

May 27, 2009

MEMORANDUM TO THE FILE

FROM: Raj Anand, Project Manager **/RA/**  
ESBWR ABWR Projects Branch 2  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: SUMMARY OF TELECONFERENCE HELD WITH SOUTH TEXAS  
NUCLEAR OPERATING COMPANY AND THE U.S. NUCLEAR  
REGULATORY COMMISSION STAFF ON MAY 20, 2009

On May 21, 2009, the U. S. Nuclear Regulatory Commission staff participated in a telephone conference call with South Texas Nuclear Operating Company (STPNOC) representatives regarding the staff's detailed review of Chapter 11 of the STP Units 3 and 4 COL Application. Enclosure 2 contains a list of participants.

The applicant has proposed changes from DCD Radioactive Waste Management and Monitoring System as described in Sections 11.2, 11.3, 11.4 and 11.5. STP considered these design changes (in STD DEP 11.2-1, 11.3-1, and 11.4-1) Tier 2 changes which do not require prior NRC approval in accordance with 10 CFR Part 52 Appendix A, Part VIII.B.5.(b). The justifications for these departures are documented in Part 7 of the COLA "Departures Report".

The purpose of the call was to clarify the issues staff considered necessary to satisfy Appendix A, Part VIII.B.5.(b) requirements. An advanced copy of the issues is provided as Enclosure 1. It was decided that the staff will perform an inspection of the process for the change at the applicant's office. The staff will issue the Requests for Additional Information later based on the outcome of the audit.

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Docket Nos: 52-12 and 52-13

Enclosures:  
As stated

cc: G. Wunder, NRO  
T. Tai, NRO  
J. Dehmel

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The purpose of the call was to clarify the issues staff considered necessary to satisfy Appendix A, Part VIII.B.5.(b) requirements. An advanced copy of the issues is provided as Enclosure 1. It was decided that the staff will perform an inspection of the process for the change at the applicant's office. The staff will issue the RAIs later based on the outcome of the audit.

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**SUMMARY OF ISSUES DISCUSSED WITH SOUTH TEXAS NUCLEAR OPERATING  
COMPANY AND THE U.S. NUCLEAR REGULATORY COMMISSION STAFF ON THE  
MAY 20, 2009 TELECONFERENCE**

A review of South Texas Project (STP) FSAR Chapter 11 (Tier 2, Rev. 2) and applicant's response to RAI 11.04-1 (STP Letter ABR-AE-08000046, June 26, 2008) indicates that specific changes are proposed for the radioactive waste management, including the LWMS, GWMS, and SWMS, described in FSAR Sections 11.2, 11.3, and 11.4, respectively. The Departures Report indicates that the departures have been evaluated and determined to comply with the requirements of 10 CFR Part 52, Appendix A, Section VIII.B.5. Given that the DCD systems designs were completely replaced, the staff was not able to find enough information with which to determine the acceptability of the applicant's evaluation process in light of the requirements of Appendix A to Part 52. It is not clear if the applicant performed a full evaluation in assessing whether the proposed changes are consistent with the requirements of Part 52, Appendix A, Section VIII.B (Tier 2 Information), Paragraphs 5.b.(2), (4), and (6) in concluding that NRC approval is not required for the changes described in the Departures Report. Specifically, the staff needs to confirm the following in order to reach a finding of reasonable assurance on applicable Part 20 and 50 regulations given the proposed changes made to all radwaste management systems:

- a. LWMS, GWMS, and SWMS - The response contained in STP Letter ABR-AE-08000046 (June 26, 2008) indicates that the Part 52, Appendix A "screening evaluations were recreated" because previous documents were not available. The applicant is requested to describe the process and procedures that STP developed and used in documenting all DCD departures. In addition to the requested description of the process and procedures, provide copies of the documentation packages generated in screening the design changes of the LWMS, GWMS, and SWMS.
- b. LWMS - The response contained in STP Letter ABR-AE-08000046 (June 26, 2008) indicates that the failure of the Low Conductivity Collector Tank remains the limiting accident and, consequently, the proposed change does not result in an increase in the frequency of the limiting accident previously evaluated in the DCD. However, it is not clear if the evaluation considered the use of a skid mounted LWMS system setup and operated near a loading dock, which affords greater opportunities for spills and leaks to impact the environment. Accordingly, the applicant is requested to provide information showing whether the screening process did consider the failure of components from the skid-mounted LWMS system, and that if it were to fail, the resulting release of liquid waste would comply with the effluent concentration limits and unity-rule of Appendix B (Table 2) to Part 20 and dose limits to members of the public under Parts 20.1301 and 20.1302, and criteria of radwaste tank failure consequence analysis of SRP Section 11.2 and BTP 11-6 (NUREG-0800, March 2007).
- c. GWMS and OGS - A review of the Departures Report indicates that the number of charcoal adsorber vessels and their configuration have been changed when compared to the DCD. The Departures Report also states that there is no impact on the probability or consequence of an accident or system or component malfunction. However, it is not clear if the evaluation considered that changes in the configuration of charcoal vessels and changes in operating temperatures of the charcoal beds

negatively affect the holdup times of noble gases and removal efficiencies of iodines in charcoal delay beds. Accordingly, the applicant is requested to provide information showing that the screening process did consider such system parameters in confirming that gaseous effluent releases will comply effluent concentration limits and unity-rule of Appendix B (Table 2) to Part 20 and dose limits to members of the public under Parts 20.1301 and 20.1302.

- d. OGS - A review of the Departures Report indicates that the number of charcoal adsorber vessels and their configuration have been changed when compared to the DCD. The Departures Report also states that there is no impact on the probability or consequence of an accident or system or component malfunction. However, it is not clear if the evaluation considered that changing the configuration of the OGS from an integrated unit to a recombiner train would change the vulnerability of the system to withstand internal effects of H<sub>2</sub>/O<sub>2</sub> detonations, whether the revised design includes instrumentation and analyzers to preclude the formation of explosive gas mixtures, and assessed the radiological impact of an OGS leak or component failure at the EAB given the new design. Accordingly, the applicant is requested to provide information showing whether the screening process did consider the such considerations for the OGS, and that if it were to fail, the resulting release of gaseous waste would comply with the effluent concentration limits and unity-rule of Appendix B (Table 2) to Part 20 and dose limits to members of the public under Parts 20.1301 and 20.1302, and criteria of radwaste tank failure consequence analysis of SRP Section 11.3 and BTP 11-5 (NUREG-0800, March 2007).

Accordingly, the applicant is requested to describe the results of the screening evaluations conducted for each technical and regulatory aspect identified above and provide supporting information in each applicable FSAR Section, i.e., Sections 11.2, 11.3, and 11.4. The applicant is requested to include in its response supporting information at a level of detail that is adequate for the staff to conduct its own independent evaluation.

**TELECONFERENCE HELD WITH SOUTH TEXAS NUCLEAR OPERATING COMPANY AND  
THE U.S. NUCLEAR REGULATORY COMMISSION STAFF ON MAY 20, 2009**

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