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Grand Gulf Nuclear Station

GNRO 2005/00016

March 30, 2005

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

SUBJECT: License Amendment Request
Adoption of NRC Approved Generic Changes to the Improved Technical Specifications
Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Operations, Inc. (Entergy) hereby requests the following amendment for Grand Gulf Nuclear Station, Unit 1 (GGNS). The proposed amendment adopts selected changes resulting from the Technical Specification Task Force (TSTF) process. The TSTF process was developed by the industry and the Nuclear Regulatory Commission (NRC) to make generic improvements to the Improved Standard Technical Specifications (ISTS) NUREGs. The current GGNS TS was based upon the BWR/6 ISTS, NUREG-1434, Revision 0, published September 1992. The proposed amendment adopts the following NRC approved TSTF changes that affect the BWR/6 ISTS:

TSTF-046, Clarify the Containment Isolation Valve (CIV) surveillance to apply only to automatic isolation valves;
TSTF-222, Control Rod Scram Time Testing;
TSTF-264, Delete flux monitors specific overlap Surveillance Requirements (SRs);
TSTF-275, Clarify requirements for Diesel Generator (DG) start signal on Reactor Pressure Vessel (RPV) Level – Low, Low, Low during RPV cavity flood-up;
TSTF-276, Revise DG full load rejection test;
TSTF-300, Eliminate DG Loss of Coolant Accident (LOCA) Start Surveillance Requirements (SRs) while in shutdown when no ECCS is required;
TSTF-322, Secondary Containment Integrity SRs;
TSTF-400, Clarify SR on bypass of DG automatic trips;
TSTF-416, SR 3.5.1.2 Notation.

The proposed changes have been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c) and it has been determined that the changes involve no significant hazards considerations. The bases for these determinations are included in the attached submittal.

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The proposed changes include one new commitment.

Entergy requests approval of the proposed amendment by March 1, 2006. Once approved, the amendment shall be implemented within 60 days. Although this request is neither exigent nor emergency, your prompt review is requested.

If you have any questions or require additional information, please contact Ron Byrd at 601-368-5792.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 30, 2005.

Sincerely,

George A. Williams

GAW/RWB/amt

Attachments:
1. Analysis of Proposed Technical Specification Change
2. Proposed Technical Specification Changes (mark-up)
3. Changes to Technical Specification Bases Pages – For Information Only
4. List of Regulatory Commitments

cc: (See Next Page)

cc: U. S. Nuclear Regulatory Commission
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Mr. L. J. Smith (Wise Carter)
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Mr. H. L. Thomas

Attachment 1

GNRO 2005/00016

Analysis of Proposed Technical Specification Change

1.0 DESCRIPTION

This letter is a request to amend Operating License NPF-29 for Grand Gulf Nuclear Station, Unit 1 (GGNS).

The proposed changes will revise the Technical Specifications by incorporating nine Technical Specification Task Force (TSTF) Travelers that have been generically approved by the NRC.

2.0 PROPOSED CHANGE

The following are the NRC approved generic changes which are requested for incorporation into the GGNS TS:

TSTF No.	Description	LCO/SR Affected	TS Pages	Type of Change
046 Rev.1	Clarify the Containment Isolation Valve (CIV) surveillance to apply only to automatic isolation valves	SR 3.6.1.3.4 SR 3.6.4.2.2 SR 3.6.5.3.3	3.6-15 3.6-48 3.6-61	Administrative
222 Rev.1	Control Rod Scram Time Testing	SR 3.1.4.1 SR 3.1.4.4	3.1-13 3.1-14	Administrative
264 Rev.0	Delete flux monitors specific overlap Surveillance Requirements (SRs)	SR 3.3.1.1.5 SR 3.3.1.1.6 Table 3.3.1.1-1	3.3-4 3.3-4 3.3-6	Less Restrictive
275 Rev.0	Clarify requirements for Diesel Generator (DG) start signal on Reactor Pressure Vessel (RPV) level - low, low, low during RPV cavity flood-up	Table 3.3.5.1-1, Footnote (a)	3.3-39 3.3-40 3.3-41	Administrative
276 Rev.2	Revise DG full load rejection test	SR 3.8.1.9 SR 3.8.1.10 SR 3.8.1.14	3.8-7 3.8-8 3.8-12	Less Restrictive
300 Rev.0	Eliminate DG LOCA-Start SRs while in shutdown when no ECCS is required	SR 3.8.2.1	3.8-21	Less Restrictive
322 Rev.2	Secondary Containment Integrity SRs	SR 3.6.4.1.3 SR 3.6.4.1.4	3.6-44 3.6-44	Administrative
400 Rev.1	Clarification of SR on bypass of DG automatic trips	SR 3.8.1.13	3.8-11	Administrative

416 Rev.0	SR 3.5.1.2 Notation	LCO 3.5.1	3.5-1	Administrative
		SR 3.5.1.2	3.5-4	
		LCO 3.5.2	3.5-6	
		SR 3.5.2.4	3.5-8	

Each of the above requested changes is discussed in additional detail in the following sections. The discussions include a comparison of the GGNS requested changes to each TSTF and a justification for the change.

In summary, Entergy requests changes to the GGNS TS that have been approved generically by the NRC through the TSTF process.

Corresponding changes to the TS Bases consistent with the above TSTF Travelers are provided in Attachment 3 for your information. Entergy will implement the TS Bases changes in accordance with the GGNS Bases Control Program, TS 5.5.11.

3.0 BACKGROUND

The current GGNS TS was based upon the BWR/6 Improved Standard Technical Specifications (ISTS), NUREG-1434, Revision 0, published September 1992. GGNS converted to the ISTS by Amendment 120, dated February 21, 1995. The proposed changes listed above are changes to the ISTS that the Nuclear Regulatory Commission (NRC) has approved through the TSTF process developed by the industry and the NRC. The latest approved revisions of the TSTFs were used for the requested changes.

Although generically approved by the NRC, these TSTFs have not been prepared and noticed using the Consolidated Line Item Improvement Process (CLIIP) described in NRC Regulatory Issue Summary 2000-06, "Consolidated Line Item Improvement Process for Adopting Standard Technical Specifications Changes for Power Reactors." However, Nuclear Reactor Regulation (NRR) Office Instruction LIC-101, Rev. 3, "License Amendment Review Procedures," addresses the NRC review process for a license amendment request involving a TSTF that does not use the CLIIP. LIC-101 states:

> Some generic changes approved through the TSTF process have not been prepared and noticed as available for adoption using the CLIIP. Most of these changes were approved before the CLIIP was developed. In order to gain the efficiencies envisioned for the TSTF process, work planning associated with plant-specific adoption of TSTF changes not processed using CLIIP should focus on the TS Section in DIPM/IROB (i.e., reviews and concurrences from the TS Section will usually suffice since the needed technical agreement was reached during the TSTF review). The TS Section will determine if there is a need for additional technical support for a particular plant-specific request for an approved TSTF.

Entergy previously requested approval to incorporate 17 generically approved TSTFs into the GGNS TS by letter dated August 20, 1999. The NRC approved that request by issuance of Amendment 142 to the GGNS TS. This request is to incorporate selected TSTFs that have been approved since that time.

4.0 TECHNICAL ANALYSIS

Entergy proposes to change the Grand Gulf Technical Specifications (TS) to incorporate nine NRC approved TSTF Travelers that affect the BWR/6 ISTS. The NRC has determined that licensees may revise the TS to adopt current ISTS format and content provided that plant specific review supports a finding of continued adequate safety because: (1) the change is editorial, administrative or provides clarification (i.e., no requirements are materially altered), (2) the change is more restrictive than the licensee's current requirement, or (3) the change is less restrictive than licensee's current requirement, but nonetheless still affords adequate assurance of safety when judged against regulatory standards.

TSTF-46, TSTF–222, TSTF–275, TSTF–322, TSTF-400 and TSTF-416 are considered administrative changes because the proposed modification of the TS wording does not materially alter the original intent of the current requirements. TSTF-264, TSTF-276, and TSTF-300 modify certain Surveillance Requirements to be less restrictive. However, these less restrictive requirements still afford adequate assurance of safety when judged against regulatory standards.

For each of the changes proposed, the following is provided: the associated TSTF number, a description of the specific changes requested, a comparison between the GGNS requested change and the TSTF, and a justification for the change (based upon the justification for the TSTF).

TSTF - 046: Clarify the Containment Isolation Valve (CIV) surveillance to apply only to automatic isolation valves.

a) Description of Requested Change

SR 3.6.1.3.4, SR 3.6.4.2.2, and SR 3.6.5.3.3 are revised to clarify that isolation valve time testing only applies to automatic isolation valves. The wording, "each power operated and each automatic" is replaced with, "each power operated, automatic." The proposed change is administrative in nature. It does not materially alter the original intent of the requirements.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF.

c) Justification

The Bases for these SRs state that the isolation time tests ensure that the valves will isolate in a time period less than or equal to that assumed in the safety analyses. There may be valves credited as containment isolation valves which are power operated (i.e., can be remotely operated) that do not receive a containment isolation signal (e.g., a General Design Criterion 57 penetration). These power operated valves do not have an isolation time assumed in the accident analyses since they require operator action. Therefore, deleting references to power operated isolation valve time testing reduces the potential for misinterpreting the requirements of the SR while maintaining the assumptions of the safety analysis.

