Nuclear Operating Company

South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

February 14, 2002
NOC-AE-01001214
10CFR50.90
STI: 31374845

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Proposed Change to Loss of Power and AC Sources Technical Specifications

STP Nuclear Operating Company (STPNOC) submits the attached proposed amendment to South Texas Project Operating Licenses NPF-76 and NPF-80. This license amendment request proposes revising the Technical Specification 3.3.2 requirements for Loss of Power Instrumentation (Functional Unit 8) and Technical Specifications 3.8.1.1, 3.8.1.2, and 3.8.1.3 for AC Sources. In addition, changes to Technical Specification Bases pages are included for your information.

STPNOC requests approval of the proposed amendment by December 15, 2002 to support implementation prior to the Unit 1 spring 2003 outage. STPNOC requests 60 days for implementation of the amendment after it is approved.

The STPNOC Plant Operations Review Committee and Nuclear Safety Review Board have reviewed and concurred with the proposed change to the Technical Specifications.

In accordance with 10 CFR 50.91(b), STPNOC is notifying the State of Texas of this request for license amendment by providing a copy of this letter and its attachments.

A001

If there are any questions regarding the proposed amendment, please contact Mr. A. W. Harrison (361) 972-7298 or me at (361) 972-8757.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on 2/14/02.
Date

J. J. Sheppard
Vice President
Engineering & Technical Services

awh/

Attachments:
1. Description of Changes and Safety Evaluation
2. Annotated Technical Specification Pages
3. Technical Specification Pages with Proposed Changes Incorporated
4. Inserts for Technical Specification Bases

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U. S. Nuclear Regulatory Commission
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ATTACHMENT 1

DESCRIPTION OF CHANGES

AND

SAFETY EVALUATION

1.0 Introduction

STPNOC is proposing to revise the STP Technical Specifications so that they better reflect the design and function of the loss of power instrumentation and the ESF load sequencer. The current Technical Specification requirements impose unnecessarily restrictive actions that are not consistent with other STP Technical Specification requirements or the STP design basis.

The proposed changes to the STP Technical Specifications are based in part on the Westinghouse Standard Improved Technical Specifications (NUREG-1431). STP's plant specific differences are described and justified.

2.0 Description

Each of the proposed changes to the Technical Specifications is described in Table 1 below.

Table 1: Description of Proposed Changes

Page	Affected Section	Description of Change	Reason for Change
3/4 3-24 3/4 3-27	3.3.2, TABLE 3.3-3 FUNCTIONAL UNIT 8, ACTION 20	Table 3.3-3 is revised to change the Minimum Channels OPERABLE requirement for the loss of power instrumentation from 3 channels/bus to 2 channels/bus. A new ACTION 20A is added that prescribes actions for 1 and 2 inoperable loss of power channels and includes an additional action to declare the associated load sequencer inoperable and apply the ACTION required by TS 3.8.1.1 (AC Sources) when the number of OPERABLE channels is less than the Minimum Number of Channels. The time required to place the inoperable channel in trip is changed from 1 hour to 72 hours. The time allowed to be in bypass for testing is extended from 2 hours to 12 hours.	The STP 2 of 4 actuation logic has adequate redundancy to meet design basis requirements with one of the channels out of service with no operational restrictions. The current TS would require the plant to enter TS 3.0.3 for a condition where more than one channel of loss of power instrumentation is inoperable. The condition renders the ESF load sequencer inoperable and the appropriate action is to apply the requirements of TS 3.8.1.1. STPNOC considers this proposed change an increase in plant reliability. The proposed requirements are similar to NUREG-1431.

3/4 8-1	TS 3/4.8.1.1	LCO b. is modified to require an automatic load sequencer for each standby diesel generator. The word "generator" in ACTION d. is made plural. ACTION g. is added to restore an inoperable load sequencer to operable status within 7 days or be in HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. ACTION h. is added for one inoperable load sequencer and an inoperable standby diesel not associated with the inoperable sequencer, and requires restoration of one or both inoperable components to OPERABLE status within 24 hours or be in HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hrs.	The proposed change clarifies the requirements of the current TS and complements the proposed change for the loss of power instrumentation. It reflects the way STPNOC currently applies the existing TS except that ACTION h. is a new condition. The proposed new ACTION h. is different from NUREG-1431 in that the NUREG has no corresponding action. It precludes the need to apply TS 3.0.3 in this configuration. Changing "generator" to "generators" in ACTION d. is an editorial change that acknowledges STP has two remaining operable SDGs in this configuration.
3/4 8-9 3/4 8-9a	TS 3/4.8.1.2 TS 3/4.8.1.3	The surveillance requirements are revised to delete the applicability of SRs associated with the load sequencer and/or ECCS (i.e. 4.8.1.1.2.e.4, 4.8.1.1.2.e.5, 4.8.1.1.2.e.6, 4.8.1.1.2.e.8, 4.8.1.1.2.e.10, 4.8.1.1.2.e.11, 4.8.1.1.2.e.13, and 4.8.1.1.2.f,), and to identify SRs that the AC sources are to be capable of meeting but which are not required to be performed (i.e., SRs 4.8.1.1.2.a.3, 4.8.1.1.2.e.2, 4.8.1.1.2.e.3, 4.8.1.1.2.e.7, 4.8.1.1.2.e.9, 4.8.1.1.2.e.12, and 4.8.1.1.2.g)	The automatic start of the Standby Diesel Generator (SDG) and load sequencing is not required in the modes of applicability for these TS. ECCS is not required to be operable in the modes of applicability for these TS. Not requiring certain SRs to be performed prevents a SDG from being unavailable for required testing at a time when there may be limited AC sources available. The proposed changes assure that the TS clearly represent the STP design basis and reduce the potential for confusion with regard to applying the TS requirements.

