



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

January 30, 2007
NOC-AE-07002109
10CFR50.54(f)

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Response to Request for Additional Information
Regarding Resolution of NRC Generic Letter 2006-02:
“Grid Reliability and the Impact on Plant Risk
and the Operability of Offsite Power” (TAC NOs. MD1035 and MD1036)

By letter NOC-AE-06001979 dated March 30, 2006, STP Nuclear Operating Company (STPNOC) submitted to the NRC a response to Generic Letter (GL) 2006-02, “Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power.” By a letter dated December 5, 2006, the NRC provided STPNOC a request for additional information (RAI) regarding GL 2006-02. An NRC letter dated December 13, 2006, extended the RAI response due date to January 31, 2007. Responses to the RAI are enclosed in Attachment 1.

A review of the March 30, 2006 STPNOC letter noted an error in response to one of the questions in the GL. A description of the error and correction is provided in Attachment 2. This issue is documented in the South Texas Project Corrective Action Program.

There are no commitments in this letter.

If there are any questions regarding this response, please contact Ken Taplett at (361) 972-8416 or me at (361) 972-7867.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 1/30/2007


David W. Rencurrel
Vice President, Engineering & Alliances

kjt/

- Attachments:
1. Response to Request for Additional Information Regarding Resolution of NRC Generic Letter 2006-02: "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power"
 2. Correction to Letter from STPNOC to the NRC Document Control Desk, dated March 30, 2006 (NOC-AE-06001979)

cc:

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**Response to Request for Additional Information
Regarding Resolution of NRC Generic Letter 2006-02:
“Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power”**

Note: The NRC request for additional information dated December 5, 2006 requested a response from STPNOC to questions 3, 5 and 6 only.

NRC Question 3

Verification of RTCA Predicted Post-Trip Voltage

Your response to question 2(g) indicates that you have not verified by procedure the voltages predicted by the online grid analysis tool (software program) with actual real plant trip voltage values. It is important that the programs used for predicting post-trip voltage be verified to be reasonably accurate and conservative. What is the range of accuracy for your GO’s contingency analysis program? Why are you confident that the post-trip voltages calculated by the GO’s contingency analysis program (that you are using to determine operability of the offsite power system) are reasonably accurate and conservative? What is your standard of acceptance?

STPNOC Response

Note: For the response below, the Transmission System Operator (TSO) is STP’s Independent System Operator (ISO) which is the Electric Reliability Council of Texas (ERCOT). STP uses a Transmission Service Provider (TSP) as a point of interconnection to the ERCOT grid. The primary TSP for the STP is CenterPoint Energy.

An accuracy range that can not be provided by the Transmission Service Provider (TSP) for the real time and contingency analysis. However, based on operational aspects of the analysis, an implied accuracy can be achieved. The analysis program can be considered to have two parts to obtain an accuracy of the program. The first part is the real time analysis. The primary accuracy of the real time analysis is based on the accuracy of the input devices from the field such as potential and current transformers. The second part is the contingency analysis that is slightly less accurate since it takes a latent snap shot of the grid from the real time analysis to run the contingencies. It also uses assumptions based on grid parameters. Even though the actual accuracy of the real time and contingency analyses is not available, there is high confidence in the program.

According to NRC Regulatory Issue Summary 2005-20, the term “Operable/Operability” is defined in the Technical Specifications (TS) and applied only to TS Systems, Structures, and

Components (SSCs). Thus, the NPP offsite power system cannot be referred to as “operable” or “inoperable,” because the grid is not a TS SSC. Everything that is non-TS, e.g. NPP offsite power system (OPS), is referred to as Functional or non-Functional. For the South Texas Project, there are two entities that monitor the grid in both real time and contingency analyses. One is the Transmission System Operator (TSO) (or Independent System Operator (ISO)) and the other is the TSP. These two entities use each other as a check to ensure that the minimum required voltages are not exceeded in both real time and for the contingency analysis. Also, the TSP uses events and system configuration information as they become available to compare the results of their real time and contingency analyses besides just the trip of the units at STP. These include (1) the review of mismatches in the results of the real time analysis compared to actual measured data and (2) the trip of non-nuclear generators in the system.

The real time and contingency analysis program meets ERCOT’s acceptance criteria for accuracy, and the contingency analysis tool is a commercial grade tool that is accepted throughout the industry. Also, the TSP has been using and adjusting the real time and contingency analysis program for some time. The TSP has gained proficiency at finding and understanding false alarms and inconsistent data from the actual field inputs. STP is confident that the real time and contingency analyses provide reasonably accurate results.