TSTF – 222: Control Rod Scram Time Testing

a) Description of Requested Change

SR 3.1.4.1 and SR 3.1.4.4 are revised to clarify that post-refueling control rod scram time testing only applies to control rods affected by movement of fuel. The proposed change is administrative in nature. It does not materially alter the original intent of the requirements.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF.

c) Justification

The current words of SR 3.1.4.1 require each control rod to be tested if any fuel movement in the reactor pressure vessel occurs. A literal interpretation of the SR might conclude that even if only one bundle in the reactor core is moved (e.g., replacing a leaking fuel bundle mid-cycle), all of the control rods in the reactor core are required to be tested. This is not the intent of this requirement. However, confusion is introduced by the fact that this SR does not specify "affected" control rods as some other SRs do. A generic change to the ISTS (NUREG - 1434) Bases previously attempted to clarify that the intent of the SR was for only those rods within the affected core cell to be tested. The ISTS Bases for SR 3.1.4.1 was revised in Revision 1 to read:

> "In the event fuel movement is limited to selected core cells, it is the intent of this SR that only those CRDs associated with the core cells affected by the fuel movements are required to be scram time tested. However, if the reactor remains shutdown 120 days, all control rods are required to be scram time tested."

The GGNS TS Bases do not contain the ISTS Revision 1 words and the Bases changes alone may not ensure consistent application of the SR. Therefore, GGNS prefers to correct the TS in accordance with this TSTF to ensure consistent application. The proposed change moves the first frequency of SR 3.1.4.1 to SR 3.1.4.4 and modifies it to read "associated core cell" rather than "reactor pressure vessel." This is consistent with the intent of the SRs.

TSTF – 264: Delete flux monitors specific overlap Surveillance Requirements (SRs)

a) Description of Requested Change

SR 3.3.1.1.5 and SR 3.3.1.1.6 are being deleted. However, the surveillance will still be performed by the associated CHANNEL CHECK. The SRs require verification of overlap of Source Range Monitor (SRM) and Intermediate Range Monitor (IRM) channels and verification of overlap of IRM and Average Power Range Monitor (APRM) channels. A statement will be added to the TS Bases to

clarify that the overlap verification is to be performed as part of the CHANNEL CHECK, SR 3.3.1.1.1. This change is considered to be less restrictive than current requirements.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF. The generic definition of overlap used in the NUREG-1434 Bases is slightly different than the plant specific definition approved for GGNS. The GGNS approved definition of overlap is retained as it is in the current TS Bases.

c) Justification

SR 3.3.1.1.5 and SR 3.3.1.1.6 are unnecessary in that they duplicate requirements of the CHANNEL CHECK required by SR 3.3.1.1.1. Failure of the SR requires that the SRM or IRM be considered inoperable even when they are calibrated and fully OPERABLE in every other way (i.e., capable of performing their safety function). This is true even if it is clear that the overlap does not exist due to failure of the other flux monitors (i.e., IRMs or APRMs) since SR 3.0.1 says that failure to meet the SR is failure to meet the LCO and the SR requires overlap.

The CHANNEL CHECK also provides the overlap requirement since a lack of expected overlap would constitute failure of the channel to meet the established "agreement criterion." However, the "agreement criterion" can be established to provide this appropriate requirement with the appropriate flexibility to determine the inoperable components and initiate appropriate actions. Therefore, the proposed change still affords adequate assurance of safety when judged against current regulatory standards.

TSTF – 275: Clarify requirements for Diesel Generator (DG) start signal on RPV level - low, low, low during RPV cavity flood-up.

a) Description of Requested Change

Words are added to Note (a) of Table 3.3.5.1-1 (on pages 1, 2, and 3 of 5) to clarify that the applicable functions are only required to be OPERABLE when the associated ECCS is required to be OPERABLE per LCO 3.5.2. The proposed change is administrative in nature. It does not materially alter the original intent of the requirements.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF.

c) Justification

The proposed change clarifies which, if any, Emergency Core Cooling System (ECCS) instrumentation is required to be OPERABLE in MODE 4, Cold Shutdown, and in MODE 5, Refueling. According to TS LCO 3.5.2, only two ECCS systems are required to be OPERABLE in MODE 4 and in certain MODE 5 conditions. No ECCS systems are required in MODE 5 when the upper containment pool gates are removed and the reactor cavity is flooded. However, Table 3.3.5.1-1 footnote (a) and footnote (b) could be misinterpreted to require ECCS instrumentation to be OPERABLE to support the DGs even though the associated ECCS system may not be required to be OPERABLE. The ECCS start functions of the DGs serve no safety significant support function during conditions when the ECCS systems are not required to be OPERABLE. The change to footnote (a) provides clarification to ensure that the the ECCS instrumentation requirements are correctly and consistently applied.

TSTF - 276: Revise DG full load rejection test

a) Description of Requested Change

A note to SR 3.8.1.9 (DG single-load rejection test), SR 3.8.1.10 (DG full-load rejection test), and SR 3.8.1.14 (DG 24-hour endurance test) requires the Surveillances to be performed at a power factor ≤ 0.9. The note is revised to allow the DG Surveillances to be performed at a power factor as close as practicable to 0.9 if grid conditions prevent meeting the limit of 0.9. The proposed change is less restrictive than current TS requirements.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF.

c) Justification

When the DG is synchronized to the grid, a power factor of ≤ 0.9 is representative of the inductive loading a DG would experience under design basis accident conditions. Therefore a power factor of ≤ 0.9 is desired when performing these Surveillances. However, under certain grid conditions, this power factor may not be achievable. When grid voltage is high, the additional field excitation needed to get the power factor ≤ 0.9 could result in excess voltages on the emergency busses or voltages in excess of DG recommendations. Under such circumstances, the change allows the Surveillances to be performed at a power factor as close as practicable to 0.9. The change adds detail and is intended to improve clarity and ensure requirements are fully understood and consistently applied. This change does not significantly affect the ability of these Surveillances to verify that the DG is capable of performing its safety function. Therefore, the proposed change still affords adequate assurance of safety when judged against current regulatory standards.

TSTF - 300: Elimination of DG LOCA-Start SRs while in shutdown when no ECCS is required

a) Description of Requested Change

SR 3.8.2.1 lists the Surveillances that are applicable to the AC sources during shutdown. Listed among the applicable Surveillances are SR 3.8.1.12, verification of DG auto-start capability on an ECCS initiation signal, and SR 3.8.1.19, verification of load shedding and DG auto-start on a loss of offsite power signal in conjunction with an ECCS initiation signal. The proposed change adds a note to SR 3.8.2.1 to exclude these SRs when the associated ECCS subsystem(s) are not required to be OPERABLE per LCO 3.5.2, "ECCS – Shutdown." The proposed change is similar to TSTF-275, but more than just a clarification. The change is therefore considered less restrictive than current TS requirements.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF.

c) Justification

According to TS LCO 3.5.2, only two ECCS systems are required to be OPERABLE in MODE 4 and in certain MODE 5 conditions. No ECCS systems are required in MODE 5 when the upper containment pool gates are removed and the reactor cavity is flooded. In such conditions when the ECCS systems are not required to be OPERABLE, the ECCS start functions of the DGs serve no safety significant support function. As such, the SRs that verify the DG capability to respond to an ECCS start signal may be removed from DG OPERABILITY considerations at these times when the ECCS systems are not required to be OPERABLE. Therefore, the proposed change still affords adequate assurance of safety when judged against current regulatory standards.

TSTF – 322: Secondary Containment Integrity SRs

a) Description of Requested Change

The Secondary Containment boundary integrity SRs (SR 3.6.4.1.3 and SR 3.6.4.1.4) are modified to clarify their intent. The proposed change is administrative in nature. It does not materially alter the original intent of the requirements.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF.

c) Justification

The SRs are being rephrased to ensure that a misinterpretation does not occur. The primary purpose of the Secondary Containment boundary SRs is to ensure that the leak tightness of the boundary is within the assumptions of the accident analyses. However, they are written in such a manner that they imply that if a Standby Gas Treatment (SGT) subsystem is inoperable, the SRs are failed. This is not the intent. There is a separate LCO with Surveillance Requirements which serve the primary purpose of ensuring OPERABILITY of the SGT subsystem. The proposed wording changes clarify that an inoperable SGT subsystem does not necessarily constitute a failure of the Secondary Containment boundary SRs. The SGT subsystem used for these Surveillances is staggered to ensure that either SGT subsystem can perform the test. Ensuring that the SGT functions as designed is a secondary purpose of the SR. The SRs will still ensure that each SGT subsystem is used to perform the tests. The proposed changes more clearly convey the original intent of the SRs.

TSTF - 400: Clarification of SR on bypass of DG automatic trips

a) Description of Requested Change

SR 3.8.1.13 is revised to make the purpose of Surveillance clear. The current SR and associated Bases incorrectly imply that two tests are required: 1) verification that DG non-critical trips are bypassed and 2) verification that DG critical trips are not bypassed. The proposed changes make it clear that SR 3.8.1.13 is for verification that the non-critical automatic trips are bypassed on an actual or simulated ECCS initiation signal. The NRC SE for this TSTF (Reference 6) concluded that this change was acceptable because it was editorial and did not materially alter the requirements of the ISTS.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF.

c) Justification

The proposed change clarifies which functions the SR is intended to verify. Branch Technical Position ICSB-17, "Diesel Generator Protective Trip Circuit Bypasses," was replaced by positions established in Regulatory Guide (RG) 1.9, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class 1E Onsite Electrical Power Systems at Nuclear Power Plants." Section 2.2.12 of RG 1.9 only requires verification that the non-critical trips (e.g., jacket water temperature high, engine bearing temperature high) are bypassed and does not require verification that the critical trips (e.g., engine over speed, generator differential current) are not bypassed. This test is intended to verify that the bypass function is OPERABLE so that a spurious actuation of a non-critical trip does not trip the DG during an emergency. Testing to verify that critical DG trips are not bypassed is not required to satisfy the requirements of 10 CFR 50.36(c)(3).

