at full load capability for an interval of not less than 24 hours. The first 22 hours of this test are performed at ≥ 2775 kW and ≤ 2825 kW (which is near the continuous rating of the DG), and the last 2 hours of this test are performed at ≥ 3000 kW. This is in accordance with commitments described in FSAR Section 8.4 (Ref. 2). The DG starts for this Surveillance can be performed either from standby or hot conditions. The provisions for prelube and warmup, and for gradual loading, discussed in SR 3.8.1.2, are applicable to this SR.

In order to ensure that the DG is tested under load conditions that are as close to design conditions as possible, testing must be performed using a power factor ≤ 0.88 . This power factor is chosen to be representative of the actual design basis inductive loading that the DG could experience. A load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

INSERT 5 - Bases 3.8.1

TSTF-283

This restriction from normally performing the Surveillance in MODE 1, 2, or 3 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1, 2, or 3. Risk insights or deterministic methods may be used for this assessment.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.12 (continued)

This Surveillance has been modified by four Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. Similarly, momentary power factor transients above the limit do not invalidate the test. The reason for Note 2 is that during operation with the reactor critical, performance of this Surveillance could cause perturbations to the electrical distribution systems that would challenge continued steady state operation and, as a result, plant safety systems. However, it is acceptable to perform this SR in MODES 1 and 2 provided the other two DGs are OPERABLE, since a perturbation can only affect one divisional DG. If during the performance of this Surveillance, one of the other DGs becomes inoperable, this Surveillance is to be suspended. The Surveillance may not be performed in MODES 1 and 2 during inclement weather and unstable grid conditions. Credit may be taken for unplanned events that satisfy this SR. Note 3 is provided in recognition that if the offsite electrical power distribution system is lightly loaded (i.e., system voltage is high), it may not be possible to raise voltage without creating an overvoltage condition on the ESF bus. Therefore, to ensure the bus voltage, supplied ESF loads, and DG are not placed in an unsafe condition during this test, the power factor limit does not have to be met if grid voltage or ESF bus loading does not permit the power factor limit to be met when the DG is tied to the grid. When this occurs, the power factor should be maintained as close to the limit as practicable. To minimize testing of the swing DG, Note 4 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

INSERT 1 - BASES 3.8.1

SR 3.8.1.13

This Surveillance demonstrates that the diesel engine can restart from a hot condition, such as subsequent to shutdown from normal Surveillances, and achieve the required voltage and frequency within 12 seconds. The 12 second time is derived from the requirements of the accident analysis to respond to a design basis large break LOCA. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.13 (continued)

This SR is modified by three Notes. Note 1 ensures that the test is performed with the diesel sufficiently hot. The requirement that the diesel has operated for at least 2 hours at near full load conditions prior to performance of this Surveillance is based on manufacturer recommendations for achieving hot conditions. Momentary transients due to changing bus loads do not invalidate this test. Note 2 allows all DG starts to be preceded by an engine prelube period to minimize wear and tear on the diesel during testing. To minimize testing of the swing DG, Note 3 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered Inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.14

This Surveillance is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 10), paragraph 2.a.(6), and ensures that the manual synchronization and automatic load transfer from the DG to the offsite source can be made and that the DG can be returned to ready-to-load status when offsite power is restored. It also ensures that the auto-start logic is reset to allow the DG to reload if a subsequent loss of offsite power occurs. The DG is considered to be in ready-to-load status when the DG is at rated speed and voltage, the output breaker is open and can receive an auto-close signal on bus undervoltage, and the load sequence timers are reset.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the

INSERT 5 - BASES 3.8.1

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.14 (continued)

normally

Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1, 2, or 3 and the Unit 2 test should not be performed with Unit 2 in MODE 1, 2, or 3.

normally

normally

SR 3.8.1.15

Demonstration of the test mode override ensures that the DG availability under accident conditions is not compromised as the result of testing. Interlocks to the LOCA sensing circuits cause the DG to automatically reset to ready-to-load operation if an ECCS initiation signal is received during operation in the test mode. Ready-to-load operation is defined as the DG running at rated speed and voltage with the DG output breaker open. Although Plant Hatch Unit 1 is not committed to this standard, this SR is consistent with the provisions for automatic switchover required by IEEE-308 (Ref. 13), paragraph 6.2.6(2).

The intent in the requirements associated with SR 3.8.1.15.b is to show that the emergency loading is not affected by the DG operation in test mode. In lieu of actual demonstration of connection and loading of loads, testing that adequately shows the capability of the emergency loads to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the

INSERT 2 - BASES 3.8.1

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.15 (continued)

normally

Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1, 2, or 3 and the Unit 2 test should not be performed with Unit 2 in MODE 1, 2, or 3.

normally

normally

SR 3.8.1.16

Under accident conditions, loads are sequentially connected to the bus by the automatic load sequence timing devices. The sequencing logic controls the permissive and starting signals to motor breakers to prevent overloading of the DGs due to high motor starting currents. The 10% load sequence time interval tolerance ensures that sufficient time exists for the DG to restore frequency and voltage prior to applying the next load and that safety analysis assumptions regarding ESF equipment time delays are not violated. Reference 2 provides a summary of the automatic loading of ESF buses.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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

INSERT 5 - BASES 3.8.1

normally

This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1, 2, or 3 and the Unit 2 test should not be performed with Unit 2 in MODE 1, 2, or 3.

normally

normally

(continued)

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BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.8.1.17

In the event of a DBA coincident with a loss of offsite power, the DGs are required to supply the necessary power to ESF systems so that the fuel, RCS, and containment design limits are not exceeded.