3.0 Background

STPNOC identified areas where the STP TS are unnecessarily restrictive with regard to the actions required for the TS 3.3.2 Loss of Power Instrumentation. STPNOC determined that the Improved Technical Specifications (NUREG-1431) offered an approach that is consistent with the STP design. The changes with respect to the requirements for the ESF sequencer and the SRs that are applicable in Mode 5 and 6 will clarify the STP Technical Specifications and minimize the potential for confusion in their application.

4.0 Technical Analysis

A technical review of each of the proposed changes described in Table 1 is provided below. The review identifies the affected instrumentation, describes its function, including relevant references to the STP UFSAR, and provides a technical justification for the proposed change.

Proposed Changes to TS 3.3.2 for Loss of Power Instrumentation

Two under-voltage sensing schemes are employed for each Class 1E 4.16 kV bus to provide two levels of under-voltage protection. The first scheme detects loss of voltage and the second scheme detects degraded voltage conditions on the bus. Voltage signals to each scheme are provided through four potential transformers connected to each bus. Four solid-state type instantaneous under-voltage relays and four time delay relays are used for the first scheme (loss of voltage). The devices used for the second scheme (degraded voltage) include four solid-state type instantaneous under-voltage relays and two sets of four time delay relays. (Ref: UFSAR Section 8.3.1.1.4.6.3)

The OPERABILITY requirements for the Loss of Power 4.16 kV ESF under-voltage relays and the 4.16 kV ESF degraded voltage relays are found under functional unit 8 in Table 3.3-3 of TS 3.3.2. The Loss of Power 4.16 kV ESF under-voltage relays and the 4.16 kV ESF degraded voltage relays are required for the ESF systems to automatically function in any accident in which the loss of offsite power is assumed in the safety analysis.

The design function of the Loss of Power 4.16 kV ESF under-voltage relays and the 4.16 kV ESF degraded voltage relays is to provide an input to the associated ESF load sequencer when an under-voltage or degraded voltage condition is sensed from the offsite power source. The normal logic for a loss of power ESF actuation is two of four channels actuating.

The TS allow continued operation with one inoperable loss of power instrumentation channel if the channel is placed in the tripped condition. There is no action in the TS if more than one channel is inoperable. The applicable TS in this case would be TS 3.0.3, which is unduly restrictive. STPNOC proposes to change the Minimum Channels OPERABLE requirement for the loss of power instrumentation in Table 3.3-3 from 3 channels to 2 channels and provide ACTION requirements for one and two inoperable channels. This will take advantage of STP's 4 channel design for the function and enhance plant reliability. With less than the Minimum Channels OPERABLE, the associated sequencer would be declared inoperable. If the plant were operating in the proposed Minimum Channels Operable configuration, it would be in compliance with a required action to have one of the inoperable channels in the trip condition, similar to the action required by the current TS.

Four channels per bus comprise the STP loss of power instrumentation design and the TS reflect that the Total Number of Channels is four. The loss of power actuation logic is 2 of the 4 channels tripping. There is no regulatory requirement for the station to have 4 channels in this function, and as long as STP retains adequate assurance that at least two channels would trip on undervoltage, the design basis will be met. If one channel is inoperable, this can be accomplished with a 2 of 3 logic with the remaining operable channels with the inoperable channel taken out of service. If two channels were inoperable, it can be accomplished by placing one of the inoperable channels in the tripped condition and operating with a 1 of 2 logic. In each of the action conditions, there is adequate assurance that the operable instruments will perform the design function, even considering that one operable channel fails.

As described above, the loss of power instruments perform a support function for their associated ESF load sequencers. Therefore, when there are fewer than the Minimum Channels Operable requirement, the result is that the ESF load sequencer is inoperable. The appropriate TS to apply to an inoperable ESF load sequencer in Mode 1, 2, 3 or 4 is TS 3/4.8.1.1 for AC Sources - Operating. STPNOC proposes to revise the TS for the loss of power instrumentation to direct the operator to apply this TS when there are fewer than the Minimum Channels Operable requirement for this instrumentation.

The proposed change includes extending the time allowed to place an inoperable channel in the tripped condition from 1 hour to 72 hours and the time allowed for being in bypass for testing from 2 hours to 12 hours. The time extensions are the same as those requested for ACTION 20 in STPNOC's proposed change dated May 30, 2001 "Proposed Revision to Reactor Trip System and Engineered Safety Features Actuation System Allowed Outage Times and Bypass Test Times" (NOC-AE-01001055). The technical basis and justification for changes to ACTION 20 in the May 30, 2001 letter also apply to the loss of power instrumentation.

This change is generally consistent with the requirements of NUREG-1431, although the format is somewhat different in that STPNOC is not proposing to make the Loss of Power Instrumentation a separately numbered specification. In addition, NUREG-1431 does not limit the mode of applicability to Modes 1, 2, 3, and 4. However, STP's current TS for the instrumentation apply only in Mode 1, 2, 3, and 4 and STPNOC has determined that is consistent with the STP design basis, so no change to the modes of applicability is proposed.

Proposed Change to TS 3/4.8.1.1 for ESF Load Sequencer

The current STP Technical Specifications do not have specific LCO or ACTION for the ESF load sequencers although the sequencers are addressed in the surveillance requirements. STPNOC proposes to add the load sequencers to the LCO and incorporate an ACTION g. to define the required action for situations where a sequencer is inoperable.

The UFSAR Section 8.3.1.1.4.4 description of the ESF load sequencer design functions is summarized below.

Mode I: Safety Injection (SI) only

1. Energize the equipment for the emergency event in programmed steps
2. "Memorize" the existence of a Mode I signal to enable recognition of a Mode III condition

For Mode I, the sequencer does not start the SDGs; however, the SDGs are started by the ESFAS SI signal but not loaded on the bus.