TSTF – 416: SR 3.5.1.2 Notation

a) Description of Requested Change

SR 3.5.1.2 and SR 3.5.2.4, the verification of proper valve alignment Surveillance Requirements, have a Note that allows the LPCI subsystems to be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned and not otherwise inoperable. The Note to SR 3.5.1.2 also has a restriction that the Note is only applicable with the reactor steam dome pressure less than the residual heat removal cut-in permissive in MODE 3. The Note to SR 3.5.1.2 is being moved to LCO 3.5.1 and the Note to SR 3.5.2.4 is being moved to LCO 3.5.2. The proposed change is administrative in nature. It does not materially alter the original intent of the requirements.

b) Comparison to TSTF

The GGNS proposed changes are consistent with the TSTF.

c) Justification

The LCO Bases for LCO 3.5.1 and 3.5.2 are clear that a LPCI subsystem is considered OPERABLE during alignment or during operation for decay heat removal. Because similar notes are not placed above other SRs, specifically for the automatic actuation tests and the ECCS response time tests, it could be misinterpreted that the LPCI subsystem would have to be declared inoperable due to a failure to meet the other Surveillance Requirements. Moving the Notes to the LCO ensures that the Notes are consistently applied to the other Surveillance Requirements consistent with the original intent.

5.0 REGULATORY ANALYSIS

5.1 Applicable Regulatory Requirements/Criteria

The proposed changes have been evaluated to determine whether applicable regulations and requirements continue to be met.

Entergy has determined that the proposed changes do not require any exemptions or relief from regulatory requirements, other than the TS, and do not affect conformance with any General Design Criterion (GDC) differently than described in the Updated Final Safety Analysis Report (UFSAR). It is noted that Regulatory Guide 1.9, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class 1E Onsite Electrical Power Systems at Nuclear Power Plants," Rev. 3, establishes the maximum power factor limit of 0.9 for certain tests. The application of TSTF-276 will allow these tests to be performed slightly greater than the maximum limit of 0.9 in certain circumstances. However, this deviation is expected to be rare and does not significantly affect the ability of these Surveillances to verify that the DG is capable of performing its safety function.

10 CFR 50.36 (C)(3) requires the TS to include Surveillance Requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. The GGNS TS Surveillance Requirements will continue to provide this assurance with the proposed adoption of the NRC approved TSTF changes.

5.2 No Significant Hazards Consideration

Entergy proposes to change the Grand Gulf Technical Specifications (TS) to incorporate nine NRC approved TSTF Travelers that affect the BWR/6 Improved Standard Technical Specifications (ISTS). The NRC has determined that licensees may revise the TS to adopt current ISTS format and content provided that plant specific review supports a finding of continued adequate safety because: (1) the change is editorial, administrative or provides clarification (i.e., no requirements are materially altered), (2) the change is more restrictive than the licensee's current requirement, or (3) the change is less restrictive than licensee's current requirement, but nonetheless still affords adequate assurance of safety when judged against regulatory standards.

TSTF-46, TSTF–222, TSTF–275, TSTF–322, TSTF-400 and TSTF–416 are considered administrative changes because the proposed modification of the TS wording does not materially alter the original intent of the current requirements. TSTF-264, TSTF-276, and TSTF-300 modify certain Surveillance Requirements (SRs) to be less restrictive. However, the SRs continue to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. Therefore, the proposed less restrictive changes still afford adequate assurance of safety when judged against current regulatory standards.

Entergy Operations, Inc. has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed changes to the TS involve both administrative and less restrictive changes. The administrative changes involve wording changes that clarify requirements without changing the original intent. As such, these types of changes do not affect initiators of analyzed events and do not affect the mitigation of any accidents or transients.

   The less restrictive changes involve modifications to Surveillance Requirements. The modified Surveillance Requirements do not cause the plant to be operated in a new or different manner and the required equipment continues to be tested in a manner and at a frequency necessary to provide confidence that the equipment can perform its intended safety function. Consequently, no initiators to accidents previously evaluated are affected and no mitigating equipment assumed in accidents previously evaluated is adversely affected.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   The proposed changes do not involve a physical alteration of the plant (no new or different type of equipment will be installed), do not change the design function of any equipment, and do not change the methods of normal plant operation. Accordingly, the proposed changes do not create any new credible failure mechanisms, malfunctions, or accident initiators not previously considered in the GGNS design and licensing basis.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

   The proposed changes have no affect on any safety analysis assumptions or methods of performing safety analyses. The changes do not adversely affect system OPERABILITY or design requirements and the equipment continues to be tested in a manner and at a frequency necessary to provide confidence that the equipment can perform its intended safety functions. 10 CFR 50.36 (C)(3) requires the TS to include Surveillance Requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. The GGNS TS Surveillance Requirements will continue to provide this assurance with the proposed adoption of the NRC approved TSTF changes.

   Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, Entergy concludes that the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.3 Environmental Considerations

The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR

51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 PRECEDENCE

The NRC has generically approved the requested TSTFs either by the letters referenced below or by incorporation into the latest edition of NUREG-1434, "Standard Technical Specifications, General Electric Plants, BWR/6." The process for NRC review of license amendment requests involving generically approved TSTFs is discussed in Nuclear Reactor Regulation (NRR) Office Instruction LIC-101, Rev. 3, "License Amendment Review Procedures."

Entergy previously requested approval to incorporate 17 generically approved TSTFs into the GGNS TS by letter dated August 20, 1999. The NRC approved that request by issuance of Amendment 142 to the GGNS TS. This request is to incorporate selected TSTFs that have been approved since that time.

7.0 REFERENCES

1. Letter from Mr. William D. Beckner, USNRC, to Mr. James Davis, NEI, dated May 12, 1999 (NRC approval of TSTF-222).
2. Letter from Mr. William D. Beckner, USNRC, to Mr. James Davis, NEI, dated July 26, 1999 (NRC approval of TSTF-264).
3. Letter from Mr. William D. Beckner, USNRC, to Mr. James Davis, NEI, dated December 31, 1999 (NRC approval of TSTF-275).
4. Letter from Mr. William D. Beckner, USNRC, to Mr. James Davis, NEI, dated April 21,1999 (NRC approval of TSTF-300).
5. Letter from Mr. William D. Beckner, USNRC, to Mr. James Davis, NEI, dated February 16, 2000 (NRC approval of TSTF-322).
6. Letter from Mr. Thomas H. Boyce, USNRC, to Technical Specification Task Force, dated November 13, 2004 (NRC approval of TSTF-400).
7. Letter from Mr. William D. Beckner, USNRC, to Mr. Anthony R. Pietrangelo, NEI, dated August 12, 2002 (NRC approval of TSTF-416).

Attachment 2

GNRO 2005/00016

Proposed Technical Specification Changes (mark-up)

SURVEILLANCE REQUIREMENTS

----------NOTE----------
During single control rod scram time Surveillances, the control rod drive (CRD) pumps shall be isolated from the associated scram accumulator.

SURVEILLANCE		FREQUENCY
SR 3.1.4.1	Verify each control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 950 psig.	~~Prior to exceeding 40% RTP after fuel movement within the reactor pressure vessel~~ ~~AND~~ Prior to exceeding 40% RTP after each reactor shutdown ≥ 120 days
SR 3.1.4.2	Verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 950 psig.	200 days cumulative operation in MODE 1
SR 3.1.4.3	Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with any reactor steam dome pressure.	Prior to declaring control rod OPERABLE after work on control rod or CRD System that could affect scram time

(continued)

⟨TSTF-222⟩

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.4.4	Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 950 psig.	Prior to exceeding 40% RTP after work on control rod or CRD System that could affect scram time

Prior to exceeding 40% RTP after fuel movement within the affected core cell

AND

<TSTF-222>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.5	~~Verify the source range monitor (SRM) and intermediate range monitor (IRM) channels overlap.~~ Deleted	~~Prior to withdrawing SRMs from the fully inserted position~~
SR 3.3.1.1.6 Deleted	~~NOTE Only required to be met during entry into MODE 2 from MODE 1.~~ ~~Verify the IRM and APRM channels overlap.~~	~~7 days~~
SR 3.3.1.1.7	Calibrate the local power range monitors.	1000 MWD/T average core exposure
SR 3.3.1.1.8	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.1.1.9	Calibrate the trip units.	92 days

(continued)

<TSTF-264>

Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux – High	2	3	H	SR 3.3.1.1.1 SR 3.3.1.1.3 ~~SR 3.3.1.1.5~~ ~~SR 3.3.1.1.6~~ SR 3.3.1.1.12 SR 3.3.1.1.13	≤ 122/125 divisions of full scale
	5[a]	3	I	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.12 SR 3.3.1.1.13	≤ 122/125 divisions of full scale
b. Inop	2	3	H	SR 3.3.1.1.3 SR 3.3.1.1.13	NA
	5[a]	3	I	SR 3.3.1.1.4 SR 3.3.1.1.13	NA
2. Average Power Range Monitors					
a. Neutron Flux – High, Setdown	2	3	H	SR 3.3.1.1.1 SR 3.3.1.1.3 ~~SR 3.3.1.1.6~~ SR 3.3.1.1.7 SR 3.3.1.1.10 SR 3.3.1.1.13	≤ 20% RTP
b. Fixed Neutron Flux – High	1	3	G	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 120% RTP
c. Inop	1,2	3	H	SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.13	NA
d. Flow Biased Simulated Thermal Power - High	1	3	G	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	(b)

(continued)

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.
(b) Allowable Values specified in the COLR. Allowable Value modification required by the COLR due to reductions in feedwater temperature may be delayed for up to 12 hours.