This Surveillance demonstrates DG operation, as discussed in the Bases for SR 3.8.1.9, during a loss of offsite power actuation test signal in conjunction with an ECCS initiation signal. In lieu of actual demonstration of connection and loading of loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified. For the purpose of this testing, the DGs must be started from standby conditions, that is, with the engine coolant and oil being continuously circulated and temperature maintained consistent with manufacturer recommendations.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by two Notes. The reason for Note 1 is to minimize wear and tear on the DGs during testing. The reason for Note 2 is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1, 2, or 3 and the Unit 2 test should not be performed with Unit 2 in MODE 1, 2, or 3.

INSERT 2 - BASES 3.8.1

normally

normally

normally

SR 3.8.1.18

This Surveillance demonstrates that the DG starting independence has not been compromised. Also, this Surveillance demonstrates that each engine can achieve proper speed within the specified time when the DGs are started simultaneously. For the purpose of this testing,

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.4.7 (continued)

The modified performance discharge test is a simulated duty cycle consisting of just two rates: the 1 minute rate published 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 rated 1 minute discharge represent 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 should 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.

A modified performance 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 discharge test.

The reason for Note 2 is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance. The swing DG DC battery is exempted from this restriction, since it is required by both units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

INSERT 1 - BASES 3.8.4

SR 3.8.4.8

A battery performance discharge test is a constant current capacity test to detect any change in the capacity determined by the acceptance test. Initial conditions consistent with IEEE-450 need to be met prior to the performing of a battery performance discharge test. The test results reflect the overall effects of usage and age.

A battery modified performance discharge test is described in the Bases for SR 3.8.4.7. Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.4.8; however, only the modified performance discharge test

(continued)

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BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.4.8 (continued)

may be used to satisfy SR 3.8.4.8, while satisfying the requirements of SR 3.8.4.7 at the same time. The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 8) and IEEE-485 (Ref. 12). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating. Although there may be ample capacity, the battery rate of deterioration is rapidly increasing.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance. The swing DG DC battery is exempted from this restriction, since it is required by both units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

INSERT 1 - BASES 3.8.4

SR 3.8.4.9

With the exception of this Surveillance, all other Surveillances of this Specification (SR 3.8.4.1 through SR 3.8.4.8) are applied only to the Unit 1 DC sources. This Surveillance is provided to direct that the appropriate Surveillances for the required Unit 2 DC sources are governed by the Unit 2 Technical Specifications. Performance of the applicable Unit 2 Surveillances will satisfy both any Unit 2 requirements, as well as satisfying this Unit 1 SR.

The Frequency required by the applicable Unit 2 SR also governs performance of that SR for both Units.

(continued)

INSERT 1- Bases 3.8.4

This restriction from normally performing the Surveillance in MODE 1, 2, or 3 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1, 2, or 3. Risk insights or deterministic methods may be used for this assessment.

for penetrations with a closed system

BASES

TSTF-30

ACTIONS

TSTF-269

TSTF-323

The Completion Time of 4 hours for PCIVs other than those in penetrations with a closed system and EFCVs is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY in MODES 1, 2, and 3.

C.1 and C.2 (continued)

Required Action C.1 must be completed within 4 hours for lines other than excess flow check valve (EFCV) lines and 12 hours for EFCV lines. The Completion Time of 4 hours is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. The Completion Time of 12 hours is reasonable considering the instrument to act as a penetration isolation boundary and the small pipe diameter of the affected penetrations. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident are isolated.

72

also

for EFCVs

The closed system must meet the requirements of Reference 8.

The Completion Time of once per 31 days for verifying each affected penetration is isolated is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low.

72

Condition C is modified by a Note indicating that this Condition is only applicable to penetration flow paths with only one PCIV. For penetration flow paths with two PCIVs, Conditions A and B provide the appropriate Required Actions.

two notes. Note 1

Required Action C.2 is modified by a Note that applies to valves and blind flanges located in high radiation areas and allows them to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is low.

INSERT - BASES 3.6.1.3
Action C

D.1

With the secondary containment bypass leakage rate or MSIV leakage rate not within limit, the assumptions of the safety analysis may not be met. Therefore, the leakage must be restored to within limit within 4 hours. Restoration can be accomplished by isolating the penetration that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. When a penetration is isolated, the leakage rate for the isolated penetration is assumed to be the actual pathway leakage

(continued)

TSTF-458-T

BASES

ACTIONS
(continued)

C.1

Suppression pool average temperature is allowed to be $> 100^{\circ}\text{F}$ when any OPERABLE IRM channel is $> 25/40$ divisions of full scale on Range 7, and when testing that adds heat to the suppression pool is being performed. However, if temperature is $> 105^{\circ}\text{F}$, all testing must be immediately suspended to preserve the heat absorption capability of the suppression pool. With the testing suspended, Condition A is entered and the Required Actions and associated Completion Times are applicable.