Mode II - Loss of Off-site Power (LOOP) only and
Mode III – SI + LOOP

1. Shed all loads on the 4.16 kV ESF bus. However, shedding of the load center transformers distribution network is accomplished by tripping the breakers on the 480 V secondary side of the transformers only. The breakers on the primary side of the transformers remain connected
2. Start the SDG with the governor in the isochronous mode and the voltage regulator in the automatic mode.
3. Trip the 4.16 kV ESF power supply breakers to disconnect the Class 1E onsite power system from the offsite source
4. Energize the equipment for the emergency event (LOOP or SI + LOOP) in programmed steps

For Mode III, the SDGs will receive a redundant start signal from ESFAS.

The ESF load sequencer is considered a support system for the associated diesel generator and those components actuated by a sequencer Mode I signal (Ref: TS Bases SR 4.8.1.1.2.e.11).

Based on the above, the proposed required action is to declare the sequencer inoperable and to restore the inoperable sequencer to operable status within 7 days or go to COLD SHUTDOWN. The 7 day allowed outage time for an inoperable sequencer is based on the most limiting allowed outage times for components actuated by the sequencer. The limiting systems include safety injection, essential cooling water, component cooling water, and essential chilled water[1].

No ACTION is proposed for cases where more than one sequencer is inoperable, so TS 3.0.3 would apply in those cases. In this configuration, at least two of STP's three trains of Design Basis Accident mitigation equipment would be inoperable because of the inoperable sequencers (e.g., Essential Cooling Water or Component Cooling Water), and the current TS already require STPNOC to apply TS 3.0.3.

Action h. is proposed for the configuration where there is one inoperable sequencer and one inoperable diesel (on a different train than the inoperable sequencer). The action requires restoration of at least one of the two inoperable components within 24 hours. The proposed action time is consistent with the time required in TS 3.8.1.1.d for an inoperable diesel with another component that depends on one of the operable diesels also inoperable. The proposed action time is also consistent with the required action time for TS 3.8.1.1.f. for two inoperable standby diesel generators. A condition where there is one inoperable sequencer and one inoperable standby diesel is considered comparable to the conditions of TS 3.8.1.1d. or TS 3.8.1.1.f . Note that the operator can manually start and load the standby diesel that is made inoperable by the inoperable sequencer. NUREG-1431 has no corresponding action and STP's design with 3 standby diesels makes this plant-specific action reasonable.

Proposed Change to SR for TS 3/4.8.1.2 and TS 3/4.8.1.3

The current TS 4.8.1.2 and 4.8.1.3 refer the operator to the Surveillance Requirements for TS 3.8.1.1 with only one exception each. Application of the current TS would require the surveillance requirements for the ESF sequencer to be met in Modes 5 and 6 and would further require the surveillance requirements related to ECCS to be met. However, as described below, the sequencer and ECCS functions are not required by the STP design basis for OPERABILITY in these Modes. Tables 2 and 3 below outline the changes proposed for these TS surveillance requirements. The tables apply to both TS since both TS are applicable in Modes 5 and 6.

Table 2 lists the SRs that are still required to be met but are not required to be performed. The technical basis is the same for each surveillance in the table and is as stated in the NUREG-1431 Bases:

> ... to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing a required 4160 V ESF bus or disconnecting a required offsite circuit during performance of SRs. With limited AC sources

[1] This proposed change is prepared anticipating approval of STPNOC's proposed change to TS 3.7.1.2 required ACTION times for Auxiliary Feedwater submitted in letter dated December 3, 2001 (NOC-AE-01001196). With the proposed change to the AFW allowed outage times in that application, AFW will not have the most limiting allowed outage time (currently 72 hours).

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.

SR 4.8.1.1.2.e.12 and 4.8.1.1.2.g have no corresponding NUREG-1431 requirements, but the same technical justification applies.

Table 3 lists the SRs that are not applicable in Modes 5 and 6 and the basis for the exclusion of each one. The changes are generally consistent with NUREG-1431 and the differences are identified in the table.

The ESF Load Sequencer is not required to be operable in Mode 5 or Mode 6. STP's accident analyses take no credit for automatic load shedding or sequencing in these modes.

The pertinent design basis accidents in Modes 5, 6, and defueled are the Fuel Handling Accident, Low Temperature Overpressure, and Boron Dilution (Mode 5 with RCS filled and vented). The STP analyses for these accidents do not assume a concurrent loss of off-site power. Assuming a loss of off-site power with a Fuel Handling Accident is not required. Assuming a loss of off-site power in this scenario would remove the forced air circulation and subsequent dispersion of the contaminated air, which may be nonconservative. In the case of Low Temperature Overpressure, assuming a loss of off-site power would not have an adverse effect on the results of the analysis. Assuming a loss of off-site power with a dilution event would be nonconservative because the loss of power will terminate the dilution flow as the charging pump loses power.

A loss of off-site power in Mode 5 or Mode 6 would be expected to cause a loss of power to RHR and interrupt decay heat removal. Although the loss of power instrumentation and the sequencer are normally operable for their associated SDG in Mode 5 and Mode 6, the current TS do not require them to be operable. Operator response may require manual start of the Standby Diesel Generator and manual loading of the ESF bus. The STP design does not automatically sequence RHR on to the bus even in Modes where the sequencer is required to be operable. Application of the definition of OPERABLE – OPERABILITY in conjunction with the use of STP's procedures provides adequate guidance for STP operators to determine the instrumentation required for the plant configuration. For instance, during reduced inventory operations, STP procedures require all diesel support instrumentation to be operable.

