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

September 22, 2003
NOC-AE-03001578
10CFR50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

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

References:
1. Letter from J. J. Sheppard, STPNOC, to NRC Document Control Desk, dated February 14, 2002, "Proposed Change to Loss of Power and AC Sources Technical Specifications" (NOC-AE-01001214)
2. Letter from T. J. Jordan, STPNOC, to NRC Document Control Desk, dated October 24, 2002, "Response to NRC Questions on Proposed Change to Loss of Power and AC Sources Technical Specifications" (NOC-AE-02001402)
3. Letter from T. J. Jordan, STPNOC, to NRC Document Control Desk, dated September 22, 2003, "Proposed Change to Loss of Power and AC Sources Technical Specifications" (NOC-AE-03001472)

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). In addition, changes to Technical Specification Bases pages are included for your information.

The proposed changes were originally submitted in Reference 1. Reference 3 withdrew the proposed changes along with proposed changes to Technical Specification 3.8.1.1, noting that the Loss of Power Instrumentation changes would be resubmitted separately.

In the review of the original application in Reference 1, the staff requested additional information regarding the proposed changes to the loss of power instrumentation and the load sequencer. Responses to these questions are attached.

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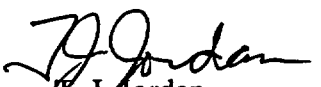
The proposed change is not required to support outage activities; however, if practical, STPNOC requests approval of the proposed amendment by January 15, 2004 so that it can be implemented prior to the Unit 2 spring outage, concurrent with the amendment proposed in Reference 3. Otherwise, STPNOC requests approval by May 13, 2004 so that implementation can be done shortly after the Unit 2 outage is over. STPNOC requests 60 days for implementation of the amendment after it is approved.

The STPNOC Plant Operations Review Committee has 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.

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 September 22, 2003.
Date



W. J. Jordan
Vice President
Engineering & Technical Services

awh/

Attachments:
1. Description of Changes and Safety Evaluation
2. Annotated Technical Specification Pages
3. Inserts for Technical Specification Bases
4. Responses to NRC Questions

cc:
(paper copy)

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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. 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

This submittal is different from the originally proposed change in the February 14, 2002 submittal (NOC-AE-01001214) to the Loss of Power Instrumentation TS in the following respects:

1. The Total Number of Channels of loss of power instrumentation in Table 3.3-3 is changed from 4 to 3.
2. Proposed ACTION 20A is simplified to be consistent with the action required in NUREG-1431.
3. Additional justification for the loss of power instrumentation changes.

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 Total Number of Channels for the loss of power instrumentation from 4 to 3 and to change the Minimum Channels OPERABLE requirement from 3 channels/bus to 2 channels/bus. A new ACTION 20A is added for the case where the number of OPERABLE channels is less than the Minimum Number of Channels. ACTION 20A.a. retains existing ACTION 20 time limits, but changes the required action to declare the associated standby diesel generator inoperable and apply the ACTION required by TS 3.8.1.1 (AC Sources). New ACTION 20A.b. applies when the number of operable channels is two or more less than the Total Number of Channels and requires at least two channels to be restored within an hour or declare the associated standby diesel generator inoperable.	STP has 4 channels of loss of power instrumentation which affords substantial operating margin. Removing one of the channels from the scope of TS has no safety significance. 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 standby diesel generator 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.

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.

4.0 Technical Analysis

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 Table 3.3-3 description of the loss of power instrumentation for the Total Number of Channels from 4 to 3 and to change the Minimum Channels OPERABLE requirement from 3 channels to 2 channels. This will remove one channel of loss of power instrumentation from the scope of the Technical Specifications and retain the advantage of STP's 4 channel design for the function and enhance plant reliability. With less than the Minimum Channels OPERABLE, the associated standby diesel generator 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.

The subject relays perform a support function for the sequencer only for its functions to start and /or load its associated standby diesel generator (SDG) for those events involving a loss of off-site power. With the loss of power relays inoperable, the sequencer is still able to perform its function to sequence on safety injection loads for accidents not involving a loss of off-site power. Additional information regarding the sequencer is provided in the responses to NRC staff questions in Attachment 4. The ultimate effect of inoperable loss of power instrumentation is that the associated standby diesel generator will not load and is therefore inoperable. Consequently, the appropriate action is to declare the SDG inoperable and apply the requirements of TS 3.8.1.1. This is consistent with the requirements of NUREG-1431.

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). Those changes were approved in the issuance of Amendments 136/125. The technical basis and justification for changes to ACTION 20 in the May 30, 2001 letter also apply to the loss of power instrumentation.

The change approved in Amendments 136/125 included the Loss of Power Instrumentation with the existing 2 of 4 logic, and the specific basis for the acceptability for this instrumentation stated:

> STP TS 3.3.2 Functional Unit 8 – STP has evaluated the change to the Loss of Power Functional Unit and has determined that relaxation of the AOT and bypass test times is justified. The standby diesel generator start signals on low bus voltage are two-out-of –four logic for each bus. With a single instrument loop bypassed, the logic is effectively two-out-of –three, which could increase the likelihood of signal failure to approximately 8.6E-06 with no operator action.