D.1, D.2, and D.3

Suppression pool average temperature $> 110^{\circ}\text{F}$ requires that the reactor be shut down immediately. This is accomplished by placing the reactor mode switch in the shutdown position. Further, cooldown to MODE 4 is required at normal cooldown rates (provided pool temperature remains $\leq 120^{\circ}\text{F}$). Additionally, when suppression pool temperature is $> 110^{\circ}\text{F}$, increased monitoring of pool temperature is required to ensure that it remains $\leq 120^{\circ}\text{F}$. The once per 30 minute Completion Time is adequate, based on operating experience. Given the high suppression pool average temperature in this Condition, the monitoring Frequency is increased to twice that of Condition A. Furthermore, the 30 minute Completion Time is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool average temperature condition.

Additionally, the plant must be brought to a MODE in which the requirement does not apply. To achieve this status, the plant must be brought to at least MODE 4 within 36 hours.

E.1 and E.2

If suppression pool average temperature cannot be maintained at $\leq 120^{\circ}\text{F}$, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the reactor pressure must be reduced to < 200 psig within 12 hours, and the plant must be brought to at least MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

Time is

Continued addition of heat to the suppression pool with suppression pool temperature $> 120^{\circ}\text{F}$ could result in exceeding the design basis maximum allowable values for primary containment temperature or pressure. Furthermore, if a blowdown were to occur when the temperature was $> 120^{\circ}\text{F}$, the maximum allowable bulk and local temperatures could be exceeded very quickly.

(continued)

BASES

ACTIONS

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

inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE
REQUIREMENTS

SR 3.6.4.1.1 and SR 3.6.4.1.2

Verifying that secondary containment equipment hatches and one access door in each access opening are closed ensures that the infiltration of outside air of such a magnitude as to prevent maintaining the desired negative pressure does not occur. Verifying that all such openings are closed provides adequate assurance that exfiltration from the secondary containment will not occur. SR 3.6.4.1.1 also requires equipment hatches to be sealed. In this application, the term "sealed" has no connotation of leak tightness. Maintaining secondary containment OPERABILITY requires verifying one door in the access opening is closed. An access opening contains one inner and one outer door. The intent is not to breach the secondary containment at any time when secondary containment is required. This is achieved by maintaining the inner or outer portion of the barrier closed at all times. However, all secondary containment access doors are normally kept closed, except when the access opening is being used for entry and exit or when maintenance is being performed on an access opening. When the secondary containment configuration excludes Zone I and/or Zone II, these SRs also include verifying the hatches and doors separating the common refueling floor zone from the reactor building(s). The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

INSERT - BASES 3.6.4.1
SR

SR 3.6.4.1.3 and SR 3.6.4.1.4

~~The Unit 1 and Unit 2 SGT Systems exhausts the secondary containment atmosphere to the environment through appropriate treatment equipment. To ensure that all fission products are treated, SR 3.6.4.1.3 verifies that the appropriate SGT System(s) will rapidly establish and maintain a negative pressure in the secondary containment. This is confirmed by demonstrating that the required SGT subsystem(s) will draw down the secondary containment to ≥ 0.20 inch of vacuum water gauge in ≤ 120 seconds (13 seconds of diesel generator startup and breaker closing time is included in the 120-second drawdown time). This cannot be accomplished if the secondary containment boundary is not intact. SR 3.6.4.1.4 demonstrates that the required SGT subsystem(s) can~~

(continued)

INSERT – Bases 3.6.4.1 SR

The SGT System exhausts the secondary containment atmosphere to the environment through appropriate treatment equipment. The SGT System is designed to draw down pressure in the secondary containment to ≥ 0.20 inches of vacuum water gauge in ≤ 120 seconds and maintain pressure in the secondary containment at ≥ 0.20 inches of vacuum water gauge for 1 hour at a flow rate ≤ 4000 CFM per subsystem. To ensure that all fission products released to the secondary containment are treated, SR 3.6.4.1.3 and SR 3.6.4.1.4 verify that a pressure in the secondary containment that is less than the lowest postulated pressure external to the secondary containment boundary can rapidly be established and maintained. When the SGT System is operating as designed, the establishment and maintenance of secondary containment pressure cannot be accomplished if the secondary containment boundary is not intact. Establishment of this pressure is confirmed by SR 3.6.4.1.3, which demonstrates that the secondary containment can be drawn down to ≥ 0.20 inches of vacuum water gauge in ≤ 120 seconds using the required SGT subsystem(s). SR 3.6.4.1.4 demonstrates that the pressure in the secondary containment can be maintained ≥ 0.20 inches of vacuum water gauge for 1 hour using the required SGT subsystem(s) at a flow rate ≤ 4000 CFM per subsystem. The 1 hour test period allows secondary containment to be in thermal equilibrium at steady state conditions. The primary purpose of these SRs is to ensure secondary containment boundary integrity. The secondary purpose of these SRs is to ensure that the SGT subsystem(s) being tested function as designed. There is a separate LCO with Surveillance Requirements which serves the primary purpose of ensuring OPERABILITY of the SGT System. The inoperability of the SGT System does not necessarily constitute a failure of these Surveillances relative to the secondary containment OPERABILITY.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.6.4.1.3 and SR 3.6.4.1.4 (continued)

