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Strategic Teaming and Resource Sharing

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**STRATEGIC TEAMING AND RESOURCE SHARING (STARS)**
**COMMENTS ON DRAFT GENERIC LETTER 2005-XX;**
**Grid Reliability and the Impact on Plant Risk and the**
**Operability of Offsite Power.**
**(70 FR 19125)**

Gentlemen:

The Strategic Teaming and Resource Sharing (STARS)[1] nuclear power plants have reviewed the proposed draft Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power," as published in the Federal Register, Volume 70, pages 19125 through 19132, dated April 12, 2005. The STARS plants endorse the industry comments provided by the Nuclear Energy Institute (NEI) regarding this matter. In addition, specific STARS comments are provided below and in the enclosure to this letter.

The STARS plants recognize that a reliable and adequate supply of electricity is essential to the health of the United States economy and to the safety and well-being of the public. Furthermore, ensuring a reliable and adequate supply of offsite power to nuclear power plants is part of the "defense-in-depth" philosophy to ensuring nuclear power plant safety. As such, the STARS plants support the nuclear power industry efforts to work with the various governmental and

[1] STARS is an alliance of six plants (eleven nuclear units) operated by TXU Power, AmerenUE, Wolf Creek Nuclear Operating Corporation, Pacific Gas and Electric Company, STP Nuclear Operating Company and Arizona Public Service Company.

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regulatory agencies, industry organizations, key stakeholders, and transmission operators to ensure a sufficient and reliable bulk power supply system.

The STARS plants are in compliance with the NRC regulations associated with onsite and offsite electric power systems. The plants were evaluated during original plant licensing reviews for compliance with General Design Criterion 17, and subsequently as part of the electrical distribution system functional inspections. Assessments of losses of offsite power, coupled with loss of onsite alternating current (AC) power, were reviewed during the station blackout rule implementation inspections.

The STARS plants are concerned, however, that the draft generic letter does not recognize or attempt to clarify the jurisdictional boundaries that exist between the NRC, and other regulatory and governmental agencies, and the operating authorities responsible for bulk power system operation and offsite power sources to nuclear power plants. By not fully recognizing the jurisdictional boundaries of these entities, the draft generic letter seems to place the licensee in the position of having complete responsibility for ensuring grid reliability, which is clearly not the case.

The STARS plants are also concerned that the positions described in the draft generic letter, particularly with respect to the use of real time contingency analysis (RTCA) programs and the apparent increased scope in the application of 10 CFR 50.65, represent new positions that are not consistent with the current licensing basis for most nuclear power plants or current industry practice. Therefore, these positions, if advanced further, should be addressed either through rulemaking or as a backfit.

In addition, the information "requested" in the proposed generic letter focuses on nuclear power plant operator/transmission system operator protocols and real time contingency analysis programs. These protocols and analysis programs are not part of the plant licensing basis; therefore, it is inappropriate to request such information under the provisions of 10 CFR 50.54(f). As stated in the comments provided by NEI, it is unclear why additional information is required by the NRC to ensure compliance, and consideration should be given to not issuing this generic letter.

The STARS plants strongly encourage continued open dialog between the NRC, key stakeholders, and various other governmental and regulatory agencies that have jurisdiction regarding this issue. STARS is confident that this open dialog will assure continued grid reliability while meeting the needs of the various entities that supply power to, and successfully operate, the bulk power supply systems of the nation.

The STARS plants appreciate the opportunity to comment on this draft generic letter. As stated previously, the STARS plants also endorse the comments provided by NEI on behalf of the industry. If there are any questions regarding these comments, please contact me at 254-897-6887 or dwoodla1@txu.com or contact Rodney Wilferd at 623-393-5744 or rwilferd@apsc.com.

Sincerely,

D. R. Woodlan, Chairman
Integrated Regulatory Affairs Group
STARS

Enclosure

**Enclosure to STARS-05006**
**STARS Comments on Draft Generic Letter 2005-XX: Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power**
**70 FR 19125**

STARS Comments on Draft Generic Letter 2005-XX:
Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power
70 FR 19125

The STARS plants provide the following comments:

1. The draft generic letter does not appear to recognize ongoing industry efforts in the area of grid reliability. The industry is currently addressing different aspects of this issue through several different avenues. For example, the World Association of Nuclear Operators (WANO) issued a Significant Operating Experience Report (SOER) 1999-1, "Loss of Grid," in 1999. The Institute of Nuclear Power Operations (INPO), driven by the August 14, 2003, northeast blackout event, issued an addendum to this SOER in December, 2004, to provide additional information and recommendations to licensees regarding grid reliability issues.