<TSTF-264>

Table 3.3.5.1-1 (page 1 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Low Pressure Coolant Injection-A (LPCI) and Low Pressure Core Spray (LPCS) Subsystems					
a. Reactor Vessel Water Level – Low Low Low, Level 1	1,2,3, 4(a),5(a)	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -152.5 inches
b. Drywell Pressure – High	1,2,3	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 1.44 psig
c. LPCI Pump A Start – Time Delay Relay	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 5.25 seconds
d. Reactor Vessel Pressure – Low (Injection Permissive)	1,2,3	3	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 452 psig and ≤ 534 psig
	4(a),5(a)	3	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 452 psig and ≤ 534 psig
e. LPCS Pump Discharge Flow – Low (Bypass)	1,2,3, 4(a),5(a)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1285 gpm
f. LPCI Pump A Discharge Flow – Low (Bypass)	1,2,3, 4(a),5(a)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1133 gpm
g. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.6	NA

(continued)

ECCS

(a) When associated subsystem(s) are required to be OPERABLE per LCO 3.5.2, ECCS-Shutdown.

(b) Also required to initiate the associated diesel generator.

<TSTF-275>

Table 3.3.5.1-1 (page 2 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI B and LPCI C Subsystems					
a. Reactor Vessel Water Level – Low Low Low, Level 1	1,2,3, 4(a),5(a)	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -152.5 inches
b. Drywell Pressure – High	1,2,3	2(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 1.44 psig
c. LPCI Pump B Start – Time Delay Relay	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 5.25 seconds
d. Reactor Vessel Pressure – Low (Injection Permissive)	1,2,3	3	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 452 psig and ≤ 534 psig
	4(a),5(a)	3	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 452 psig and ≤ 534 psig
e. LPCI Pump B and LPCI Pump C Discharge Flow – Low (Bypass)	1,2,3, 4(a),5(a)	1 per pump	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1133 gpm
f. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.6	NA

(continued)

ECCS

(a) When associated subsystem(s) are required to be OPERABLE per LCO 3.5.2, ECCS-Shutdown.

(b) Also required to initiate the associated diesel generator.

<TSTF-275>

Table 3.3.5.1-1 (page 3 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Core Spray (HPCS) System					
a. Reactor Vessel Water Level – Low Low, Level 2	1,2,3, 4(a),5(a)	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -43.8 inches
b. Drywell Pressure – High	1,2,3	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 1.44 psig
c. Reactor Vessel Water Level – High, Level 8	1,2,3, 4(a),5(a)	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 55.7 inches
d. Condensate Storage Tank Level – Low	1,2,3, 4(c),5(c)	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -3 inches
e. Suppression Pool Water Level – High	1,2,3	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 7.0 inches
f. HPCS Pump Discharge Pressure – High (Bypass)	1,2,3, 4(a),5(a)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 108 psig and ≤ 1282 psig
g. HPCS System Flow Rate – Low (Bypass)	1,2,3, 4(a),5(a)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1124 gpm and ≤ 1327 gpm
h. Manual Initiation	1,2,3, 4(a),5(a)	1	C	SR 3.3.5.1.6	NA

(continued)

ECCS

(a) When associated subsystem(s) are required to be OPERABLE. Per LCO 3.5.2, ECCS-Shutdown.

(b) Also required to initiate the associated diesel generator.

(c) When HPCS is OPERABLE for compliance with LCO 3.5.2, "ECCS – Shutdown," and aligned to the condensate storage tank while tank water level is not within the limit of SR 3.5.2.2.

<TSTF-275>

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.1 ECCS—Operating

LCO 3.5.1 Each ECCS injection/spray subsystem and the Automatic Depressurization System (ADS) function of eight safety/relief valves shall be OPERABLE.

Insert NOTE from SR 3.5.1.2

APPLICABILITY: MODE 1,
MODES 2 and 3, except ADS valves are not required to be OPERABLE with reactor steam dome pressure ≤ 150 psig.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One low pressure ECCS injection/spray subsystem inoperable.	A.1 Restore low pressure ECCS injection/spray subsystem to OPERABLE status.	7 days
B. High Pressure Core Spray (HPCS) System inoperable.	B.1 Verify by administrative means RCIC System is OPERABLE when RCIC is required to be OPERABLE.	1 hour
	AND	
	B.2 Restore HPCS System to OPERABLE status.	14 days

(continued)

TSTF-416

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.1.1	Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	31 days
SR 3.5.1.2	----------NOTE---------- Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the residual heat removal cut in permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable. ---------- Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.5.1.3	Verify ADS accumulator supply pressure is ≥ 150 psig.	31 days
SR 3.5.1.4	Verify each ECCS pump develops the specified flow rate with the specified total developed head. SYSTEM / FLOW RATE / TOTAL DEVELOPED HEAD LPCS: ≥ 7115 gpm, ≥ 290 psid LPCI: ≥ 7450 gpm, ≥ 125 psid HPCS: ≥ 7115 gpm, ≥ 445 psid	In accordance with the Inservice Testing Program

Move NOTE to LCO 3.5.1

(continued)

<TSTF-416>

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.2 ECCS—Shutdown

LCO 3.5.2 Two ECCS injection/spray subsystems shall be OPERABLE.

<Insert NOTE from SR 3.5.2.4>

APPLICABILITY: MODE 4,
MODE 5 except with the upper containment reactor cavity and transfer canal gates removed and water level ≥ 22 ft 8 inches over the top of the reactor pressure vessel flange.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One required ECCS injection/spray subsystem inoperable.	A.1	Restore required ECCS injection/spray subsystem to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1	Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).	Immediately
C. Two required ECCS injection/spray subsystems inoperable.	C.1	Initiate action to suspend OPDRVs.	Immediately
	AND		
	C.2	Restore one ECCS injection/spray subsystem to OPERABLE status.	4 hours

(continued)

<TSTF-416>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	Verify, for the required High Pressure Core Spray (HPCS) System, the: a. Suppression pool water level is ≥ 12 ft 8 inches; or b. Condensate storage tank water level is ≥ 18 ft.	12 hours
SR 3.5.2.3	Verify, for each required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	31 days
SR 3.5.2.4	----------NOTE---------- One low pressure coolant injection (LPCI) subsystem may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned and not otherwise inoperable. ---------- Verify each required ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days

Move NOTE to LCO 3.5.2

(continued)

TSTF-416

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.3	----------NOTES---------- 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for PCIVs that are open under administrative controls. ---------- Verify each primary containment isolation manual valve and blind flange that is located inside primary containment, drywell, or steam tunnel and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.	Prior to entering MODE 2 or 3 from MODE 4, if not performed within the previous 92 days
SR 3.6.1.3.4	Verify the isolation time of each power operated ~~and each~~ automatic PCIV, except MSIVs, is within limits.	In accordance with the Inservice Testing Program

(continued)

<TSTF-46>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.3	~~Verify each standby gas treatment (SGT) subsystem will draw down the secondary containment to ≥ 0.25 inch of vacuum water gauge in ≤ 180 seconds.~~	18 months on a STAGGERED TEST BASIS for each SGT subsystem
SR 3.6.4.1.4	~~Verify each SGT subsystem can maintain ≥ 0.266 inch of vacuum water gauge in the secondary containment for 1 hour at a flow rate ≤ 4000 cfm.~~	18 months on a STAGGERED TEST BASIS for each SGT subsystem

Verify the secondary containment can be drawn down to ≥ 0.25 inch of vacuum water gauge in ≤ 180 seconds using one standby gas treatment (SGT) subsystem.

Verify the secondary containment can be maintained ≥ 0.266 inch of vacuum water gauge for 1 hour using one SGT subsystem at a flow rate ≤ 4000 cfm

<TSTF-322>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.2.1	----------NOTES---------- 1. Valves, dampers, rupture disks, and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for SCIVs that are open under administrative controls. ---------- Verify each secondary containment isolation manual valve, damper, rupture disk, and blind flange that is required to be closed during accident conditions is closed.	31 days
SR 3.6.4.2.2	Verify the isolation time of each power operated, ~~and each~~ automatic SCIV is within limits.	In accordance with the Inservice Testing Program
SR 3.6.4.2.3	Verify each automatic SCIV actuates to the isolation position on an actual or simulated automatic isolation signal.	18 months

<TSTF-46>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.5.3.3	Verify the isolation time of each power operated, ~~and each~~ automatic drywell isolation valve is within limits.	In accordance with the Inservice Testing Program
SR 3.6.5.3.4	Verify each automatic drywell isolation valve actuates to the isolation position on an actual or simulated isolation signal.	18 months

⟨TSTF-46⟩

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.8	----------NOTE---------- This Surveillance shall not be performed in MODE 1 and 2. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify manual transfer of unit power supply from the normal offsite circuit to required alternate offsite circuit.	18 months
SR 3.8.1.9	----------NOTES---------- 1. Credit may be taken for unplanned events that satisfy this SR. ~~2. If performed with DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.9.~~ ---------- Verify each DG rejects a load greater than or equal to its associated single largest post accident load and engine speed is maintained less than nominal plus 75% of the difference between nominal speed and the overspeed setpoint or 15% above nominal, whichever is lower.	18 months

(continued)

2. If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.9. However, 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.