~~maintain ≥ 0.20 inch of vacuum water gauge for 1 hour at a flow rate ≤ 4000 cfm for each SGT subsystem. The 1 hour test period allows secondary containment to be in thermal equilibrium at steady state conditions. Therefore, these two tests are used to ensure secondary containment boundary integrity. Since these SRs are secondary containment tests, they need not be performed with each SGT subsystem. The SGT subsystems are tested on a STAGGERED TEST BASIS, however, to ensure that in addition to the requirements of LCO 3.6.4.3, each SGT subsystem or combination of subsystems will perform this test.~~ The number of SGT subsystems and the required combinations are dependent on the configuration of the secondary containment and are detailed in the Technical Requirements Manual (Ref. 3). The Note to SR 3.6.4.1.3 and SR 3.6.4.1.4 specifies that the number of required SGT subsystems be one less than the number required to meet LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," for the given configuration. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. FSAR, Section 15.1.39.
2. FSAR, Section 15.1.41.
3. Technical Requirements Manual, Section 8.0.
4. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.

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BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.6 (continued)

This SR is modified by a Note. The reason for the Note is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

INSERT 1 - BASES 3.8.1

This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1 or 2 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1 or 2 and the Unit 1 test should not be performed with Unit 1 in MODE 1 or 2.

normally

normally

normally

SR 3.8.1.7

Each DG is provided with an engine overspeed trip to prevent damage to the engine. Recovery from the transient caused by the loss of a large load could cause diesel engine overspeed, which, if excessive, might result in a trip of the engine. This Surveillance demonstrates the DG load response characteristics and capability to reject the largest single load without exceeding predetermined voltage and frequency and while maintaining a specified margin to the overspeed trip. The largest single load for each DG is a residual heat removal service water pump at rated flow (1225 bhp). This Surveillance may be accomplished by: a) tripping the DG output breaker with the DG carrying greater than or equal to its associated single largest post-accident load while paralleled to offsite power or while solely supplying the bus, or b) tripping its associated single largest post-accident load with the DG solely supplying the bus. Although Plant Hatch Unit 2 is not committed to IEEE-387-1984, (Ref. 11), this SR is consistent with the IEEE-387-1984 requirement that states the load rejection test is acceptable if the increase in diesel speed does not exceed 75% of the difference between synchronous speed and the overspeed trip setpoint, or 15% above synchronous speed, whichever is lower. For all DGs, this represents 65.5 Hz,

(continued)

INSERT 1- Bases 3.8.1

TSTF-283

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.7 (continued)

equivalent to 75% of the difference between nominal speed and the overspeed trip setpoint.

The voltage and frequency specified are consistent with the nominal range for the DG. SR 3.8.1.7.a corresponds to the maximum frequency excursion, while SR 3.8.1.7.b is the voltage to which the DG must recover following load rejection. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by two Notes. The reason for Note 1 is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

INSERT 1 - BASES 3.8.1

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing is performed with only the DG providing power to the associated 4160 V ESF bus. The DG is not synchronized with offsite power.

To minimize testing of the swing DG, Note 2 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.8

This Surveillance demonstrates the DG capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits. The DG full load rejection may occur because of a system fault or inadvertent breaker tripping. This Surveillance ensures proper engine generator load response under the simulated test conditions. This test simulates the loss of the total connected load that the DG experiences following a full load rejection and verifies that the DG does not trip upon loss of the load. These acceptance criteria provide

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.8 (continued)

DG damage protection. While the DG is not expected to experience this transient during an event, and continues to be available, this response ensures that the DG is not degraded for future application, including reconnection to the bus if the trip initiator can be corrected or isolated.

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing must be performed using a power factor ≤ 0.88 . This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by three Notes. The reason for Note 1 is that during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that would challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR. Note 2 is provided in recognition that if the offsite electrical power distribution system is lightly loaded (i.e., system voltage is high, it may not be possible to raise voltage without creating an overvoltage condition on the ESF bus. Therefore, to ensure the bus voltage, supplied ESF loads, and DG are not placed in an unsafe condition during this test, the power factor limit does not have to be met if grid voltage or ESF bus loading does not permit the power factor limit to be met when the DG is tied to the grid. When this occurs, the power factor should be maintained as close to the limit as practicable.

INSERT 1 - BASES 3.8.1

To minimize testing of the swing DG, Note 3 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

(continued)

No change. Included for
information only.

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.8.1.9

This Surveillance demonstrates the as designed operation of the standby power sources during loss of the offsite source and is consistent with Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(1). This test verifies all actions encountered from the loss of offsite power, including shedding of the nonessential loads and energization of the emergency buses and respective loads from the DG. It further demonstrates the capability of the DG to automatically achieve the required voltage and frequency within the specified time.

The DG auto-start time of 12 seconds is derived from requirements of the accident analysis for responding to a design basis large break LOCA. The Surveillance should be continued for a minimum of 5 minutes in order to demonstrate that all starting transients have decayed and stability has been achieved.

