



**TXU Power**  
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Electric Station  
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**Mike Blevins**  
Senior Vice President &  
Chief Nuclear Officer

Ref: 10CFR50.54  
GL 2006-02

CPSES-200700147  
Log # TXX-07014

January 29, 2007

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

**SUBJECT:** COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)  
DOCKET NOS. 50-445 AND 50-446  
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
REGARDING RESOLUTION OF GENERIC LETTER 2006-02,  
"GRID RELIABILITY AND THE IMPACT ON PLANT RISK AND  
THE OPERABILITY OF OFFSITE POWER"

- REF:**
1. NRC Generic Letter 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power," dated February 1, 2006.
  2. TXU Power Letter, logged TXX-06056, from Mike Blevins to the U.S. Nuclear Regulatory Commission, dated April 3, 2006.
  3. TXU Power Letter, Logged TXX-06096, from Mike Blevins to the U.S. Nuclear Regulatory Commission, dated June 29, 2006.
  4. NRC Letter from Catherine Haney to Holders of Operating Licenses for Nuclear Power Reactors, dated December 5, 2006.

Dear Sir or Madam:

In Reference 1 above, the Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2006-02 to determine if licensees are maintaining compliance with NRC regulatory requirements governing electric power sources and associated personnel

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training. As required in Reference 2, TXU Power provided a response to the GL. In Reference 3, TXU Power revised the GL response to provide greater clarity and more detail. After reviewing the GL responses, the NRC issued the request of additional information to the GL in Reference 4.

By means of the Attachment to this letter, TXU Generation Company LP (TXU Power) submits its response to the Nuclear Regulatory Commission's request for information pursuant to Generic Letter 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power."

Some of the questions in GL 2006-02, however, seek information about analyses, procedures, and activities concerning grid reliability for which CPSES does not have first-hand knowledge, are beyond the control of CPSES, and cannot be verified or validated by CPSES. In providing information responsive to such questions, CPSES makes no representation as to its accuracy or completeness.

Should you have any questions, please contact Ms. Tamera Ervin at (254) 897-6902.

This communication contains no new or revised licensing basis commitments.

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

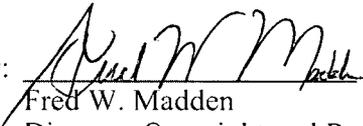
Executed on January 29, 2007.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC  
Its General Partner

Mike Blevins

By:   
Fred W. Madden  
Director, Oversight and Regulatory Affairs

TJE

Attachment

c - B. S. Mallett, Region IV  
M. C. Thadani, NRR  
Resident Inspectors, CPSES

**Requests for Additional Information (RAIs)  
Generic Letter 2006-02  
Industry Response Template**

<b>Offsite Power Operability</b>		
<b>RAI Topic</b>	<b>RAI Question</b>	<b>CPSES Response</b>
2 Loss of Real-Time Contingency Analysis (RTCA) Capability	Your response to question 2(f) did not identify the actions that would be taken if the online grid analysis tool (software program) that you rely upon as an input for offsite power operability became unavailable.	
2a	<p>If the online grid analysis tool that you use to determine if the offsite power is inoperable becomes unavailable, what actions would you take to determine if post-trip voltages will be acceptable, including any other compensatory actions, until the post-trip voltage is confirmed to be adequate?</p> <p>As an example, the actions may include reliance on a backup (third party's) real-time contingency analysis or similar program, or relying on a grid planning study to confirm that the original assumptions bound the existing grid conditions.</p>	<p>Per the regulatory guidance of NRC Regulatory Information Summary (RIS) 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 nuclear power plant (NPP) offsite power system is not referred to as "operable" or "inoperable," because the grid is not a TS SSC. SSCs that are not included in the TS (e.g., NPP offsite power system (OPS)) are referred to as Functional or non-Functional.</p> <p>Comanche Peak Steam Electric Station (CPSES) does not use online grid analysis tools to determine the functionality of the OPS. The OPS is considered functional as long as it provides adequate voltage at the safety related buses. The safety related buses are automatically isolated from the OPS and connected to the onsite emergency diesel generator (EDG), if the OPS can not maintain safety related bus technical specification voltages.</p>