<TSTF-276>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.10 ----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG operating at a power factor ≤ 0.9 does not trip and voltage is maintained ≤ 5000 V during and following a load rejection of a load ≥ 5450 kW and ≤ 5740 kW for DG 11 and DG 12 and ≥ 3300 kW for DG 13..	18 months

(continued)

1.

2. If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.9. However, 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.

<TSTF-276>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.13	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG's non-critical automatic trips are bypassed on an actual or simulated ECCS initiation signal, ~~except:~~ ~~a. Engine overspeed;~~ ~~b. Generator differential current; and~~ ~~c. Low lube oil pressure for DG 11 and DG 12.~~	18 months

(continued)

<TSTF-400>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.14	----------NOTES---------- 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each DG operating at a power factor ≤ 0.9 operates for ≥ 24 hours: a. For DG 11 and DG 12 loaded ≥ 5450 kW and ≤ 5740 kW; and b. For DG 13: 1. For ≥ 2 hours loaded ≥ 3630 kW, and 2. For the remaining hours of the test loaded ≥ 3300 kW.	18 months

(continued)

3. If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.9. However, 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.

<TSTF-276>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.2.1	----------NOTE---------- (S) 1. The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, SR 3.8.1.13 through SR 3.8.1.16, SR 3.8.1.18, and SR 3.8.1.19. ---------- For AC sources required to be OPERABLE, the following SRs are applicable: SR 3.8.1.1 SR 3.8.1.7 SR 3.8.1.14 SR 3.8.1.2 SR 3.8.1.9 SR 3.8.1.15 SR 3.8.1.3 SR 3.8.1.10 SR 3.8.1.16 SR 3.8.1.4 SR 3.8.1.11 SR 3.8.1.18 SR 3.8.1.5 SR 3.8.1.12 SR 3.8.1.19 SR 3.8.1.6 SR 3.8.1.13	In accordance with applicable SRs

2. SR 3.8.1.12 and SR 3.8.1.19 are not required to be met when the associated ECCS subsystem(s) are not required to be OPERABLE per LCO 3.5.2, "ECCS - Shutdown."

<TSTF - 300>

Attachment 3

GNRO-2005/00016

Changes to Technical Specification Bases Pages
For Information Only

BASES (continued)

SURVEILLANCE REQUIREMENTS

The four SRs of this LCO are modified by a Note stating that during a single control rod scram time surveillance, the CRD pumps shall be isolated from the associated scram accumulator. With the CRD pump isolated (i.e., charging valve closed), the influence of the CRD pump head does not affect the single control rod scram times. During a full core scram, the CRD pump head would be seen by all control rods and would have a negligible effect on the scram insertion times.

SR 3.1.4.1

The scram reactivity used in DBA and transient analyses is based on assumed control rod scram time. Measurement of the scram times with reactor steam dome pressure ≥ 950 psig demonstrates acceptable scram times for the analyzed transients.

Scram insertion times increase with increasing reactor pressure because of the competing effects of reactor steam dome pressure and stored accumulator energy. Therefore, demonstration of adequate scram times at reactor steam dome pressure greater than 950 psig ensures that the scram times will be within the specified limits at higher pressures. Limits are specified as a function of reactor pressure to account for the sensitivity of the scram insertion times with pressure and to allow a range of pressures over which scram time testing can be performed. To ensure scram time testing is performed within a reasonable time following a refueling or after a shutdown ≥ 120 days, all control rods are required to be tested before exceeding 40% RTP. This Frequency is acceptable, considering the additional surveillances performed for control rod OPERABILITY, the frequent verification of adequate accumulator pressure, and the required testing of control rods affected by fuel movement within the affected core cell and by work on control rods or the CRD System.

SR 3.1.4.2

Additional testing of a sample of control rods is required to verify the continued performance of the scram function during the cycle. A representative sample contains at least 10% of the control rods. The sample remains "representative" if no more than 7.5% of the control rods in

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.4.3 (continued)

The Frequency of once prior to declaring the affected control rod OPERABLE is acceptable because of the capability of testing the control rod over a range of operating conditions and the more frequent surveillances on other aspects of control rod OPERABILITY.

SR 3.1.4.4

or when fuel movement within the reactor pressure vessel occurs,

When work that could affect the scram insertion time is performed on a control rod or CRD System, testing must be done to demonstrate each affected control rod is still within the limits of Table 3.1.4-1 with the reactor steam dome pressure ≥ 950 psig. Where work has been performed at high reactor pressure, the requirements of SR 3.1.4.3 and SR 3.1.4.4 will be satisfied with one test. For a control rod affected by work performed while shut down, however, a zero pressure and a high pressure test may be required. This testing ensures that the control rod scram performance is acceptable for operating reactor pressure conditions prior to withdrawing the control rod for continued operation. Alternatively, a test during hydrostatic pressure testing could also satisfy both criteria.

When fuel movement within the reactor pressure vessel occurs, only those control rods associated with the core cells affected by the fuel movement are required to be scram time tested. During a routine refueling outage, it is expected that all control rods will be affected.

The Frequency of once prior to exceeding 40% RTP is acceptable because of the capability of testing the control rod at the different conditions and the more frequent surveillances on other aspects of control rod OPERABILITY.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 10.
2. UFSAR, Section 4.3.2.5.5.
3. UFSAR, Section 4.6.1.1.2.5.3.
4. UFSAR, Section 5.2.2.2.3.
5. UFSAR, Section 15.4.1.
6. UFSAR, Section 15.4.9.

BASES

SURVEILLANCE REQUIREMENTS (continued)

The Surveillances are modified by a Note to indicate that, when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains trip capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the RPS reliability analysis (Ref. 9) assumption of the average time required to perform channel surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the RPS will trip when necessary.

SR 3.3.1.1.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift on one of the channels or something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the plant staff based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limit.

INSERT 1

The Frequency is based upon operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the channels required by the LCO.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.1.1.3 (continued)

A Frequency of 7 days provides an acceptable level of system average availability over the Frequency interval and is based on reliability analysis (Ref. 9).

SR 3.3.1.1.4

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended Function. A Frequency of 7 days provides an acceptable level of system average availability over the Frequency and is based on the reliability analysis of Reference 9. (The Manual Scram Function's CHANNEL FUNCTIONAL TEST Frequency was credited in the analysis to extend many automatic scram Functions' Frequencies.)

SR 3.3.1.1.5 and SR 3.3.1.1.6

Deleted.

These Surveillances are established to ensure that no gaps in neutron flux indication exist from subcritical to power operation for monitoring core reactivity status.

The overlap between SRMs and IRMs is required to be demonstrated to ensure that reactor power will not be increased into a region without adequate neutron flux indication. This is required prior to withdrawing SRMs from the fully inserted position since indication is being transitioned from the SRMs to the IRMs.

The overlap between IRMs and APRMs is of concern when reducing power into the IRM range. On power increases, the system design will prevent further increases (initiate a rod block) if adequate overlap is not maintained.

Overlap between IRMs and APRMs exists when sufficient IRMs and APRMs concurrently have onscale readings such that the transition between MODE 1 and MODE 2 can be made without either APRM downscale rod block, or IRM upscale rod block. Overlap between SRMs and IRMs similarly exists when, prior to withdrawing the SRMs from the fully inserted position, IRMs are above 2/40 on range 1 before SRMs have reached the upscale rod block.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.1.1.5 and SR 3.3.1.1.6 (continued)

As noted, SR 3.3.1.1.6 is only required to be met during entry into MODE 2 from MODE 1. That is, after the overlap requirement has been met and indication has transitioned to the IRMs, maintaining overlap is not required (APRMs may be reading downscale once in MODE 2).

If overlap for a group of channels is not demonstrated (e.g., IRM/APRM overlap), the reason for the failure of the Surveillance should be determined and the appropriate channel(s) declared inoperable. Only those appropriate channel(s) that are required in the current MODE or condition should be declared inoperable.

A Frequency of 7 days is reasonable based on engineering judgment and the reliability of the IRMs and APRMs.

SR 3.3.1.1.7

LPRM gain settings are determined from the Core power distribution calculated by the Core Performance Monitoring system based on the local flux profiles measured by the Traversing Incore Probe (TIP) System. This establishes the relative local flux profile for appropriate representative input to the APRM System. The 1000 MWD/T Frequency is based on operating experience with LPRM sensitivity changes.

SR 3.3.1.1.8 and SR 3.3.1.1.11

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology. The 92 day Frequency of SR 3.3.1.1.8 is based on the reliability analysis of Reference 9.

The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency.

(continued)

BASES

BACKGROUND

Diesel Generators (continued)

Feature (ESF) buses if a loss of offsite power occurs. (Refer to Bases for LCO 3.3.8.1.)