The requirement to verify the connection and power supply of permanent and auto-connected loads is intended to satisfactorily show the relationship of these loads to the DG loading logic. In certain circumstances, many of these loads cannot actually be connected or loaded without undue hardship or potential for undesired operation. For instance, Emergency Core Cooling Systems (ECCS) injection valves are not desired to be stroked open, or systems are not capable of being operated at full flow, or RHR systems performing a decay heat removal function are not desired to be realigned to the ECCS mode of operation. In lieu of actual demonstration of the connection and loading of these loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified. For the purpose of this testing, the DGs shall be started from standby conditions, that is, with the engine coolant and oil being continuously circulated and temperature maintained consistent with manufacturer recommendations.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by two Notes. The reason for Note 1 is to minimize wear and tear on the DGs during testing. The reason for Note 2 is that performing the Surveillance would remove a required

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.9 (continued)

INSERT 2 - BASES 3.8.1

offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1, 2, or 3 and the Unit 1 test should not be performed with Unit 1 in MODE 1, 2, or 3.

normally

SR 3.8.1.10

normally

normally

This Surveillance demonstrates that the DG automatically starts and achieves the required voltage and frequency within the specified time (12 seconds) from the design basis actuation signal (LOCA signal) and operates for ≥ 5 minutes. The 5 minute period provides sufficient time to demonstrate stability.

The requirement to verify the connection and power supply of permanent and autoconnected loads is intended to satisfactorily show the relationship of these loads to the loading logic for loading onto offsite power. In certain circumstances, many of these loads cannot actually be connected or loaded without undue hardship or potential for undesired operation. For instance, ECCS injection valves are not desired to be stroked open, low pressure injection systems are not capable of being stroked open, low pressure injection systems are not capable of being stroked open, or RHR systems performing a decay heat removal function are not desired to be realigned to the ECCS mode of operation. In lieu of actual demonstration of the connection and loading of these loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified. For the purpose of this testing, the DGs must be started from standby conditions, that is, with the engine coolant and oil being continuously circulated and temperature maintained consistent with manufacturer recommendations.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

INSERT 2- Bases 3.8.1

TSTF-283

This restriction from normally performing the Surveillance in MODE 1, 2, or 3 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1, 2, or 3. Risk insights or deterministic methods may be used for this assessment.

BASES

TSTF-283

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.10 (continued)

TSTF-400

This SR is modified by two Notes. The reason for Note 1 is to minimize wear and tear on the DGs during testing. The reason for Note 2 is that during operation with the reactor critical, performance of this Surveillance could potentially cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1 or 2 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1 or 2 and the Unit 1 test should not be performed with Unit 1 in MODE 1 or 2.

INSERT 3 - BASES 3.8.1

normally

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normally

SR 3.8.1.11

This Surveillance demonstrates that DG non-critical protective functions (e.g., high jacket water temperature) are bypassed on a loss of voltage signal concurrent with an ECCS initiation signal and critical protective functions (engine overspeed, generator differential current, and low lubricating oil pressure) are available to trip the DG to avert substantial damage to the DG unit. The non-critical trips are bypassed during DBAs and provide an alarm on an abnormal engine condition. This alarm provides the operator with sufficient time to react appropriately. The DG availability to mitigate the DBA is more critical than protecting the engine against minor problems that are not immediately detrimental to emergency operation of the DG.

INSERT 4 - BASES 3.8.1

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

The SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required DG from

(continued)

INSERT 3- Bases 3.8.1

TSTF-283

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

INSERT 4 – Bases 3.8.1

TSTF-400

Non-critical automatic trips are all automatic trips except: a) engine overspeed, b) generator differential current, and c) low lube oil pressure.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.11 (continued)

INSERT 5 - BASES 3.8.1

service. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1, 2, or 3 and the Unit 1 test should not be performed with Unit 1 in MODE 1, 2, or 3.

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SR 3.8.1.12

Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(3), requires demonstration once per 24 months that the DGs can start and run continuously at full load capability for an interval of not less than 24 hours. The first 22 hours of this test are performed at ≥ 2775 kW and ≤ 2825 kW (which is near the continuous rating of the DG), and the last 2 hours of this test are performed at ≥ 3000 kW. This is in accordance with commitments described in FSAR Section 8.3 (Ref. 2). The DG starts for this Surveillance can be performed either from standby or hot conditions. The provisions for prelube and warmup, and for gradual loading, discussed in SR 3.8.1.2, are applicable to this SR.