   In addition, the Nuclear Energy Institute (NEI) is coordinating industry efforts, through the Grid Reliability Task Force, to address grid reliability issues. This Task Force is actively working with various regulatory, governmental, and industry entities such as the North American Electric Reliability Council (NERC), INPO, Electric Power Research Institute (EPRI), transmission system operators, and nuclear power plant personnel to improve overall grid reliability. The combined efforts of these organizations will help to ensure the reliability of the bulk power supply systems. It is essential that the NRC staff be directly involved with these efforts such that their regulatory concerns are adequately addressed. This involvement, and the work currently undertaken by the Grid Reliability Task Force, obviates the need for this proposed generic letter.

2. During the licensing process of a nuclear power plant (NPP), the NPP applicant and the transmission system operator were generally the same entity. The NRC required the NPP applicant to perform stability studies of the transmission grid to demonstrate compliance to GDC 17 requirements. In addition, Draft Revision 3 of Branch Technical Position ICSB-11, "Stability of Offsite Power Systems," dated April 1996, has concluded that power systems, with supporting grid inter-ties, meet the grid availability criteria with sufficient margin. This position also recognized that an isolated system large enough to justify inclusion of a nuclear unit will also meet these criteria.

   In the deregulated environment, the NPP licensee may not be the same entity as the transmission system operator. The operators and operation of the transmission network are governed by the rules and regulations of NERC and other regulatory and governmental agencies. The requirements for grid reliability should be established through the appropriate agencies to ensure the adequacy of NPP offsite power. The necessary steps to minimize the probability of the loss of power from the transmission network, given a loss of power generated by the nuclear power unit, should be under-taken by the transmission provider, who is not be under the jurisdiction of the NRC.

3. The draft generic letter would seem to imply that the existing methods of ensuring grid reliability, which are based on periodic contingency analyses and agreements, contracts, and protocols, are ineffective in assuring grid reliability or compliance with NRC regulations, including 10 CFR 50.65, the Maintenance Rule. The existing methods have generally proven to be effective for ensuring grid reliability and demonstrating compliance with the applicable regulations. Imposing new staff positions, i.e., the requirement for an RTCA program and increasing the scope of the Maintenance Rule, is inappropriate, particularly in light of the fact

that the NRC may be stepping outside of their regulatory jurisdiction as it relates to ensuring grid reliability.

4. The apparent staff position that an NPP should have a RTCA program to minimize the probability of the loss of power from the transmission network represents a new staff position, beyond those described in NRC Branch Technical Position ICSB-11. This new position should be addressed through rulemaking or as a backfit that has been appropriately evaluated in accordance with the appropriate regulations. In addition, requiring transmission system operators to provide this information to licensees would appear to go beyond the regulatory authority of the NRC.

5. The draft generic letter provides an expanded interpretation of the application of the Maintenance Rule, 10 CFR 50.65, which represents an increase in scope beyond current NRC and industry-accepted practice. The draft generic letter implies that for grid reliability evaluations, 10 CFR 50.65 requires application of an RTCA program, and that plants should have such models/monitors in place as part of their Maintenance Rule compliance scheme. The Maintenance Rule provides for the use of qualitative analysis, and does not require quantitative real-time analysis. Therefore, this apparent increase in scope of application of the Maintenance Rule is inappropriate, as is the requirement to have an RTCA program.

6. Real time contingency analysis can benefit the transmission system operators and dispatchers to determine grid conditions. However, it would be inappropriate to rely solely on an RTCA program to determine grid conditions and offsite power operability. The end user must be qualified to make judgments and interpretive assessments of emerging problems as they arise in the event of computer failures or during scheduled software maintenance windows of the RTCA program. A simple "dashboard red light/green light" form of RTCA program will give either a false sense of security or unnecessary paranoia under many scenarios. Also, since the RTCA program relies on accurate telemetering of many data points, the results of the system state estimation calculation and the effects of relevant contingencies can be significantly inaccurate or misleading depending on the availability and accuracy of the telemetered data.

   In addition, determining the operability of offsite power sources involves assessing various NPP parameters, such as reactor mode of operation, bus alignments and transfer schemes for offsite sources, status and setting of NPP voltage regulating devices, and possible NPP actions invoked to limit potential post-accident effects on the grid. Licensees are responsible to consider plant conditions and the status of structures, systems, and components when determining the operability of offsite power sources.

   The draft generic letter should reduce the apparent emphasis on the need to use RTCA programs and should instead focus on promoting the enhancement of communication protocols between the transmission system operators and the nuclear power plants (which may or may not include RTCA programs).

7. The draft generic letter implies that licensees are not complying with the regulations if they haven't established an RTCA program, a real time grid stability and offsite power availability assessment for each maintenance activity, and real time NPP/Transmission System Operator (TSO) communication protocols. These proposed initiatives are not specifically required by 10 CFR 50, Appendix A, General Design Criterion 17, or 10 CFR 50.65, 10 CFR 50.63, or the Technical Specifications for an offsite power system. As such, licensees not fully endorsing all these proposed initiatives should not be perceived as violating regulations, nor should the proposed initiatives be imposed upon licensees without an appropriate backfit analysis or rulemaking.