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

The actions of the ECCS are explicitly assumed in the safety analyses of References 1, 2, and 3. The ECCS is initiated to preserve the integrity of the fuel cladding by limiting the post LOCA peak cladding temperature to less than the 10 CFR 50.46 limits.

ECCS instrumentation satisfies Criterion 3 of the NRC Policy Statement. Certain instrumentation Functions are retained for other reasons and are described below in the individual Functions discussion.

Table 3.3.5.1-1 is modified by two footnotes. Footnote (a) is added to clarify that the associated functions are required to be OPERABLE in MODES 4 and 5 only when their supported ECCS are required to be OPERABLE per LCO 3.5.2, ECCS-Shutdown.

The OPERABILITY of the ECCS instrumentation is dependent upon the OPERABILITY of the individual instrumentation channel Functions specified in Table 3.3.5.1-1. Each Function must have a required number of OPERABLE channels, with their setpoints within the specified Allowable Values, where appropriate. The actual setpoint is calibrated consistent with applicable setpoint methodology assumptions. Each ECCS subsystem must also respond within its assumed response time. Table 3.3.5.1-1, footnote (b), is added to show that certain ECCS instrumentation Functions are also required to be OPERABLE to perform DG initiation.

Allowable Values are specified for each ECCS Function specified in the table. Nominal trip setpoints are specified in the setpoint calculations. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable Value between CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. A channel is inoperable if its actual trip setpoint is not within its required Allowable Value. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., reactor vessel water level), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1.a, 2.a. Reactor Vessel Water Level—Low Low Low, Level 1 (continued)

Reactor Vessel Water Level—Low Low Low, Level 1 signals are initiated from four level transmitters that sense the difference between the pressure due to a constant column of water (reference leg) and the pressure due to the actual water level (variable leg) in the vessel.

The Reactor Vessel Water Level—Low Low Low, Level 1 Allowable Value is chosen to allow time for the low pressure core flooding systems to activate and provide adequate cooling.

Two channels of Reactor Vessel Water Level—Low Low Low, Level 1 Function per associated Division are only required to be OPERABLE when the associated ECCS is required to be OPERABLE, to ensure that no single instrument failure can preclude ECCS initiation. (Two channels input to LPCS and LPCI A, while the other two channels input to LPCI B and LPCI C.) Refer to LCO 3.5.1 and LCO 3.5.2, "ECCS—Shutdown," for Applicability Bases for the low pressure ECCS subsystems; LCO 3.8.1, "AC Sources—Operating"; and LCO 3.8.2, "AC Sources—Shutdown," for Applicability Bases for the DGs.

Per Footnote (a) to Table 3.3.5.1-1, this ECCS function is only required to be OPERABLE in MODES 4 and 5 whenever the associated ECCS is required to be OPERABLE per LCO 3.5.2.

1.b, 2.b. Drywell Pressure—High

High pressure in the drywell could indicate a break in the reactor coolant pressure boundary (RCPB). The low pressure ECCS and associated DGs are initiated upon receipt of the Drywell Pressure—High Function in order to minimize the possibility of fuel damage. The core cooling function of the ECCS, along with the scram action of the RPS, ensures that the fuel peak cladding temperature remains below the limits of 10 CFR 50.46.

High drywell pressure signals are initiated from four pressure transmitters that sense drywell pressure. The Allowable Value was selected to be as low as possible and be indicative of a LOCA inside primary containment. Negative barometric fluctuations are accounted for in the Allowable Value.

The Drywell Pressure—High Function is required to be OPERABLE when the associated ECCS and DGs are required to be OPERABLE in conjunction with times when the primary

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1.b, 2.b. Drywell Pressure—High (continued)

containment is required to be OPERABLE. Thus, four channels of the LPCS and LPCI Drywell Pressure—High Function are required to be OPERABLE in MODES 1, 2, and 3 to ensure that no single instrument failure can preclude ECCS initiation. (Two channels input to LPCS and LPCI A, while the other two channels input to LPCI B and LPCI C.) In MODES 4 and 5, the Drywell Pressure—High Function is not required since there is insufficient energy in the reactor to pressurize the primary containment to Drywell Pressure—High setpoint. Refer to LCO 3.5.1 for Applicability Bases for the low pressure ECCS subsystems and to LCO 3.8.1 for Applicability Bases for the DGs.

1.c, 2.c. Low Pressure Coolant Injection Pump A and Pump B Start—Time Delay Relay

The purpose of this time delay is to stagger the start of the two ECCS pumps that are in each of Divisions 1 and 2, thus limiting the starting transients on the 4.16 kV emergency buses. This Function is only necessary when power is being supplied from the standby power sources (DG). However, since the time delay does not degrade ECCS operation, it remains in the pump start logic at all times. The LPCI Pump Start—Time Delay Relays are assumed to be OPERABLE in the accident and transient analyses requiring ECCS initiation. That is, the analysis assumes that the pumps will initiate when required.

There are two LPCI Pump Start—Time Delay Relays, one in each of the RHR "A" and RHR "B" pump start logic circuits. The Allowable Value for the LPCI Pump Start—Time Delay Relay is chosen to be short enough so that ECCS operation is not degraded.

Per Footnote (a) to Table 3.3.5.1-1, this ECCS function is only required to be OPERABLE in MODES 4 and 5 whenever the associated ECCS is required to be OPERABLE per LCO 3.5.2.

Each LPCI Pump Start—Time Delay Relay Function is only required to be OPERABLE when the associated LPCI subsystem is required to be OPERABLE. Refer to LCO 3.5.1 and LCO 3.5.2 for Applicability Bases for the LPCI subsystems.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

1.d, 2.d. Reactor Vessel Pressure—Low (Injection Permissive)

Low reactor vessel pressure signals are used as permissives for the low pressure ECCS subsystems. This ensures that, prior to opening the injection valves of the low pressure ECCS subsystems, the reactor pressure has fallen to a value below these subsystems' maximum design pressure. The Reactor Vessel Pressure—Low is one of the Functions assumed to be OPERABLE and capable of permitting initiation of the ECCS during the transients analyzed in References 1 and 3. In addition, the Reactor Vessel Pressure—Low Function is directly assumed in the analysis of the recirculation line break (Ref. 2). The core cooling function of the ECCS, along with the scram action of the RPS, ensures that the fuel peak cladding temperature remains below the limits of 10 CFR 50.46.

The Reactor Vessel Pressure—Low signals are initiated from four pressure transmitters that sense the reactor pressure. The four pressure transmitters each drive a master and slave trip unit (for a total of eight trip units).

The Allowable Value is low enough to prevent overpressurizing the equipment in the low pressure ECCS, but high enough to ensure that the ECCS injection prevents the fuel peak cladding temperature from exceeding the limits of 10 CFR 50.46.

Per Footnote (a) to Table 3.3.5.1-1, this ECCS function is only required to be OPERABLE in MODES 4 and 5 whenever the associated ECCS is required to be OPERABLE per LCO 3.5.2.

Three channels of Reactor Vessel Pressure—Low Function per associated Division are only required to be OPERABLE when the associated ECCS is required to be OPERABLE to ensure that no single instrument failure can preclude ECCS initiation. (Three channels are required for LPCS and LPCI A, while three other channels are required for LPCI B and LPCI C.) Refer to LCO 3.5.1 and LCO 3.5.2 for Applicability Bases for the low pressure ECCS subsystems.

1.e, 1.f, 2.e. Low Pressure Coolant Injection and Low Pressure Core Spray Pump Discharge Flow—Low (Bypass)

The minimum flow instruments are provided to protect the associated low pressure ECCS pump from overheating when the pump is operating and the associated injection valve is not fully open. The minimum flow line valve is opened when low flow is sensed, and the valve is automatically closed when

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1.g, 2.f. Manual Initiation (continued)

instrumentation. There is one push button for each of the two Divisions of low pressure ECCS (i.e., Division 1 ECCS, LPCS and LPCI A; Division 2 ECCS, LPCI B and LPCI C).

The Manual Initiation Function is not assumed in any accident or transient analyses in the UFSAR. However, the Function is retained for the low pressure ECCS function as required by the NRC in the plant licensing basis.

Per Footnote (a) to Table 3.3.5.1-1, this ECCS function is only required to be OPERABLE in MODES 4 and 5 whenever the associated ECCS is required to be OPERABLE per LCO 3.5.2.

There is no Allowable Value for this Function since the channels are mechanically actuated based solely on the position of the push buttons. Each channel of the Manual Initiation Function (one channel per Division) is only required to be OPERABLE when the associated ECCS is required to be OPERABLE. Refer to LCO 3.5.1 and LCO 3.5.2 for Applicability Bases for the low pressure ECCS subsystems.

High Pressure Core Spray System

3.a. Reactor Vessel Water Level – Low Low, Level 2

Low RPV water level indicates that the capability to cool the fuel may be threatened. Should RPV water level decrease too far, fuel damage could result. Therefore, the HPCS System and associated DG are initiated at level 2, after a confirmation delay permissive to maintain level above the top of the active fuel.