In order to ensure that the DG is tested under load conditions that are as close to design conditions as possible, testing must be performed using a power factor ≤ 0.88 . This power factor is chosen to be representative of the actual design basis inductive loading that the DG could experience. A load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

INSERT 5 - Bases 3.8.1

TSTF-283

This restriction from normally performing the Surveillance in MODE 1, 2, or 3 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1, 2, or 3. Risk insights or deterministic methods may be used for this assessment.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.12 (continued)

This Surveillance has been modified by four Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. Similarly, momentary power factor transients above the limit do not invalidate the test. The reason for Note 2 is that during operation with the reactor critical, performance of this Surveillance could cause perturbations to the electrical distribution systems that would challenge continued steady state operation and, as a result, plant safety systems. However, it is acceptable to perform this SR in MODES 1 and 2 provided the other two DGs are OPERABLE, since a perturbation can only affect one divisional DG. If during the performance of this Surveillance, one of the other DGs becomes operable, this Surveillance is to be suspended. The surveillance may not be performed in MODES 1 and 2 during inclement weather and unstable grid conditions. Credit may be taken for unplanned events that satisfy this SR. Note 3 is provided in recognition that if the offsite electrical power distribution system is lightly loaded (i.e., system voltage is high), it may not be possible to raise voltage without creating an overvoltage condition on the ESF bus. Therefore, to ensure the bus voltage, supplied ESF loads, and DG are not placed in an unsafe condition during this test, the power factor limit does not have to be met if grid voltage or ESF bus loading does not permit the power factor limit to be met when the DG is tied to the grid. When this occurs, the power factor should be maintained as close to the limit as practicable. To minimize testing of the swing DG, Note 4 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

INSERT 1 - BASES 3.8.1

SR 3.8.1.13

This Surveillance demonstrates that the diesel engine can restart from a hot condition, such as subsequent to shutdown from normal Surveillances, and achieve the required voltage and frequency within 12 seconds. The 12 second time is derived from the requirements of the accident analysis to respond to a design basis large break LOCA. The 24 month Frequency is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(5). The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.13 (continued)

This SR is modified by three Notes. Note 1 ensures that the test is performed with the diesel sufficiently hot. The requirement that the diesel has operated for at least 2 hours at near full load conditions prior to performance of this Surveillance is based on manufacturer recommendations for achieving hot conditions. Momentary transients due to changing bus loads do not invalidate this test. Note 2 allows all DG starts to be preceded by an engine prelube period to minimize wear and tear on the diesel during testing. To minimize testing of the swing DG, Note 3 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.14

This Surveillance is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(6) and ensures that the manual synchronization and automatic load transfer from the DG to the offsite source can be made and that the DG can be returned to ready-to-load status when offsite power is restored. It also ensures that the auto-start logic is reset to allow the DG to reload if a subsequent loss of offsite power occurs. The DG is considered to be in ready-to-load status when the DG is at rated speed and voltage, the output breaker is open and can receive an auto-close signal on bus undervoltage, and the load sequence timers are reset.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the

INSERT 5 - BASES 3.8.1

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.14 (continued)

normally

Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1, 2, or 3 and the Unit 1 test should not be performed with Unit 1 in MODE 1, 2, or 3.

normally

normally

SR 3.8.1.15

Demonstration of the test mode override ensures that the DG availability under accident conditions is not compromised as the result of testing. Interlocks to the LOCA sensing circuits cause the DG to automatically reset to ready-to-load operation if an ECCS initiation signal is received during operation in the test mode. Ready-to-load operation is defined as the DG running at rated speed and voltage with the DG output breaker open. Although Plant Hatch Unit 2 is not committed to this standard, this SR is consistent with the provisions for automatic switchover required by IEEE-308 (Ref. 12), paragraph 6.2.6(2).

The intent in the requirements associated with SR 3.8.1.15.b is to show that the emergency loading is not affected by the DG operation in test mode. In lieu of actual demonstration of connection and loading of loads, testing that adequately shows the capability of the emergency loads to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the

INSERT 2 - BASES 3.8.1

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.15 (continued)

normally

Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1, 2, or 3 and the Unit 1 test should not be performed with Unit 1 in MODE 1, 2, or 3.

normally

normally

SR 3.8.1.16

Under accident conditions, loads are sequentially connected to the bus by the automatic load sequence timing devices. The sequencing logic controls the permissive and starting signals to motor breakers to prevent overloading of the DGs due to high motor starting currents. The 10% load sequence time interval tolerance ensures that sufficient time exists for the DG to restore frequency and voltage prior to applying the next load and that safety analysis assumptions regarding ESF equipment time delays are not violated. Reference 2 provides a summary of the automatic loading of ESF buses.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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

INSERT 5- BASES 3.8.1

normally

This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1, 2, or 3 and the Unit 1 test should not be performed with Unit 1 in MODE 1, 2, or 3.

normally

normally

(continued)

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.8.1.17

In the event of a DBA coincident with a loss of offsite power, the DGs are required to supply the necessary power to ESF systems so that the fuel, RCS, and containment design limits are not exceeded.

This Surveillance demonstrates DG operation, as discussed in the Bases for SR 3.8.1.9, during a loss of offsite power actuation test signal in conjunction with an ECCS initiation signal. In lieu of actual demonstration of connection and loading of loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified. For the purpose of this testing, the DGs must be started from standby conditions, that is, with the engine coolant and oil being continuously circulated and temperature maintained consistent with manufacturer recommendations.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by two Notes. The reason for Note 1 is to minimize wear and tear on the DGs during testing. The reason for Note 2 is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR. This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the Frequency contained in the Surveillance Frequency Control Program for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1, 2, or 3 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1, 2, or 3 and the Unit 1 test should not be performed with Unit 1 in MODE 1, 2, or 3.