Table 2: Surveillance Requirements to Be Met But Not Required To Be Performed

SR	Description
4.8.1.1.2.a.3	At least once per 31 days on a staggered test basis: Verifying the generator is synchronized, loaded to 5000 to 5500 kW, and operates with a load of 5000 to 5500 kW for at least 60 minutes (4)(6)
4.8.1.1.2.e.2	At least once per 18 months during shutdown, by: Verifying the generator capability to reject a load of greater than or equal to 785.3kW while maintaining voltage at 4160 ± 416 volts and frequency at 60 ± 4.5 Hz (4)(5)
4.8.1.1.2.e.3	At least once per 18 months during shutdown, by: Verifying the generator capability to reject a load of 5500 kW without tripping. The generator voltage shall not exceed 5262 volts during and following the load rejection(4)(5)
4.8.1.1.2.e.7	At least once per 18 months during shutdown, by: (10) Verifying the standby diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to 5700 to 6050 kW(4)(5)(6) and during the remaining 22 hours of this test, the diesel generator shall be loaded to 5000 to 5500 kW. (6) The steady-state generator voltage and frequency shall be 4160 ± 416 volts and 60 ± 1.2 Hz during this test. Within 5 minutes after completing this 24-hour test, perform a fast start per Specification 4.8.1.1.2.a.2(7)
4.8.1.1.2.e.9	At least once per 18 months during shutdown, by: Verifying the standby diesel generator's capability to: a) Synchronize with the offsite power source while the generator is loaded with its ESF loads upon a simulated restoration of offsite power, b) Transfer its loads to the offsite power source, and c) Be restored to its standby status
4.8.1.1.2.e.12	At least once per 18 months during shutdown by: Verifying that the standby diesel generator emergency stop lockout feature prevents diesel generator starting
4.8.1.1.2.g	At least once per 10 years by draining each fuel tank, removing the accumulated sediment and cleaning the tank.

Table 3: Surveillance Requirements Not Applicable in Mode 5 and 6

SR	Description	Basis for Proposed Change
4.8.1.1.2.e.4	At least once per 18 months during shutdown by: Simulating a loss-of-offsite power by itself, and: a) Verifying deenergization of the ESF busses and load shedding from the ESF busses, and b) Verifying the diesel starts on the auto-start signal within 10 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady-state voltage and frequency of the ESF busses shall be maintained at 4160 ± 416 volts and 60 ± 1.2 Hz during this test.	This proposed change differs from NUREG-1431. As discussed above, the ESF Load Sequencer is not required to be OPERABLE by the STP design basis or accident analyses.

4.8.1.1.2.e.5	At least once per 18 months during shutdown by: Verifying that on a Safety Injection test signal, without loss-of-offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be 4160 ± 416 volts and 60 ± 1.2 Hz within 10 seconds after the autostart signal; the steady-state generator voltage and frequency shall be maintained within these limits during this test	The STP ECCS is not required to be operable in Mode 5 or Mode 6 and this change is consistent with the ECCS instrumentation requirements that do not require the ECCS signals when the ECCS System is not required to be OPERABLE This is consistent with NUREG-1431.
4.8.1.1.2.e.6	At least once per 18 months during shutdown by: Simulating a loss-of-offsite power in conjunction with a Safety Injection test signal, and: a) Verifying deenergization of the ESF busses and load shedding from the ESF busses; b) Verifying the diesel starts on the auto-start signal within 10 seconds, energizes the auto-connected ESF (accident) loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the ESF loads. After, energization, the steady-state voltage and frequency of the ESF busses shall be maintained at 4160 ± 416 volts and 60 ± 1.2 Hz during this test; and c) Verifying that all automatic diesel generator trips, except engine overspeed, generator differential, and low lube oil pressure are automatically bypassed upon loss of voltage on the ESF bus concurrent with a Safety Injection Actuation signal.	The STP ECCS is not required to be operable in Mode 5 or Mode 6 and this change is consistent with the ECCS instrumentation requirements that do not require the ECCS signals when the ECCS System is not required to be OPERABLE. Items a and b are consistent with NUREG-1431. Item c differs from NUREG-1431 in that a correlation with NUREG-1431 would list this SR with the SRs in Table 2. However, within the STP TS, this is a SR that is directly associated with supporting ECCS requirements and is more appropriately listed with the SRs that are not applicable in Mode 5 and 6.
4.8.1.1.2.e.8	At least once per 18 months during shutdown by: Verifying that the auto-connected loads to each standby diesel generator do not exceed the 2000-hour rating of 5935 kW	This SR is appropriately performed to confirm the ESF loads for the Mode 1, 2, 3, and 4 events. Since STP does not require an operable sequencer in Mode 5 or 6, there are no auto-connected loads to verify in these modes.
4.8.1.1.2.e.10	At least once per 18 months during shutdown by: Verifying that with the standby diesel generator operating in a test mode, connected to its bus, a simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation, and (2) automatically energizing the ESF loads with offsite power [(5)]	The STP ECCS is not required to be operable in Mode 5 or Mode 6 and this change is consistent with the ECCS instrumentation requirements that do not require the ECCS signals when the ECCS System is not required to be OPERABLE This is consistent with NUREG-1431.
4.8.1.1.2.e.11	At least once per 18 months during shutdown by: Verifying that the automatic load sequence timer is OPERABLE with the first sequenced load verified to be loaded between 1.0 second and 1.6 seconds, and all other load blocks within ± 10% of its design interval	This proposed change differs from NUREG-1431. As discussed above, the ESF Load Sequencer is not required to be OPERABLE by the STP design basis or accident analyses.

4.8.1.1.2.e.13	At least once per 18 months during shutdown by: Demonstrating the OPERABILITY of the automatic load shed bypass and the manual load shed reinstatement features of the load sequencer	This proposed change differs from NUREG-1431. As discussed above, the ESF Load Sequencer is not required to be OPERABLE by the STP design basis or accident analyses.
4.8.1.1.2.f	At least once per 10 years or after any modifications which could affect standby diesel generator interdependence by starting all standby diesel generators simultaneously, during shutdown, and verifying that all standby diesel generators accelerate to at least 600 rpm in less than or equal to 10 seconds	This SR is not applicable in Mode 5 and 6 where the full complement of SDGs is not required and interdependence is of lesser concern. This is consistent with NUREG-1431.

Notes from TS page 3/4 8-7 applicable to Tables 2 and 3 (for completeness of information - no changes proposed):

(1) Loss of one 13.8 kV Standby Bus to 4.16 kV ESF bus line constitutes loss of one offsite source. Loss of two 13.8 kV Standby busses to 4.16 kV ESF bus lines constitutes loss of two offsite sources.