A nominal 1/2 second confirmation delay permissive is installed to avoid spurious system initiation signals. This confirmation delay permissive is limited to a maximum of a 1 second delay to support the HPCS System response time of 32 seconds assumed in the accident analysis. To insure that the confirmation delay permissive does not drift excessively it is calibrated as part of the CHANNEL FUNCTIONAL TEST required for this Function by SR 3.3.5.1.2. The Reactor Vessel Water Level – Low Low, Level 2 is one of the Functions assumed to be OPERABLE and capable of initiating HPCS during the transients and accidents, analyzed in References 1, 2, and 3. The core cooling function of the ECCS, along with the scram action of the RPS, ensures that the fuel peak cladding temperature remains below the limits of 10 CFR 50.46.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.3 (continued)

to ensure that post accident leakage of radioactive fluids or gases outside the primary containment boundary is within design limits. For devices inside primary containment, drywell, or steam tunnel, the Frequency of "prior to entering MODE 2 or 3 from MODE 4, if not performed within the previous 92 days", is appropriate since these devices are operated under administrative controls and the probability of their misalignment is low.

Two Notes are added to this SR. The first Note allows valves and blind flanges located in high radiation areas to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable since access to these areas is typically restricted during MODES 1, 2, and 3. Therefore, the probability of misalignment of these devices, once they have been verified to be in their proper position, is low. A second Note is included to clarify that PCIVs that are open under administrative controls are not required to meet the SR during the time that the PCIVs are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

SR 3.6.1.3.4

Verifying the isolation time of each power operated, ~~and each~~ automatic PCIV is within limits is required to demonstrate OPERABILITY. MSIVs may be excluded from this SR since MSIV full closure isolation time is demonstrated by SR 3.6.1.3.6. The isolation time test ensures that the valve will isolate in a time period less than or equal to that assumed in the safety analysis. Generally, PCIVs in a direct leak path (open path from containment to environs) must close more rapidly than PCIVs in indirect leak paths. Maximum isolation times are based on system performance requirements, equipment qualification, regulatory requirements, or offsite dose analyses for specific accidents. These requirements ensure the radiological consequences do not exceed the guideline values established

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

INSERT 4

SR 3.6.4.1.3 and SR 3.6.4.1.4

The SGT System 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 SGT System will rapidly establish and maintain a pressure in the secondary containment that is less than the lowest postulated pressure external to the secondary containment boundary.

SR 3.6.4.1.4 demonstrates that each OPERABLE SGT subsystem can maintain a reduced pressure in the secondary containment sufficient to allow the secondary containment to be in thermal equilibrium at steady state conditions. The test criterion specified by SR 3.6.4.1.4 includes an allowance for building degradation between performances of the surveillance. This allowance represents additional building inleakage of 125 scfm.

As discussed in B 3.6.4.2, the SGT System has the capacity to maintain secondary containment negative pressure assuming the failure of all nonqualified lines 2 inches and smaller. The number and size of these assumed failures can vary as penetrations are added or removed from the secondary containment boundary. To account for the absence of these assumed failures under test conditions the test criterion specified by SR 3.6.4.1.4 is modified. Failure of nonqualified lines 2 inches and smaller could increase secondary containment in-leakage by approximately 200 scfm. To account for this additional in-leakage, and in addition to the requirements of SR 3.6.4.1.4, each SGT subsystem must maintain ≥ 0.303 inches of vacuum water gauge in the secondary containment for 1 hour at a flow rate ≤ 4000 cfm. This value represents the minimum required differential pressure at ≤ 4000 scfm system flow needed to ensure that the integrity of the SGT System boundary will meet its design requirement of ≥ 0.25 inches of vacuum water gauge in response to postulated accidents.

Therefore, these two sets are used to ensure secondary containment boundary integrity. Since these SRs are secondary containment tests, they need not be performed with

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.4.1.3 and SR 3.6.4.1.4 (continued)

~~each SGT subsystem. Testing is performed on a STAGGERED TEST BASIS to ensure that both SGT subsystems are alternatively tested. Operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.~~

REFERENCES

1. UFSAR, Section 15.6.5.
2. UFSAR, Section 15.7.4.

BASES

APPLICABLE SAFETY ANALYSES (continued)

Maintaining SCIVs OPERABLE with isolation times within limits ensures that fission products will remain trapped inside secondary containment so that they can be treated by the SGT System prior to discharge to the environment.

SCIVs satisfy Criterion 3 of the NRC Policy Statement.

LCO

SCIVs form a part of the secondary containment boundary. The SCIV safety function is related to control of offsite radiation releases resulting from DBAs.

The power operated automatic isolation dampers and valves are considered OPERABLE when their isolation times are within limits. Additionally, power operated automatic dampers and valves are required to actuate on an automatic isolation signal.

The normally closed isolation dampers and valves, rupture disks, or blind flanges are considered OPERABLE when manual dampers and valves are closed or open in accordance with appropriate administrative controls, automatic dampers and valves are de-activated and secured in their closed position, rupture disks or blind flanges are in place. The SCIVs covered by this LCO, along with their associated stroke times, if applicable, are listed in the applicable plant procedures.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could lead to a fission product release to the primary containment that leaks to the secondary containment. Therefore, OPERABILITY of SCIVs is required.

In MODES 4 and 5, the probability and consequences of these events are reduced due to pressure and temperature limitations in these MODES. Therefore, maintaining SCIVs OPERABLE is not required in MODE 4 or 5, except for other situations under which significant releases of radioactive material can be postulated, such as during operations with a potential for draining the reactor vessel (OPDRVs) or during movement of recently irradiated fuel assemblies (i.e., fuel that has occupied part of a critical reactor core within the previous 24 hours). Moving recently irradiated fuel assemblies in the primary or secondary containment may also occur in MODES 1, 2, and 3.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.4.2.1 (continued)

relatively easy, the 31 day Frequency was chosen to provide added assurance that the SCIVs are in the correct positions.

Two Notes have been added to this SR. The first Note applies to valves, dampers, rupture disks, and blind flanges located in high radiation areas and allows them to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these SCIVs, once they have been verified to be in the proper position, is low.

A second Note has been included to clarify that SCIVs that are open under administrative controls are not required to meet the SR during the time the SCIVs are open.

SR 3.6.4.2.2

Verifying the isolation time of each power operated, ~~and each~~ automatic SCIV is within limits is required to demonstrate OPERABILITY. The isolation time test ensures that the SCIV will isolate in a time period less than or equal to that assumed in the safety analyses. Generally, SCIVs must close within 120 seconds to support the functioning of the Standby Gas Treatment System. SCIVs may have analytical closure times based on a function other than secondary containment isolation, in which case the more restrictive time applies. The Frequency of this SR is in accordance with the Inservice Testing Program.

SR 3.6.4.2.3

Verifying that each automatic SCIV closes on a secondary containment isolation signal is required to prevent leakage of radioactive material from secondary containment following a DBA or other accidents. This SR ensures that each automatic SCIV will actuate to the isolation position on a secondary containment isolation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.2.6 overlaps this SR to provide complete testing of the safety function. The 18 month

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.5.3.3

Verifying that the isolation time of each power operated, ~~and~~ ~~each~~ automatic drywell isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analysis. The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program.

SR 3.6.5.3.4

Verifying that each automatic drywell isolation valve closes on a drywell isolation signal is required to prevent bypass leakage from the drywell following a DBA. This SR ensures each automatic drywell isolation valve will actuate to its isolation position on a drywell isolation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.1.7 overlaps this SR to provide complete testing of the safety function. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power, since isolation of penetrations would eliminate cooling water flow and disrupt the normal operation of many critical components. Operating experience has shown these components usually pass this Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. UFSAR, Section 6.2.4.

2. GNRI-96/00162, Issuance of Amendment No. 126 to Facility Operating License No. NPF-29 - Grand Gulf Nuclear Station, Unit 1 (TAC No. M94176), dated August 1, 1996.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.9 (continued)

2) tripping its associated single largest load with the DG solely supplying the bus.

If this load were to trip, it would result in the loss of the DG. As required by IEEE-308 (Ref. 13), 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 the Grand Gulf Nuclear Station the lower value results from the first criteria.

The 18 month Frequency is consistent with the recommendation of Regulatory Guide 1.9 (Ref. 3).

Testing performed for this SR is normally conducted with the DG being tested (and the associated safety-related distribution subsystem) connected to one offsite source, while the remaining safety-related systems are aligned to another offsite source. This minimizes the possibility of common cause failures resulting from offsite/grid voltage perturbations.

This SR has been modified by two Notes. Note 1 states; Credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

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

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

INSERT 2

~~In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, Note 2 requires that, if synchronized to offsite power, testing be performed using a power factor ≤ 0.9. This power factor is chosen to be representative of the actual design basis inductive loading that the DG could experience.~~

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.10

This Surveillance demonstrates the DG capability to reject a full load, i.e., maximum expected accident 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 DG damage protection. While the DG is not expected to experience this transient during an event and continue 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 ≤ 0.9. This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.

The 18 month Frequency is consistent with the recommendation of Regulatory Guide 1.9 (Ref. 3) and is intended to be consistent with expected fuel cycle lengths.