INSERT 2 - BASES 3.8.1

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SR 3.8.1.18

This Surveillance demonstrates that the DG starting independence has not been compromised. Also, this Surveillance demonstrates that each engine can achieve proper speed within the specified time when the DGs are started simultaneously. For the purpose of this testing,

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.4.7 (continued)

The modified performance discharge test is a simulated duty cycle consisting of just two rates: the 1 minute rate published 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 rated 1 minute discharge represent 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 should 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.

A modified performance 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 discharge test.

The reason for Note 2 is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance. The swing DG DC battery is exempted from this restriction, since it is required by both units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

INSERT 1 - BASES 3.8.4

SR 3.8.4.8

A battery performance discharge test is a constant current capacity test to detect any change in the capacity determined by the acceptance test. Initial conditions consistent with IEEE 450 need to be met prior to the performing of a battery performance discharge test. The test results reflect the overall effects of usage and age.

A battery modified performance discharge test is described in the Bases for SR 3.8.4.7. Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.4.8; however, only the modified performance discharge test may be used to satisfy SR 3.8.4.8, while satisfying the requirements of SR 3.8.4.7 at the same time.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.4.8 (continued)

The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 8) and IEEE-485 (Ref. 12). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating. Although there may be ample capacity, the battery rate of deterioration is rapidly increasing.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance. The swing DG DC battery is exempted from this restriction, since it is required by both units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

INSERT 1 - BASES 3.8.4

SR 3.8.4.9

With the exception of this Surveillance, all other Surveillances of this Specification (SR 3.8.4.1 through SR 3.8.4.8) are applied only to the Unit 2 DC sources. This Surveillance is provided to direct that the appropriate Surveillances for the required Unit 1 DC sources are governed by the Unit 1 Technical Specifications. Performance of the applicable Unit 1 Surveillances will satisfy both any Unit 1 requirements, as well as satisfying this Unit 2 SR.

The Frequency required by the applicable Unit 1 SR also governs performance of that SR for both Units.

(continued)

INSERT 1- Bases 3.8.4

This restriction from normally performing the Surveillance in MODE 1, 2, or 3 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, at a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1, 2, or 3. Risk insights or deterministic methods may be used for this assessment.

**Edwin I. Hatch Nuclear Plant
Response to Request for Additional Information on Multiple Technical
Specification Changes**