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	<p>CPSES has a formal agreement in place for notification if the transmission service provider's (TSP's) (TXU Electric Delivery) online analysis tools are unavailable. Electric Reliability Council of Texas (ERCOT) (CPSES' transmission service provider (TSO)) also runs online analysis tools. Due to redundancy of TSP and ERCOT online analytical tools, CPSES does not expect to be without the ability to determine if offsite voltage and capacity are adequate.</p> <p>In the remote likelihood that both analysis tools are unavailable and absent information that a grid instability condition exists, CPSES OPS is not considered non-functional. Use of conservative margins in the grid planning analysis for compliance to CPSES OPS requirements, and Grid Operation to maintain the CPSES switchyard voltages at a level such that a single grid system contingency will not cause the switchyard voltages to be outside the CPSES requirements, assure that a loss of online analysis tool by itself will not result in non-functionality of CPSES OPS.</p> <p>Per CPSES Abnormal Conditions Procedures Manual ABN-601 "Response to a 138/345 kV System Malfunction," if notified by the TSP that grid conditions exist such that inadequate voltage may exist on loss of a unit or grid conditions are degraded and a "grid estimator" is not available to predict grid conditions following a unit trip, CPSES would enter a Limiting Condition for Operation Action Requirement (LCOAR)</p>
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	<p>for potential loss of offsite source and would make an offsite power functionality determination. In addition, CPSES' TSP would initiate evaluation of grid activities, specifically on lines feeding CPSES and adjacent switchyards, and those activities may require termination to ensure a reliable source of offsite power to CPSES if the plant were to trip or require down power.</p>
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<b>RAI Topic</b>	<b>RAI Question</b>	<b>CPSES Response</b>
<b>3 Verification of RTCA Predicted Post-Trip Voltage</b>	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.	
3a	What is the range of accuracy for your GO's contingency analysis program?	The grid planning analyses to determine the post-trip voltages at CPSES switchyards are performed with conservative contingencies. The contingencies considered, in addition to the tripping of CPSES units, are tripping of a grid system generator or loss of a line critical to CPSES. These analyses result in conservative and bounding voltage conditions for CPSES switchyards. CPSES has not experienced switchyard voltages outside the analyzed values after an unscheduled inadvertent trip of a CPSES unit. Consideration of conservative contingencies to provide bounding analyses eliminates the need for validation of post trip voltages. Due to consideration of conservative contingencies for compliance to CPSES OPS requirements, a validation by procedure for post event analysis to check accuracy of the TSO Real Time Contingency Analysis (RTCA) tool is not required.

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		<p>The TSP uses a commercial grade RTCA tool that has reasonable accuracy. TSP's planning department has experience and confidence in the tools predictions and has not revealed any deficiencies in the tool. Thus, the results of the tool are representative of the grid system.</p>
3b	<p>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?</p>	<p>Per the guidance of NRC RIS 2005-20, the term "Operable/Operability" is defined in the TS and applied only to TS SSCs. Thus, the NPP offsite power system is not referred to as "operable" or "inoperable," because the grid is not a TS SSC. SSCs that are not included in the TS (e.g., NPP OPS) are referred to as Functional or non-Functional.</p> <p>CPSES does not use online grid analysis tools to determine the functionality of the OPS. The OPS is considered functional as long as it provides adequate voltage at the safety related buses. The safety related buses are automatically isolated from the OPS and connected to the onsite EDG if the OPS can not maintain safety related bus technical specification voltages.</p> <p>In addition to the TSO studies, CPSES' TSP performs yearly, seasonal, and daily studies and the grid is operated within these bounding studies. Specifically, the CPSES switchyard voltages are maintained at a level such that a single grid system contingency will not cause the switchyard voltages to be outside the CPSES requirements. Furthermore, the tools used by the TSP meet the analysis requirements of ERCOT and North</p>

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		<p>American Electric Reliability Council (NERC).</p> <p>The grid planning analyses to determine the post-trip voltages at CPSES switchyards are performed with conservative contingencies. CPSES and the TSP have confidence in the analysis tool to provide post trip voltages which are reasonably accurate and conservative.</p>
3c	What is your standard of acceptance?	<p>The State Estimator meets the ERCOT acceptance criteria for accuracy. The contingency analysis tool is a commercial grade tool that is accepted throughout industry. Application of the State Estimator will identify and resolve discrepancies in modeling Supervisor Control And Data Acquisition (SCADA) data accuracy. This application follows good utility practices and meets transmission grid safety and reliability requirements.</p>

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<b>RAI Topic</b>	<b>RAI Question</b>	<b>CPSES Response</b>
<b>4 Identification of Applicable Single Contingencies</b>	In response to question 3(a) you did not identify the loss of other critical transmission elements that may cause the offsite power system (OSP) to degrade, other than the loss of the nuclear unit.	<p>In this question, the loss of other critical transmission elements is outside the current licensing basis. There is no credible postulated off-site scenario that will actuate the low-voltage relays, thus, there is no compliance issue.</p> <p>Note that response 2(e) to GL 2006-02 identified a list of analyzed contingencies that are considered against the CPSES switchyard voltage requirements.</p>
4a	If it is possible for specific critical transmission elements (such as other generators, critical transmission line, transformers, capacitor banks, voltage regulators, etc.) to degrade the OSP such that inadequate post-trip voltage could result, have these elements been included in your N –1 contingency analysis?	See response 3(a) to GL 2006-02.
4b	When these elements are included in your GO's contingency analysis model and failure of one of these transmission elements could result in actuation of your degraded voltage grid relay, is the offsite power declared inoperable?	See response 3(a) to GL 2006-02.

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4c	If not, what is your basis for not declaring the offsite power inoperable?	See response 3(a) to GL 2006-02.
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<b>RAI Topic</b>	<b>RAI Question</b>	<b>CPSES Response</b>
<b>6 Interface With Transmission System Operator During Extended Plant Maintenance</b>		
6a	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?	<p>Per station procedure STA-629, "Switchyard Control," Attachment 8.f, "Communication Protocol," CPSES would notify the TSO for:</p> <ol style="list-style-type: none"> <li>1. Planned unit shut downs.</li> <li>2. Degraded safety equipment that may cause CPSES a future down power due to regulatory requirements.</li> <li>3. Modifications to the CPSES generator, controls or main power transformer operating specifications.</li> </ol> <p>Notifications to and from CPSES for confirmed emergent grid or plant conditions should be made as soon as possible, typically within 30 minutes</p> <p>Furthermore, on-going maintenance activities are communicated routinely until the activity is complete.</p>