(2) All diesel generator starts for the purpose of these surveillances may be preceded by a prelube period.

(3) A diesel generator start in less than or equal to 10 seconds (fast start) shall be performed every 184 days. All other diesel generator starts for the purpose of this surveillance may be modified starts involving reduced fuel (load limit) and/or idling and gradual acceleration to synchronous speed.

(4) Generator loading may be accomplished in accordance with vendor recommendations, including a warmup period prior to loading.

(5) The diesel generator start for this surveillance may be a modified start (see SR 4.8.1.1.2a.2)).

(6) Momentary transients outside this load range due to changing conditions on the grid shall not invalidate the test.

(7) If Specification 4.8.1.1.2a.2) is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the standby diesel generator may be operated at 5000-5500 kW for a minimum of 2 hours or until operating temperature has stabilized.

(8) (Not used)

(9) (Not used)

(10) This test may be performed during power operation provided that the other two diesel generators are operable.

(11) Credit may be taken for events that satisfy any of these Surveillance Requirements.

5.0 Regulatory Safety Analysis

5.1 No Significant Hazards Determination

STPNOC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10CFR50.92, "Issuance of amendment," as discussed below.

1) <u>Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?</u>

   Response: No.

   The proposed changes do not change the plant design basis, system configuration or operation, and do not add or affect any accident initiator.

   Therefore, STPNOC concludes that there is no significant increase in the probability or consequences of an accident previously evaluated.

2) <u>Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?</u>

   Response: No.

   The proposed changes do not change the plant design basis, system configuration or operation, and do not add or affect any accident initiator.

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

3) <u>Does the proposed change involve a significant reduction in a margin of safety?</u>

   Response: No.

   No actual plant equipment or accident analyses will be affected by the proposed change. Additionally, the proposed changes will not relax any criteria used to establish safety limits, will not relax any safety systems settings, or will not relax the bases for any limiting conditions of operation. Therefore, STPNOC concludes the proposed changes do not involve a significant reduction in the margin of safety.

<u>Conclusion</u>

Based upon the analysis provided herein, the proposed amendments do not involve a significant hazards consideration.

5.2 Applicable Regulatory Requirements/Criteria

The regulatory basis for Technical Specification 3.8.1.1, 3.8.1.2, and 3.8.1.3 (Electrical Power Systems, A.C. and D. C. Power Sources, Operating and Shutdown), and 3.3.2, "Loss of Power Instrumentation," is to ensure that sufficient power will be available to supply the safety-related equipment required for: (1) the safe shutdown of the facility, and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. sources satisfy the requirements of General Design Criteria (GDC) 17 of Appendix A to 10CFR Part 50.

The South Texas design has met GDC 2 and 4 with respect to structures, systems, and components of the onsite A.C. and D.C. power system being capable of withstanding the effects of natural phenomena (such as earthquake, tornadoes, hurricanes, and floods), missiles, and environmental conditions associated with normal operation and postulated accidents.

The South Texas design has met GDC 5 with respect to structures, systems, and components of the A.C. and D.C. onsite power system. The onsite power system and components associated with Units 1 and 2 are housed in physically separate seismic Category I structures and are not shared.

The South Texas design has met GDC 17 which requires that all redundant equipment and circuits are separated by physically locating them in separate areas, separating by distance in the same area, and/or providing barriers between them.

The South Texas design has met GDC 18 with respect to the onsite A. C. and D.C. power system. The onsite power system is designed to be testable during station operation as well as when the station is shut down.

Because the proposed changes do not alter the design basis, change the plant configuration or significantly change operation procedures, STP maintains compliance with all applicable regulatory requirements.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 Environmental Considerations

10 CFR 51.22(b) specifies the criteria for categorical exclusions from the requirements for a specific environmental assessment per 10 CFR 51.21. This amendment request meets the criteria specified in 10 CFR 51.22(c)(9). The specific criteria contained in this section are discussed below.

(i) the amendment involves no significant hazards consideration

As demonstrated in the No Significant Hazards Consideration Determination, the requested license amendment does not involve any significant hazards consideration.

(ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite

The requested license amendment involves no change to the facility and does not involve any change in the manner of operation of any plant systems involving the generation, collection or processing of radioactive materials or other types of effluents. Therefore, no increase in the amounts of effluents or new types of effluents would be created.

(iii) there is no significant increase in individual or cumulative occupational radiation exposure

The requested license amendment involves no change to the facility and will not increase the radiation dose resulting from the operation of any plant system. Furthermore, implementation of this proposed change will not involve work activities which could contribute to occupational radiation exposure. Therefore, there will be no increase in individual or cumulative occupational radiation exposure associated with this proposed change.

Based on the above it is concluded that there will be no impact on the environment resulting from this change. The change meets the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.21 relative to specific environmental assessment by the Commission.

7.0 References

1. NUREG-1431 "Standard Technical Specifications, Westinghouse Plants"
2. South Texas Project Updated Final Safety Analysis Report
3. Procedure 0PGP04-AE0001, "First Response to Loss of Any or All 13.8 KV or 4.16 KV Bus"
4. Procedure 0PGP04-AE0003, "Loss Of Power To One Or More 13.8 KV Standby Bus"
5. Procedure 0PGP03-ZO0035, "Reduced RCS Inventory Operations"
6. STPNOC letter to NRC Document Control Desk dated December 3, 2001, "Proposed Amendment to Technical Specification 3.7.1.2" (NOC-AE-01001196)
7. STPNOC letter to NRC Document Control Desk dated May 30, 2001 "Proposed Revision to Reactor Trip System and Engineered Safety Features Actuation System Allowed Outage Times and Bypass Test Times" (NOC-AE-01001055)