Testing performed for this SR is normally conducted with the DG being tested (and the associated safety-related distribution subsystem) connected to one offsite source, while the remaining safety-related systems are aligned to another offsite source. This minimizes the possibility of common cause failures resulting from offsite/grid voltage perturbations.

two Notes Note 1 states that credit

This SR has been modified by a Note. Credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

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

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.10 (continued)

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

INSERT 2

SR 3.8.1.11

As required by Regulatory Guide 1.9 (Ref. 3), this Surveillance demonstrates the as designed operation of the standby power sources during loss of the offsite source. This test verifies all actions encountered from the loss of offsite power, including shedding of the Division 1 and 2 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 10 seconds is derived from requirements of the accident analysis to respond 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, ECCS injection valves are not desired to be stroked open, 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.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.12 (continued)

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. Examples of unplanned events may include:

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

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

SR 3.8.1.13

This Surveillance demonstrates that DG non-critical protective functions:

Generator loss of excitation,
Generator reverse power,
High jacket water temperature,
Generator overcurrent with voltage restraint,
Bus underfrequency (DG 11 and DG 12 only),
Engine bearing temperature high (DG 11 and DG 12 only),
Low turbo charger oil pressure (DG 11 and DG 12 only),
High vibration (DG 11 and DG 12 only),
High lube oil temperature (DG 11 and DG 12 only),
Low lube oil pressure (DG 13 only),
High crankcase pressure, and
Generator ground overcurrent (DG 11 and DG 12 only)

are bypassed on an ECCS initiation test signal and critical protective functions trip the DG to avert substantial damage to the DG unit. The non-critical trips are bypassed during DBAs and provide alarms on an abnormal engine conditions. These alarms provide the operator with necessary information to react appropriately. The DG availability to mitigate the DBA is more critical than protecting the engine against

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.14 (continued)

≤ 0.9. This power factor is chosen to be representative of the actual design basis inductive loading that the DG could experience. During the test the generator voltage and frequency is 4160 ± 416 volts and ≥ 58.8 Hz and ≤ 63 Hz within 10 seconds after the start signal and the steady state generator voltage and frequency is maintained within 4160 ± 416 volts and 60 ± 1.2 Hz for the duration of the test.

The 18 month Frequency is consistent with the recommendations of Regulatory Guide 1.9 (Ref. 3) takes into consideration plant conditions required to perform the Surveillance; and is intended to be consistent with expected fuel cycle lengths.

This Surveillance is modified by ~~two~~ three Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. The DG 11 and 12 load band is provided to avoid routine overloading of the TDI DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY. Similarly, momentary power factor transients above the limit do not invalidate the test. Note 2 stipulates that credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

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

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

INSERT 3

(continued)

BASES

LCO (continued)

support, assuming a loss of the offsite circuit. Similarly, when the high pressure core spray (HPCS) is required to be OPERABLE, a separate offsite circuit to the Division 3 Class 1E onsite electrical power distribution subsystem, or an OPERABLE Division 3 DG, ensure an additional source of power for the HPCS. This additional source for Division 3 is not necessarily required to be connected to be OPERABLE. Either the circuit required by LCO Item a, or a circuit required to meet LCO Item c may be connected, with the second source available for connection. Together, OPERABILITY of the required offsite circuit(s) and DG(s) ensures the availability of sufficient AC sources to operate the plant in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents involving recently irradiated fuel, reactor vessel draindown).

Automatic initiation of the required DG during shutdown conditions is specified in LCO 3.3.5.1, ECCS Instrumentation, and LCO 3.3.8.1, LOP Instrumentation

The qualified offsite circuit(s) must be capable of maintaining rated frequency and voltage while connected to their respective ESF bus(es), and accepting required loads during an accident. Qualified offsite circuits are those that are described in the UFSAR and are part of the licensing basis for the plant. The offsite circuit consists of incoming breakers and disconnects to the ESF transformers and the respective circuit path including feeder breakers to all 4.16 kV ESF buses required by LCO 3.8.8.

The required DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its respective ESF bus on detection of bus undervoltage, and accepting required loads. This sequence must be accomplished within 10 seconds. Each DG must also be capable of accepting required loads within the assumed loading sequence intervals, and must continue to operate until offsite power can be restored to the ESF buses. These capabilities are required to be met from a variety of initial conditions such as: DG in standby with the engine hot and DG in standby with the engine at ambient conditions. Additional DG capabilities must be demonstrated to meet required Surveillances, e.g., capability of the DG to revert to standby status on an ECCS signal while operating in parallel test mode.

Proper sequencing of loads, including tripping of nonessential loads, is a required function for DG OPERABILITY. In addition, proper load sequence operation is

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1 (continued)

with the DG(s) that is not required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR.

This SR is modified by two Note s. The reason for the Note 1 is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during the performance of SRs, and to preclude de-energizing a required 4160 V ESF bus or disconnecting a required offsite circuit during performance of SRs. With limited AC sources available, a single event could compromise both the required circuit and the DG. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DG and offsite circuit is required to be OPERABLE.

REFERENCES

None.

Note 2 states that SRs 3.8.1.12 and 3.8.1.19 are not required to be met when its associated ECCS subsystem(s) are not required to be OPERABLE. These SRs demonstrate the DG response to an ECCS signal (either alone or in conjunction with a loss-of-power signal). This is consistent with the ECCS instrumentation requirements that do not require ECCS signals when the ECCS system is not required to be OPERABLE per LCO 3.5.2, "ECCS – Shutdown."

INSERT 1

The agreement criteria include an expectation of overlap when transitioning between neutron flux instrumentation. The overlap between SRMs and IRMs must be demonstrated prior to withdrawing SRMs from the fully inserted position since indication is being transitioned from SRMs to the IRMs. This will ensure that reactor power will not be increased into a neutron flux region without adequate indication. The overlap between IRMs and APRMs is of concern when reducing power into the IRM range. On power increases, the system design will prevent further increases (by initiating a rod block) if adequate overlap is not maintained.

Overlap between IRMs and APRMs exists when sufficient IRMs and APRMs concurrently have on-scale readings such that the transition between MODE 1 and MODE 2 can be made without either APRM downscale rod block, or IRM upscale rod block. Overlap between SRMs and IRMs similarly exists when, prior to withdrawing the SRMs from the fully inserted position, IRMs are above 2/40 on range 1 before SRMs have reached the upscale rod block.

If overlap for a group of channels is not demonstrated (e.g., IRM/APRM overlap), the reason for the failure of the Surveillance should be determined and the appropriate channel(s) that are required in the current MODE or condition should be declared inoperable.

INSERT 2

Note 2 ensures that the DG is tested under load conditions that are as close to design basis conditions as possible. When synchronized with offsite power, testing should be performed at a power factor of ≤ 0.9. This power factor is representative of the actual inductive loading a DG would see under design basis accident conditions. Under certain conditions, however, Note 2 allows the surveillance to be conducted at a power factor other than ≤ 0.9. These conditions occur when grid voltage is high, and the additional field excitation needed to get the power factor to ≤ 0.9 results in voltages on the emergency busses that are too high. Under these conditions, the power factor should be maintained as close as practicable to 0.9 while still maintaining acceptable voltage limits on the emergency busses. In other circumstances, the grid voltage may be such that the DG excitation levels needed to obtain a power factor of 0.9 may not cause unacceptable voltages on the emergency busses, but the excitation levels are in excess of those recommended for the DG. In such cases, the power factor shall be maintained as close as practicable to 0.9 without exceeding the DG excitation limits.

INSERT 3

Note 3 ensures that the DG is tested under load conditions that are as close to design basis conditions as possible. When synchronized with offsite power, testing should be performed at a power factor of ≤ 0.9. This power factor is representative of the actual inductive loading a DG would see under design basis accident conditions. Under certain conditions, however, Note 2 allows the surveillance to be conducted at a power factor other than ≤ 0.9. These conditions occur when grid voltage is high, and the additional field excitation needed to get the power factor to ≤ 0.9 results in voltages on the emergency busses that are too high. Under these conditions, the power factor should be maintained as close as practicable to 0.9 while still maintaining acceptable voltage limits on the emergency busses. In other circumstances, the grid voltage may be such that the DG excitation levels needed to obtain a power factor of 0.9 may not cause unacceptable voltages on the emergency busses, but the excitation levels are in excess of those recommended for the DG. In such cases, the power factor shall be maintained as close as practicable to 0.9 without exceeding the DG excitation limits.

INSERT 4

The SGT system exhaust the secondary containment atmosphere to the environment through appropriate treatment equipment. Each SGT subsystem is designed to draw down pressure in the secondary containment to ≥ 0.25 inches of vacuum water gauge in ≤ 180 seconds and maintain pressure in the secondary containment at ≥ 0.266 inches vacuum water gauge for 1 hour at a flow rate ≤ 4000 cfm. 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 containment boundary can be rapidly 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 ≥ 0.25 inches of vacuum water gauge in ≤ 180 seconds using one SGT subsystem. SR 3.6.4.1.4 demonstrates that the pressure in the secondary containment can be maintained ≥ 0.266 inches vacuum water gauge for 1 hour at a flow rate ≤ 4000 cfm. The 1 hour test period allows the 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 being used for the test functions as designed. There is a separate LCO with Surveillance Requirements which serves the primary purpose of ensuring OPERABILITY of the SGT system. These SRs need not be performed with each SGT subsystem. The SGT subsystem used for these Surveillances is staggered to ensure that in addition to the requirements of LCO 3.6.4.3, either SGT subsystem will perform this test. The inoperability of the SGT system does not necessarily constitute a failure of these Surveillances relative to the secondary containment OPERABILITY. Operating experience has shown the secondary containment boundary usually passes these Surveillances when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

Attachment 4

GNRO-2005/00016

List of Regulatory Commitments

List of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
A statement will be added to the TS Bases to clarify that the overlap verification is to be performed as part of the CHANNEL CHECK, SR 3.3.1.1.1.	X		Upon implementation of the TS amendment