8. Offsite power supply operability determinations should not be based on "contingencies" defined by the real time contingency analysis programs or models. "Contingencies" define hypothetical situations that may or may not occur. Operability of a structure, system, or component is determined on actual plant/SSC conditions, not on hypothetical "what if" situations that may or may not occur. The RTCA program is not required by the Technical Specifications, nor is it required to ensure offsite power source operability since it has no impact on offsite power supply availability, reliability, or functions. In fact, the RCTA program would neither prevent the degraded state from occurring, nor would it initiate remedial actions should the degraded state occur. Requiring an RTCA program to assist in determining if an offsite power supply is OPERABLE represents a new license requirement that is beyond the existing licensing basis and Technical Specification requirements for NPP.

9. The draft generic letter should not presume that the use of a real time contingency analysis program is the best or only viable method to assure adequate post-trip voltage levels. For example, the draft generic letter discusses "a reduction in the plant's switchyard voltage as a result of the loss of the reactive power supply to the grid from the NPP's generator." It is reasonable to conclude from this statement that if the NPP generator is not providing reactive power to the grid prior to its tripping, then switchyard voltage will not be reduced. Therefore, a contingency analysis program is unnecessary to make this determination.

10. Reliance on a complex computerized RTCA system that is not under the ownership, control, or oversight of the NPP to determine the adequacy of a critical plant parameter is problematic from a regulatory point of view. In addition, the TSO may be limited as to what information they can provide to the NPP regarding the combination of contingencies based on the FERC Order 2004. The final generic letter, if issued after consideration of industry comments to the contrary, should simply focus on how the NPP assures that its offsite power circuits are operable (i.e., having the capability to mitigate the effects of a design basis event or effect a safe shutdown), without requesting information that is clearly beyond the NPP licensing basis, such as how the TSO operates their grid or what business agreements are in place between the TSO and NPP owner(s).

11. The draft generic letter incorrectly alludes to operating agreements and transmission protocols as design basis requirements or license conditions. Regulatory Guide 1.93, "Availability of Electric Power Sources," states: "GDC-17 specifies design requirements, not operating requirements; it therefore does not stipulate operational restrictions based on the loss of power sources." Contrary to this concept, the draft Generic Letter implies that "formal agreements" between the NPP and the grid operator are essential to assure compliance with GDC-17. Such formal agreements, if used, are not part of the design of the plant, but represent operating agreements between two or more parties to ensure a mutual benefit to each party.

12. The summary paragraph labeled "(2)" near the beginning of the draft generic letter mentions "Use of... real time contingency analysis programs to monitor grid conditions for consideration in maintenance risk assessments." However, the corresponding sections under "Discussion" and "Requested Information" discuss only protocols--not contingency analysis programs. No convincing argument has been made for the need for such programs to perform maintenance risk assessments, so their mention should be removed from the earlier text.

13. The draft generic letter appears to include the Station Blackout (SBO) event in the overall grid reliability issue. This action is creating a subtle shift in the definition of "loss of offsite power" (LOOP) relative to SBO. As a design basis event, a LOOP can have numerous unpredictable initiators, such as natural events, potential adversaries, human error, or design problems. The SBO event is limited to "grid related" LOOP events that are directly related to insufficient generating capacity, excessive system load, or dynamic instability, as described in Regulatory Guide 1.155, "Station Blackout." It should be clarified that LOOP events resulting from weather, fire, other external events, or random grid events that are not symptomatic of underlying or growing instability, do not need to be considered for the SBO event.

14. Internal NRC Expert Panel – While the qualifications and experience of the expert panel are undoubtedly impressive, STARS is disappointed that the panel did not include representation from the industry, key stakeholders, or other regulatory and governmental agencies that are responsible for grid operation. Stakeholder participation in this process could have added valuable insights as to how bulk power supply systems are managed and operated, and how licensees ensure regulatory compliance with the regulations cited in this draft generic letter.

15. Several references are made throughout the draft generic letter to Regulatory Guide 1.155, "Station Blackout." These references imply that compliance with this regulatory guide is the only acceptable method for meeting the stated criterion or objective. Regulatory guides provide a means that is acceptable to the NRC staff for satisfying the requirements of the topic under consideration, but they do not provide the sole means for achieving compliance. Therefore, clarification should be provided to indicate that compliance may be achieved by complying with the information provided in the regulatory guide, or by the method approved in the plant-specific licensing basis.

16. Item 9, "Actions to Ensure Compliance," the first paragraph appears to contain an incorrect reference - the reference to "10 CFR 50.53" should be "10 CFR 50.63."