ATTACHMENT 2

PROPOSED TECHNICAL SPECIFICATION CHANGES

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
8. Loss of Power					
a. 4.16 kV ESF Bus Under-voltage-Loss of Voltage	4/bus	2/bus	32 /bus	1, 2, 3, 4	20A
b. 4.16 kV ESF Bus Under-voltage-Tolerable Degraded Voltage Coincident with SI	4/bus	2/bus	32/bus	1, 2, 3, 4	20A
c. 4. 16 kV ESF Bus Under-voltage - Sustained Degraded Voltage	4/bus	2/bus	32/bus	1, 2, 3, 4	20A
9. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	3	2	2	1, 2, 3	21
b. Low-Low T_{avg} , P-12	4	2	3	1, 2, 3	21
c. Reactor Trip, P-4	2	1	2	1, 2, 3	23

TABLE 3.3-3 (Continued)

ACTION STATEMENTS (Continued)

ACTION 19 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 20 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour, and

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1.

INSERT 1

ACTION 21 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.

ACTION 22 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.

ACTION 24 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

ACTION 25 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

INSERT 1

ACTION 20A - a. With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

1. The inoperable channel is removed from service or placed in the tripped condition within 72 hours, and

2. The Minimum Channels OPERABLE requirement is met; however, an inoperable channel in the tripped condition may be bypassed for up to 12 hours for surveillance testing of other channels per Specification 4.3.2.1.

b. With the number of OPERABLE channels two less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided:

1. one inoperable channel is placed in the tripped condition and one inoperable channel is removed from service within 72 hours, and

2. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels per Specification 4.3.2.1.

c. With the number of OPERABLE channels less than the Minimum Number of Channels, declare the associated load sequencer inoperable and apply the ACTION required by Technical Specification 3.8.1.1.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE.

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E Distribution System[(1)], and

b. Three separate and independent standby diesel generators, each with a separate fuel tank containing a minimum volume of 60,500 gallons of fuel, **and an automatic load sequencer**.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one offsite circuit of the above-required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With a standby diesel generator inoperable, demonstrate the OPERABILITY of the above-required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the standby diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE standby diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.2) for each such standby diesel generator separately within 8 hours, unless it can be demonstrated there is no common mode failure for the remaining diesel generator(s). Restore the inoperable standby diesel generator to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With one offsite circuit of the above-required A.C. electrical power sources and one standby diesel generator inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; and if the standby diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE standby diesel generator(s) by performing Surveillance Requirement 4.8.1.1.2a.2) within 8 hours, unless it can be demonstrated there is no common mode failure for the remaining diesel generators; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two offsite circuits to OPERABLE status within 72 hours and three standby diesel generators to OPERABLE status within 14 days from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With one standby diesel generator inoperable in addition to ACTION b. or c. above, verify that:

1. All required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generators as a source of emergency power are also OPERABLE, and

2. When in Mode 1, 2, or 3, the steam-driven auxiliary feedwater pump is OPERABLE.

If these conditions are not satisfied within 24 hours be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With two of the above required offsite A.C. circuits inoperable, restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

f. With two or three of the above required standby diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing the requirements of Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; restore at least one standby diesel generator to OPERABLE status within 2 hours and at least two standby diesel generators to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least three standby diesel generators to OPERABLE status within 14 days from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

g. With one required load sequencer inoperable, restore the inoperable load sequencer to operable status within 7 days or be in HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

h. With one required load sequencer inoperable and one required standby diesel generator not associated with the inoperable sequencer also inoperable, restore the inoperable load sequencer and/or the inoperable standby diesel generator not associated with the inoperable load sequencer to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and

b. Two[1] standby diesel generators each with a separate fuel tank containing a minimum volume of 60,500 gallons of fuel.

APPLICABILITY: Mode 5 and Mode 6 with water level in the refueling cavity <23 ft above the reactor pressure vessel flange.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or required boron concentration, movement of irradiated fuel, operations with a potential for draining the reactor vessel or crane operation with loads over the spent fuel pool. Immediately initiate actions to restore the inoperable A.C. electrical power source to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.8.1.2 ~~The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1, 4.8.1.1.2 (except for Specification 4.8.1.1.2a.3), and 4.8.1.1.3.~~ **For AC sources required to be OPERABLE, the surveillance requirements of Specification 3.8.1.1, "AC Sources – Operating", are applicable (except 4.8.1.1.2.e.4, 4.8.1.1.2.e.5, 4.8.1.1.2.e.6, 4.8.1.1.2.e.8, 4.8.1.1.2.e.10, 4.8.1.1.2.e.11, 4.8.1.1.2.e.13, and 4.8.1.1.2.f).**

-NOTES-

1. The following surveillance requirements are not required to be performed: 4.8.1.1.2.a.3, 4.8.1.1.2.e.2, 4.8.1.1.2.e.3, 4.8.1.1.2.e.7, 4.8.1.1.2.e.9, 4.8.1.1.2.e.12, and 4.8.1.1.2.g.

4.8.1.2.1 The alternate onsite emergency power source shall be demonstrated functional by:

a. Within 4 hours of taking credit for the onsite emergency power source as a standby diesel generator, verify it starts and achieves steady state voltage (±10%) and frequency (±2%) in 5 minutes.

b. Within 4 hours of taking credit for the onsite emergency power source as a standby diesel generator and every 8 hours thereafter, verify the emergency power source is capable of being aligned to the required ESF bus by performing a breaker alignment check.

[1]An alternate onsite emergency power source, capable of supplying power for one train of shutdown cooling may be substituted for one of the required diesels for 14[2] consecutive days (SR 4.8.1.2.1 is the only requirement applicable).

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.3 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and

b. One standby diesel generator with a separate fuel tank containing a minimum volume of 60,500 gallons of fuel.