Enclosure 4

Revised Clean TS Pages

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.4.1.4</p> <hr/> <p style="text-align: center;">NOTE</p> <p>The number of SGT subsystem(s) required for this Surveillance is dependent on the secondary containment configuration, and shall be one less than the number required to meet LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," for the given configuration.</p> <hr/> <p>Verify the secondary containment can be maintained ≥ 0.20 inch of vacuum water gauge for 1 hour using required SGT subsystem(s) at a flow rate ≤ 4000 cfm per subsystem.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.6</p> <p>-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1 or 2. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify automatic and manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.7</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall not normally be performed in MODE 1 or 2, except for the swing DG. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 1 controls. Credit may be taken for unplanned events that satisfy this SR. 2. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and:</p> <ol style="list-style-type: none"> a. Following load rejection, the frequency is ≤ 65.5 Hz; and b. Within 3 seconds following load rejection, the voltage is ≥ 3740 V and ≤ 4580 V. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.8</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall not normally be performed in MODE 1 or 2, except for the swing DG. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 1 controls. Credit may be taken for unplanned events that satisfy this SR. 2. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 3. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG operating at a power factor ≤ 0.88 does not trip and voltage is maintained ≤ 4800 V during and following a load rejection of ≥ 2775 kW.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. Energizes permanently connected loads in ≤ 12 seconds, 2. Energizes auto-connected shutdown loads through automatic load sequence timing devices, 3. Maintains steady state voltage ≥ 3740 V and ≤ 4243 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.10</p> <hr/> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1 or 2. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) Initiation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> a. In ≤ 12 seconds after auto-start achieves voltage ≥ 3740 V, and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V; b. In ≤ 12 seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and c. Operates for ≥ 5 minutes. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11</p> <hr/> <p style="text-align: center;">-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <hr/> <p>Verify each DG's non-critical automatic trips are bypassed on actual or simulated loss of voltage signal on the emergency bus concurrent with an actual or simulated ECCS initiation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. This Surveillance shall not normally be performed in MODE 1 or 2, unless the other two DGs are OPERABLE. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. If either of the other two DGs becomes inoperable, this surveillance shall be suspended. Credit may be taken for unplanned events that satisfy this SR. 3. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 4. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <hr/> <p>Verify each DG operating at a power factor ≤ 0.88 operates for ≥ 24 hours:</p> <ol style="list-style-type: none"> a. For ≥ 2 hours loaded ≥ 3000 kW; and b. For the remaining hours of the test loaded ≥ 2775 kW and ≤ 2825 kW. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.13</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2565 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG starts and achieves, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.14</p> <p>-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify each DG:</p> <ol style="list-style-type: none"> 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.15</p> <p>-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <hr/> <p>Verify with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by:</p> <ul style="list-style-type: none"> a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.16</p> <p>-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <hr/> <p>Verify interval between each sequenced load block is within $\pm 10\%$ of design interval for each load sequence timing device.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.17</p> <hr/> <p style="text-align: center;">NOTES</p> <hr/> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. Energizes permanently connected loads in ≤ 12 seconds, 2. Energizes auto-connected emergency loads through automatic load sequence timing devices, 3. Achieves steady state voltage ≥ 3740 V and ≤ 4243 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.6	Verify each required battery charger supplies ≥ 400 amps for station service subsystems, and ≥ 100 amps for DG subsystems at ≥ 129 V for ≥ 1 hour.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.7	<p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7. This Surveillance shall not normally be performed in MODE 1, 2, or 3, except for the swing DG battery. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR. <p>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.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.8</p> <p style="text-align: center;"><u>NOTE</u></p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3, except for the swing DG battery. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify battery capacity is $\geq 80\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.</p>	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>12 months when battery shows degradation or has reached 85% of expected life with capacity $< 100\%$ of manufacturer's rating</p> <p><u>AND</u></p> <p>24 months when battery has reached 85% of expected life with capacity $\geq 100\%$ of manufacturer's rating</p>
<p>SR 3.8.4.9</p> <p>For required Unit 2 DC sources, the SRs of Unit 2 Specification 3.8.4 are applicable.</p>	<p>In accordance with applicable SRs</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.4.1.4</p> <p>-----NOTE-----</p> <p>The number of SGT subsystem(s) required for this Surveillance is dependent on the secondary containment configuration, and shall be one less than the number required to meet LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," for the given configuration.</p> <p>Verify the secondary containment can be maintained ≥ 0.20 inch of vacuum water gauge for 1 hour using required SGT subsystem(s) at a flow rate ≤ 4000 cfm per subsystem.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.6</p> <p style="text-align: center;">-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1 or 2. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <hr/> <p>Verify automatic and manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.7</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall not normally be performed in MODE 1 or 2, except for the swing DG. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 2 controls. Credit may be taken for unplanned events that satisfy this SR. 2. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <hr/> <p>Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and:</p> <ol style="list-style-type: none"> a. Following load rejection, the frequency is ≤ 65.5 Hz; and b. Within 3 seconds following load rejection, the voltage is ≥ 3740 V and ≤ 4580 V. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.8</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall not normally be performed in MODE 1 or 2, except for the swing DG. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 2 controls. Credit may be taken for unplanned events that satisfy this SR. 2. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 3. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <p>Verify each DG operating at a power factor ≤ 0.88 does not trip and voltage is maintained ≤ 4800 V during and following a load rejection of ≥ 2775 kW.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9</p> <hr/> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, portions of this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load kdding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. Energizes permanently connected loads in ≤ 12 seconds, 2. Energizes auto-connected shutdown loads through automatic load sequence timing devices, 3. Maintains steady state voltage ≥ 3740 V and ≤ 4243 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.10</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1 or 2. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR. <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> a. In ≤ 12 seconds after auto-start achieves voltage ≥ 3740 V, and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V; b. In ≤ 12 seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and c. Operates for ≥ 5 minutes. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11</p> <p>-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>-----</p> <p>Verify each DG's non-critical automatic trips are bypassed on actual or simulated loss of voltage signal on the emergency bus concurrent with an actual or simulated ECCS initiation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. This Surveillance shall not normally be performed in MODE 1 or 2, unless the other two DGs are OPERABLE. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. If either of the other two DGs becomes inoperable, this Surveillance shall be suspended. Credit may be taken for unplanned events that satisfy this SR. 3. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 4. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <hr/> <p>Verify each DG operating at a power factor ≤ 0.88 operates for ≥ 24 hours:</p> <ol style="list-style-type: none"> a. For ≥ 2 hours loaded ≥ 3000 kW; and b. For the remaining hours of the test loaded ≥ 2775 kW and ≤ 2825 kW. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.13</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2565 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. <hr/> <p>Verify each DG starts and achieves, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.14</p> <p style="text-align: center;">-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <hr/> <p>Verify each DG:</p> <ol style="list-style-type: none"> 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.15</p> <p>-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by:</p> <ul style="list-style-type: none"> a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.16</p> <p>-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, this surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify interval between each sequenced load block is within $\pm 10\%$ of design interval for each load sequence timing device.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.17</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR. <hr/> <p>Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. Energizes permanently connected loads in ≤ 12 seconds, 2. Energizes auto-connected emergency loads through automatic load sequence timing devices, 3. Achieves steady state voltage ≥ 3740 V and ≤ 4243 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. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.7	<p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7. 2. This Surveillance shall not normally be performed in MODE 1, 2, or 3, except for the swing DG battery. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR. 	In accordance with the Surveillance Frequency Control Program
	<p>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.</p>	

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.8</p> <p style="text-align: center;">-----NOTE-----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3, except for the swing DG battery. However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify battery capacity is $\geq 80\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.</p>	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>12 months when battery shows degradation or has reached 85% of expected life with capacity $< 100\%$ of manufacturer's rating</p> <p><u>AND</u></p> <p>24 months when battery has reached 85% of expected life with capacity $\geq 100\%$ of manufacturer's rating</p>
<p>SR 3.8.4.9</p> <p>For required Unit 1 DC sources, the SRs of Unit 1 Specification 3.8.4 are applicable.</p>	<p>In accordance with applicable SRs</p>