> Because the likelihood of diesel generator failure for all causes is approximately 8E-02, the small change in signal unavailability does not affect the diesel generator automatic start on loss of power to its associated bus.

Reference 2 of the cover letter responded to NRC questions regarding the risk significance of the Loss of Power Instrumentation and quantified the bounding case for the condition with only two operable channels. The response states:

> The limiting relay actuation failure occurs when the actuation logic is reduced to 2 of 2. In this case, only one of the two relays can fail in order to fail the function. Although the current reference PRA model does not include basic events for the 4.16kV undervoltage relays, the input relay failure can be simulated by increasing the likelihood of failure of the ESF load sequencer output relay basic events. The resulting change in core damage frequency is 4.0E-09 events/year using an average maintenance PRA model, which well below the RG 1.174 guidance of 1.0E-06.

The conclusion is that the proposed change in the logic has no significant effect on the analyses performed for the Loss of Power Instrumentation to extend 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.

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.

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

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

   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.

Conclusion

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 3.3.2, "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. 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	3/bus	1, 2, 3, 4	20A
b. 4.16 kV ESF Bus Under-voltage-Tolerable Degraded Voltage Coincident with SI	4/bus	2/bus	3/bus	1, 2, 3, 4	20A
c. 4. 16 kV ESF Bus Under-voltage - Sustained Degraded Voltage	4/bus	2/bus	3/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. For Functional Units with installed bypass test capability, the inoperable channel may be placed in bypass, and must be placed in the tripped condition within 72 hours.

Note: A channel may be bypassed for up to 12 hours for surveillance testing per Specification 4.3.2.1, provided no more than one channel is in bypass at any time.

b. For Functional Units with no installed bypass test capability,

1. The inoperable channel is placed in the tripped condition 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.

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, restore the inoperable channel to OPERABLE status within 24 hours, or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 4 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.

INSERT 1

ACTION 20A - a. With the number of OPERABLE channels one less than the Total Number of Channels, apply the requirements of ACTION 20 or enter the applicable conditions and ACTION for the Standby Diesel Generator made inoperable by the inoperable Loss of Power instrumentation.

b. With the number of OPERABLE channels two less than the Total Number of Channels, restore at least two channels per bus to OPERABLE status within 1 hour or enter the applicable conditions and ACTION for the Standby Diesel Generator made inoperable by the inoperable Loss of Power instrumentation.

ATTACHMENT 3

INSERTS FOR TECHNICAL SPECIFICATION BASES

The information below will be inserted in the Technical Bases for the loss of power instrumentation. 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 of degraded voltage and four channels per bus of loss of voltage comprise the STP loss of power instrumentation; however, only 3 channels per bus of each function are required by the Technical Specifications. The loss of power actuation logic is 2 of 4 channels tripping. The design basis is met as long as STP retains adequate assurance that at least two channels of the affected function would trip on loss of voltage or degraded voltage.

The subject relays perform a support function for the load sequencer only for its functions to start and/or load its associated standby diesel generator (SDG) for those events involving a loss of off-site power (Sequencer Mode II and Mode III). The sequencer is still able to perform its Mode I Safety Injection function if the relays are not operable. The ultimate effect of inoperable loss of power instrumentation is that the associated SDG will not load and is therefore inoperable.

ACTION 20A.a. applies when one of the 3 required channels of either loss of power instrumentation function is inoperable. The required action for loss of power instrumentation (no installed bypass capability) is to place the inoperable channel in the tripped condition within 72 hours. The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. Application of this action implies that the "non-TS" channel is also inoperable and has been bypassed or otherwise removed from service.

ACTION 20A.b. applies when more than one of the 3 required channels of either loss of power instrumentation are inoperable. The required action is to declare the associated SDG inoperable and apply the actions required by Technical Specification 3.8.1.1 for an inoperable SDG.

Attachment 4
Responses to NRC Questions

Responses to NRC Questions

1. **As part of STP's design, each sequencer, in response to an accident signal (without loss of power), starts the SDG and sequences the load group onto the offsite power supply. This sequencing of the load group (pursuant to GDC 17) supports the availability of sufficient capacity and capability of the offsite system circuit (assuming the onsite system is not functioning and single failure of one load group) to assure the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents. Explain/justify either why this sequencing of the load group which assures sufficient capacity and capability of the offsite system is not a design basis requirement for the STP plant as conveyed by the STP FSAR or why when this requirement is not met, TS LCO requirements are not required.**

   STPNOC Response:

   As a clarification, the SDG also receives a start signal from the safety injection actuation circuitry independent of the sequencer. No loads are stripped and the SDG is not loaded on the bus.