NRC Question 5

Seasonal Variation in Grid Stress (Reliability and Loss-of-Offsite Power (LOOP) Probability)

Certain regions during certain times of the year (seasonal variations) experience higher grid stress as is indicated in Electric Power Research Institute (EPRI) Report 1011759, Table 4-7, Grid LOOP Adjustment Factor, and NRC NUREG/CR-6890. Do you adjust the base LOOP frequency in your probabilistic risk assessment (PRA) and Maintenance Rule evaluations for various seasons? If you do not consider seasonal variations in base LOOP frequency in your PRA and Maintenance Rule evaluations, explain why it is acceptable not to do so.

STPNOC Response

STP does not make an adjustment to the base LOOP frequency for various seasons when performing risk assessments. This is based on plant-specific operating experience through 2004 and review of the latest NRC and EPRI reports concerning grid stability after the August 2003 Northeast blackout that indicates no seasonal variation in the likelihood of loss of offsite power in ERCOT, which includes the grid surrounding STPEGS.

If and when conditions of higher grid stress are experienced that challenge the reliability of offsite power, the plant would be notified by the TSO and the current plant configuration would be qualitatively reevaluated as to the remainder of the scheduled work to account for these conditions.

NRC Question 6

Interface With Transmission System Operator During Extended Plant Maintenance

How do you interface with your GO when on-going maintenance at the nuclear power plant, that has been previously coordinated with your GO for a definite time frame, gets extended past that planned time frame?

STPNOC Response

When it is identified that maintenance activities which are coordinated with our Grid Operator are expected to extend past the planned time frame, our Work Control Management informs the STPNOC Switchyard Coordinator who in turns communicates this to our GO. The extended maintenance activity is then evaluated to determine if there are any perceived grid issues that may conflict with this activity.

If a conflict is identified, then the STPNOC Switchyard Coordinator will communicate this to our Work Control Coordinator. The Work Control Coordinator will then work with our GO to resolve the conflict.

**Correction to Letter from STPNOC to the
NRC Document Control Desk, dated March 30, 2006 (NOC-AE-06001979)**

In the response to NRC Generic Letter 2006-02, STPNOC stated that a specific plant procedure limited maintenance activities when the grid starts to reach limits on generation and its transmission system. Revision 0 to the procedure did have this direction. However, Revision 1 to the procedure removed this direction as a procedure requirement. Revision 1 became effective in October 2004 and prior to the GL response. During the preparation of the GL response, it was not noted that the incorrect revision of the procedure had been reviewed.

Plant procedure does provide responsibilities for communicating maintenance and work restrictions when notified that weather conditions or patterns are predicted to impact the electrical delivery system.

The response to the applicable question in GL 2006-02 is provided below with the corrections noted.

NRC Question 5(b)

Is grid status monitored by some means for the duration of the grid-risk-sensitive maintenance to confirm the continued validity of the risk assessment and is risk reassessed when warranted? If not, how is the risk assessed during grid-risk-sensitive maintenance?

STP Response:

Yes. Extended maintenance (i.e., greater than 72 hours) on the emergency diesel generators, essential cooling water system (i.e., service water system), and essential chilled water system are closely coordinated and communicated shiftly between the station and the TSO.

STP receives information from the TSO/TSP on the state of the offsite power system. Both main control rooms have ring-down lines from the TSO/TSP so that secured information may be passed on to the unit's Shift Supervisor. The TSO/TSP continuously reviews the grid in real time and on a single (anticipatory) contingency basis. In addition, STP receives information on the grid from ERCOT via the QSE also known as the STP Coordinator. ~~Procedure OPGP03-ZO-0045, "Emergency Control Center Operating Plan", limits maintenance activities when the grid starts to reach limits on generation and its transmission system.~~ **Plant procedure does provide responsibilities for communicating maintenance and work restrictions when notified that weather conditions or patterns are predicted to impact the electrical delivery system.** STP performs a general review of the offsite power system as a good practice, but STP does not have a procedure to direct the practice.

Procedure OPOP04-AE-0005, "Offsite Power System Degraded Voltage", addresses control room response to degraded voltage conditions. The procedure is entered when notified, by either the QSE or TSO/TSP, that a combination of conditions exist on the 345 kV system that could lead to a low voltage condition in the 345 kV switchyard subsequent to trip of both units. This procedure is independent of any maintenance activity.