APPLICABILITY: Mode 6 with water level in the refueling cavity $\geq$23 ft above the reactor pressure vessel flange.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or required boron concentration, operations with a potential for draining the reactor vessel or crane operation with loads over the spent fuel pool. Immediately initiate actions to restore the inoperable A.C. electrical power source to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.8.1.3 ~~The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1, 4.8.1.1.2 (except for Specification 4.8.1.1.2a.3), and 4.8.1.1.3.~~ **For AC sources required to be OPERABLE, the surveillance requirements of Specification 3.8.1.1, "AC Sources – Operating", are applicable (except 4.8.1.1.2.e.4, 4.8.1.1.2.e.5, 4.8.1.1.2.e.6, 4.8.1.1.2.e.8, 4.8.1.1.2.e.10, 4.8.1.1.2.e.11, 4.8.1.1.2.e.13, and 4.8.1.1.2.f).**

-NOTES-

The following surveillance requirements are not required to be performed: 4.8.1.1.2.a.3, 4.8.1.1.2.e.2, 4.8.1.1.2.e.3, 4.8.1.1.2.e.7, 4.8.1.1.2.e.9, 4.8.1.1.2.e.12, and 4.8.1.1.2.g.

ATTACHMENT 3

TECHNICAL SPECIFICATION PAGE WITH PROPOSED CHANGES INCORPORATED

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
8. Loss of Power					
a. 4.16 kV ESF Bus Under-voltage-Loss of Voltage	4/bus	2/bus	2 /bus	1, 2, 3, 4	20A
b. 4.16 kV ESF Bus Under-voltage-Tolerable Degraded Voltage Coincident with SI	4/bus	2/bus	2/bus	1, 2, 3, 4	20A
c. 4. 16 kV ESF Bus Under-voltage - Sustained Degraded Voltage	4/bus	2/bus	2/bus	1, 2, 3, 4	20A
9. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	3	2	2	1, 2, 3	21
b. Low-Low T_{avg}, P-12	4	2	3	1, 2, 3	21
c. Reactor Trip, P-4	2	1	2	1, 2, 3	23

TABLE 3.3-3 (Continued)

ACTION STATEMENTS (Continued)

ACTION 19 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 20 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour, and

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1.

ACTION 20A - a. With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

1. The inoperable channel is removed from service or placed in the tripped condition within 72 hours, and

2. The Minimum Channels OPERABLE requirement is met; however, an inoperable channel in the tripped condition may be bypassed for up to 12 hours for surveillance testing of other channels per Specification 4.3.2.1.

b. With the number of OPERABLE channels two less than the Minimum Number of Channels, STARTUP and/or POWER OPERATION may proceed provided:

1. one inoperable channel is placed in the tripped condition and one inoperable channel is removed from service within 72 hours, and

2. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels per Specification 4.3.2.1.

c. With the number of OPERABLE channels less than the Minimum Number of Channels, declare the associated load sequencer inoperable and apply the ACTION required by Technical Specification 3.8.1.1.

ACTION 21 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.

TABLE 3.3-3 (Continued)

ACTION STATEMENTS (Continued)

ACTION 22 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.

ACTION 24 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

ACTION 25 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 26- With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, declare the affected Auxiliary Feedwater Pump inoperable and take ACTION required by Specification 3.7.1.2.

ACTION 27- For an inoperable channel, declare its associated ventilation train inoperable and apply the actions of Specification 3.7.7.

ACTION 28- With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, within 1 hour initiate and maintain operation of the Control Room Makeup and Cleanup Filtration System (at 100% capacity) in the recirculation and makeup filtration mode.

ACTION 29- For an inoperable channel, declare its associated ventilation train inoperable and apply the actions of Specification 3.7.8.

ACTION 30- With irradiated fuel in the spent fuel pool: With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, fuel movement within the spent fuel pool or crane operation with loads over the spent fuel pool may proceed provided the FHB exhaust air filtration system is in operation and discharging through at least one train of HEPA filters and charcoal adsorbers.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE.

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E Distribution System[(1)], and

b. Three separate and independent standby diesel generators, each with a separate fuel tank containing a minimum volume of 60,500 gallons of fuel, and an automatic load sequencer.

c.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one offsite circuit of the above-required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With a standby diesel generator inoperable, demonstrate the OPERABILITY of the above-required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the standby diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE standby diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.2) for each such standby diesel generator separately within 8 hours, unless it can be demonstrated there is no common mode failure for the remaining diesel generator(s). Restore the inoperable standby diesel generator to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With one offsite circuit of the above-required A.C. electrical power sources and one standby diesel generator inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; and if the standby diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive

ACTION (Continued)

maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE standby diesel generator(s) by performing Surveillance Requirement 4.8.1.1.2a.2) within 8 hours, unless it can be demonstrated there is no common mode failure for the remaining diesel generators; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two offsite circuits to OPERABLE status within 72 hours and three standby diesel generators to OPERABLE status within 14 days from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With one standby diesel generator inoperable in addition to ACTION b. or c. above, verify that:

1. All required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generators as a source of emergency power are also OPERABLE, and

2. When in Mode 1, 2, or 3, the steam-driven auxiliary feedwater pump is OPERABLE.

If these conditions are not satisfied within 24 hours be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With two of the above required offsite A.C. circuits inoperable, restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

f. With two or three of the above required standby diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing the requirements of Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; restore at least one standby diesel generator to OPERABLE status within 2 hours and at least two standby diesel generators to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least three standby diesel generators to OPERABLE status within 14 days from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

g. With one required load sequencer inoperable restore the inoperable load sequencer to operable status within 7 days or be in HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

h. With one required load sequencer inoperable and one required standby diesel generator not associated with the inoperable sequencer also inoperable, restore the inoperable load sequencer and/or the inoperable standby diesel generator not associated with the inoperable load sequencer to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and

b. Two[1] standby diesel generators each with a separate fuel tank containing a minimum volume of 60,500 gallons of fuel.