   STPNOC's position is that the sequencer does not perform a support function for the offsite power. STPNOC considers offsite power operable if it is supplying required power and voltage at the 4.16 kV ESF bus. This position is consistent with the surveillance requirements (SR) 4.8.1.1.a. and 4.8.1.1.b. The surveillance requirements are to confirm proper breaker alignments and indicated power availability each 7 days, and to verify the ability to transfer power from the normal circuit to each of the alternate circuits at least once per 18 months. There are no requirements for sequencer operability to meet those SRs. Note that in an accident scenario with an inoperable sequencer, the bus still provides power to the accident mitigation equipment that is already operating or which is not required to be loaded by the sequencer. In addition, the inoperability of the sequencer also precludes the simultaneous loading of the accident mitigation equipment on the bus. The bus is available to energize the equipment as it is manually loaded in accordance with procedures. Consequently, STPNOC considers offsite power to be operable.

   For an accident condition without a loss of offsite power, STPNOC considers the sequencer a support function for the accident mitigation components it loads on the bus. Consequently, when a sequencer is inoperable, STPNOC declares the equipment sequenced on the bus by the sequencer inoperable and applies the TS action appropriate to that equipment.

   As discussed in Attachment 1 of this letter, the loss of power instrumentation relays perform a support function for the sequencer only for its functions to start and /or load its associated standby diesel generator (SDG) for those events involving a loss of off-site power. With the loss of power relays inoperable, the sequencer is still able to perform its function to sequence on safety injection loads for accidents not involving a loss of off-site power.

2. **As part of STP's design, each sequencer, in response to an actuation signal from the loss of power instrumentation (without an accident signal), trips the offsite power supply breaker to the load group. Tripping the supply breaker isolates (and thus protects) the load group from the degraded and transient voltage conditions that may exist on the offsite power supply during a loss of offsite power event. This protection (pursuant with the requirements of GDC-17), minimizes the probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear power unit, the loss of power from the transmission network, or the loss of power from the onsite electric power supplies and (b) thus supports the availability of sufficient capacity and capability of the load group when needed (assuming the offsite system is not functioning and single failure of one SDG or load group) to assure fuel design limits and design conditions of the reactor coolant boundary are not exceeded as a result of anticipated operational occurrences. Explain/justify either why the opening of the offsite power supply breaker which assures sufficient capacity and capability of the load group is not a design basis requirement for the STP plant or why when this requirement is not met, TS LCO requirements are not required.**

STPNOC Response:

STPNOC considers opening the supply breaker to be a function the sequencer performs as part of its function to start and load its associated SDG. As stated in STP UFSAR Sec. 8.3.1.1.4.4.2: "Disconnecting the Class 1E onsite power system from the offsite system precludes the possibility of subsequent interaction between the onsite and the offsite power systems." If the sequencer is not able to perform this function, the associated SDG is not operable. This is consistent with the TS SRs required to demonstrate the operability of the SDG. The sequencer does not support operability of the offsite power source in a loss of power/degraded power scenario because the initiating event made offsite power inoperable prior to the requirement for the sequencer to function.

For an inoperable sequencer, STPNOC considers the loads the affected sequencer loads onto that train's power distribution system inoperable as stated in the response to question #1. All of the loads supplied by the affected train are still protected by overcurrent schemes as described in the UFSAR section 8.3, which will protect the load from operating at less than 90 percent voltage. The remaining 2 trains at STP will still be protected during low or loss of voltage events which will minimize the probability of losing electric power to these trains during a loss of transmission or long term transient.

If the sequencer cannot function because the loss of power instrumentation has failed, the ultimate result is that the associated SDG will not start and load. As discussed in Attachment 1 of this letter, the appropriate action for inoperable loss of power instrumentation is to declare the associated SDG inoperable.

Failure of the offsite power source in the cited scenario would in and of itself require entry into the appropriate TS action.

STPNOC does recognize that inoperable loss of power instrumentation or sequencer affects the reliability of that train and applies the appropriate LCOs to the affected loads. Inoperable loss of power instrumentation has its own LCO (which STPNOC is seeking to revise in this application) and an inoperable sequencer requires that the load with the shortest allowable LCO defines when the plant has to enter a shut down action. Even though the capability to trip the supply breaker is lost during a degraded or loss of voltage event due to an inoperable sequencer, the power distribution system is not inoperable as long as adequate voltage is supplied from the offsite system. All trains are equipped with low and degraded voltage alarms in the control room, which will alert plant operations to enter an LCO for the affected train at that time. The sequencer also has alarms for bypass or inoperable conditions in the control room.

3. **Provide results of a risk evaluation for the proposed 7 day LCO assuming loss and non-recovery of one of three divisions including loss and non-recovery of the division's associated dc systems after two hours or when the battery would be depleted. Justify any deviations from guidelines of RG 1.174 and 1.177.**

   STPNOC Response:

   The proposed 7 day LCO has been withdrawn.