

**From:** John Knox  
**To:** John Minns  
**Date:** 7/23/02 11:05AM  
**Subject:** Draft RAI South Texas TS for Loss of Power instrumentation

TACs MB 4056 and MB 4057 have an RAI due date of 7/31/02 and SE target date of 11/29/02. The following draft questions are proposed as formal RAIs to meet these dates. Can a telephone call be set up with the licensee to initiate a dialog with the licensee and to discuss the validity of these RAIs and the need for formal RAIs?

1. Provide justification for plant operation for 72 hours with one, two, or three trains having their first and second levels of loss of power instrumentation configured in a one of three channels for actuation logic. Provide the results of analysis which demonstrates that the risk increase due to spurious actuation of the loss of voltage instrumentation is within the guidelines of RG 1.174 or RG 1.177.
2. Provide justification for unrestricted plant operation with one, two, or three trains having their first and second levels of loss of power instrumentation configured in a one of three channels for actuation logic. Provide the results of analysis which demonstrates that the risk increase due to spurious actuation of the loss of voltage instrumentation is within the guidelines of RG 1.174 or RG 1.177.
3. Provide justification for plant operation for 72 hours with one, two, or three trains having their first and second levels of loss of power instrumentation configured in a two of two channels for actuation logic. Provide the results of analysis which demonstrates that the risk increase due to the potential failure of actuation of the loss of voltage instrumentation due to single failure is within the guidelines of RG 1.174 or RG 1.177.
4. Provide justification for plant operation for 72 hours with one, two, or three trains having their first and second levels of loss of power instrumentation configured in a one of two channels for actuation logic. Provide the results of analysis which demonstrates that the risk increase due to spurious actuation of the loss of voltage instrumentation is within the guidelines of RG 1.174 or RG 1.177.
5. Provide justification for unrestricted plant operation with one, two, or three trains having their first and second levels of loss of power instrumentation configured in a one of two channels for actuation logic. Provide the results of analysis which demonstrates that the risk increase due to spurious actuation of the loss of voltage instrumentation is within the guidelines of RG 1.174 or RG 1.177.
6. If an ESF load sequencer is inoperable, current TS (based on the definition for operability) requires that systems supported by the sequencer be declared inoperable. Systems supported by the sequencer include: the diesel generator standby onsite ac source, the offsite ac source, and required systems associated with (or connected to) the onsite (standby diesel generator) or offsite ac sources. These supported systems (based on the TS definition for operability) are considered inoperable.
  - a. When an offsite and diesel generator ac sources are inoperable, current TS 3.8.1.1.c allows 12 hours to restore either the offsite or onsite ac source (i.e., the ESF load sequencer). Clarify how the new proposed TS 3.8.1.1.g will interact with current TS 3.8.1.1.c and the TS definition for operability.
  - b. When one diesel generator is inoperable, current TS 3.8.1.1.b allows 14 days and TS 3.8.1.1.d allows 24 hours to verify operability of required systems. If a required system [redundant to the inoperable required systems supported by the inoperable DG or offsite circuit] is found inoperable, the system TS would apply (i.e., 3.0.3) thus requiring shutdown.
    - i. Clarify how the new proposed TS 3.8.1.1.g will interact with current TS 3.8.1.1.d and the TS definition for operability.
    - ii. Explain how the current TS requirement for plant shutdown (when there is a loss of safety function conveyed by TS 3.8.1.1.d) will be maintained when there is an inoperable load

sequencer.

c. The battery charger is a required system supported by either the offsite or onsite power source which should be considered inoperable (based on the definition for operability) when there is an inoperable ESF load sequencer. When the battery charger is inoperable, current TS 3.8.2.1.b allows 2 hours to restore the battery charger (i.e., the ESF load sequencer). Clarify how the new proposed TS 3.8.1.1.g will interact with current TS 3.8.1.1.c and the TS definition for operability.

d. If the dc system for one train (that is associated with the inoperable load sequencer) is assumed lost after two hours (i.e., the time for battery discharge after loss of ac power), provide the results of analysis which demonstrates that the risk increase due to loss of ac power and dc power after 2 hours is within the guidelines of RG 1.174 or RG 1.177 for the 7 day LCO time.

7. If an ESF load sequencer and a diesel generator in another division are inoperable, current TS (based on the definition for operability and TS 3.8.1.1.d) would convey inoperability of two of STP's three trains Design basis accident mitigation equipment (i.e., required systems) and require STPNOC to apply TS 3.0.3.

a. Clarify how the new proposed TS 3.8.1.1.h will interact with current TS 3.8.1.1.d and the TS definition for operability.

b. Explain how the current TS requirement for plant shutdown (when there is a loss of safety function conveyed by TS 3.8.1.1.d) will be maintained when there is an apparent loss of safety function due to an inoperable load sequencer and diesel generator.

8. Describe the options available that will be utilized during shutdown modes of plant operation to demonstrate the capability of the diesel generator to accept and reject load.

**CC:** Amritpal Gill

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