APPLICABILITY: Mode 5 and Mode 6 with water level in the refueling cavity <23 ft above the reactor pressure vessel flange.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or required boron concentration, movement of irradiated fuel, operations with a potential for draining the reactor vessel or crane operation with loads over the spent fuel pool. Immediately initiate actions to restore the inoperable A.C. electrical power source to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.8.1.2 For AC sources required to be OPERABLE, the surveillance requirements of Specification 3.8.1.1, "AC Sources – Operating", are applicable (except 4.8.1.1.2.e.4, 4.8.1.1.2.e.5, 4.8.1.1.2.e.6, 4.8.1.1.2.e.8, 4.8.1.1.2.e.10, 4.8.1.1.2.e.11, 4.8.1.1.2.e.13, and 4.8.1.1.2.f).

-NOTES-

1. The following surveillance requirements are not required to be performed: 4.8.1.1.2.a.3, 4.8.1.1.2.e.2, 4.8.1.1.2.e.3, 4.8.1.1.2.e.7, 4.8.1.1.2.e.9, 4.8.1.1.2.e.12, and 4.8.1.1.2.g.

4.8.1.2.1 The alternate onsite emergency power source shall be demonstrated functional by:

a. Within 4 hours of taking credit for the onsite emergency power source as a standby diesel generator, verify it starts and achieves steady state voltage (±10%) and frequency (±2%) in 5 minutes.

b. Within 4 hours of taking credit for the onsite emergency power source as a standby diesel generator and every 8 hours thereafter, verify the emergency power source is capable of being aligned to the required ESF bus by performing a breaker alignment check.

[1]An alternate onsite emergency power source, capable of supplying power for one train of shutdown cooling may be substituted for one of the required diesels for 14[2] consecutive days (SR 4.8.1.2.1 is the only requirement applicable).

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.3 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and

b. One standby diesel generator with a separate fuel tank containing a minimum volume of 60,500 gallons of fuel.

APPLICABILITY: Mode 6 with water level in the refueling cavity ≥23 ft above the reactor pressure vessel flange.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or required boron concentration, operations with a potential for draining the reactor vessel or crane operation with loads over the spent fuel pool. Immediately initiate actions to restore the inoperable A.C. electrical power source to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.8.1.3 For AC sources required to be OPERABLE, the surveillance requirements of Specification 3.8.1.1, "AC Sources – Operating", are applicable (except 4.8.1.1.2.e.4, 4.8.1.1.2.e.5, 4.8.1.1.2.e.6, 4.8.1.1.2.e.8, 4.8.1.1.2.e.10, 4.8.1.1.2.e.11, 4.8.1.1.2.e.13, and 4.8.1.1.2.f).

-NOTES-

1. The following surveillance requirements are not required to be performed: 4.8.1.1.2.a.3, 4.8.1.1.2.e.2, 4.8.1.1.2.e.3, 4.8.1.1.2.e.7, 4.8.1.1.2.e.9, 4.8.1.1.2.e.12, and 4.8.1.1.2.g.

ATTACHMENT 4

INSERTS FOR TECHNICAL SPECIFICATION BASES

The information below will be inserted in the Technical Bases for the loss of power instrumentation and the AC Sources. Copies of the revised Bases pages will be provided to the NRC after the amendment is approved and the pages have been revised.

Loss of Power Instrumentation Bases Inserts

Four channels per bus comprise the STP loss of power instrumentation. The loss of power actuation logic is 2 of the 4 channels tripping. The design basis is met as long as STP retains adequate assurance that at least two channels would trip on undervoltage. If one channel is inoperable, this can be accomplished with a 2 of 3 logic with the remaining operable channels with the inoperable channel taken out of service. If two channels were inoperable, it can be accomplished by placing one of the inoperable channels in the tripped condition and operating with a 1 of 2 logic. In each of the action conditions, there is adequate assurance that the operable instruments will perform the design function, even considering that one operable channel fails.

The loss of power instruments perform a support function for their associated ESF load sequencers. Therefore, when there are fewer than the Minimum Channels Operable requirement, the result is that the ESF load sequencer is inoperable. The appropriate TS to apply to an inoperable ESF load sequencer in Mode 1, 2, 3 or 4 is TS 3/4.8.1.1 for AC Sources - Operating.

AC Sources Bases Inserts

The 7 day allowed outage time for an inoperable sequencer is based on the most limiting allowed outage times for components actuated by the sequencer, which include safety injection, essential cooling water, component cooling water, and essential chilled water.

Action h. applies for the configuration where there is one inoperable sequencer and one inoperable diesel (on a different train than the inoperable sequencer). The action requires restoration of at least one of the two inoperable components within 24 hours. The proposed action time is consistent with the time required in TS 3.8.1.1.d for an inoperable diesel with another component that depends on one of the operable diesels also inoperable. The proposed action time is also consistent with the required action time for TS 3.8.1.1.f. for two inoperable standby diesel generators. A condition where there is one inoperable sequencer and one inoperable standby diesel is considered comparable to the conditions of TS 3.8.1.1d. or TS 3.8.1.1.f . Note that the operator can manually start and load the standby diesel that is made inoperable by the inoperable sequencer.

Each automatic sequencer has 6 actuation inputs. At least 4 of the inputs are required to be operable for the sequencer to be operable.

The SRs required to be met but not required to be performed preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing 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.

The ESF Load Sequencer is not normally required to be operable in Mode 5 or Mode 6. STP's accident analyses take no credit for automatic load shedding or sequencing in these modes. Although the loss of power instrumentation and the sequencer are normally operable for their associated SDG in Mode 5 and Mode 6, the TS do not require them to be operable. Operator response may require manual start of the Standby Diesel Generator and manual loading of the ESF bus. The STP design does not automatically sequence RHR on to the bus even in Modes where the sequencer is required to be operable. Application of the definition of OPERABLE – OPERABILITY in conjunction with the use of STP's procedures provides adequate guidance for STP operators to determine the instrumentation required for the plant configuration. For instance, during reduced inventory operations, STP procedures require all diesel support instrumentation to be operable.