



South Texas Project Electric Generating Station 4000 Avenue F – Suite A Bay City, Texas 77414

December 11, 2008
U7-C-STP-NRC-080024

Mr. George F. Wunder
U. S. Nuclear Regulatory Commission
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South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Additional Information Concerning STP COLA Part 2 Chapter 20 Basis for Exemption

References:

1. Letter, M. A. McBurnett to Document Control Desk, "Combined License Application," dated September 20, 2007 (ABR-AE-07000004).
2. Letter, M. A. McBurnett to Document Control Desk, "Submittal of Combined License Application Revision 2," dated September 24, 2008 (ABR-AE-08000073)

The referenced letters requested an exemption from Appendix A.IV.A.2.a to 10 CFR Part 52, which requires that the plant-specific DCD contain the same organization and numbering as the generic ABWR DCD. The generic ABWR DCD included a Question and Response Guide in Tier 2 Chapter 20. We do not believe there is value in incorporating and updating this historical information as part of the Combined License Application (COLA).

Specifically, Chapter 20 of the ABWR Design Control Document (DCD) Revision 4 contains the historical responses to "Requests for Additional Information" (RAIs) from the NRC, generated during the review of the ABWR DCD (Revisions 0, 1, 2, and 3).

In general, significant points identified in the question and answer process were incorporated as needed into the final Revision 4 text in those sections of the DCD where the topic is addressed per NUREG-0800.

To confirm this conclusion, an independent review of the Chapter 20 responses was undertaken during the STP 3 & 4 COLA preparation effort to check for cases where material descriptions or design commitments were made in the RAI responses but not translated into Tier 1 or Tier 2 text elsewhere in the final DCD revision. Four engineers experienced in ABWR design and licensing from the nuclear, electrical, instrumentation and controls, and civil disciplines reviewed Chapter 20 and the DCD for potential omissions. Each question was reviewed. The DCD was checked to ensure that the information provided in the question response was included in other locations in the document.

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In two cases, the responses to specific RAIs were made into Tier 2* requirements as noted in Tables 10 and 11 of the "Introduction for Design Control Document." Subsection 20.3.8 contains NRC question 420.69 where a Tier 2* requirement for "proven technology" for the controls and instrumentation electronics is required by the response. This specific provision has been relocated to FSAR Subsection 7.2.1.1.4, "RPS Equipment Design," (Reference 2) as follows:

"The following standard supplement addresses design-related information originally provided in Chapter 20 of the reference ABWR DCD.

The RPS design will utilize proven technology to ensure that a sufficient failure rate history is available to support reliability goals."

Control systems technology has been subject to rapid evolution since the certification in 1997. A number of departures have been submitted in the STP COLA related to control systems and the actual safety-related platforms chosen will undergo scrutiny during the COLA review process, including the degree to which it contains "proven technology." For example, see the departures in FSAR Appendix 7A (Reference 2). Accordingly, this Tier 2* requirement continues in force.

Also DCD Tier 2 Subsection 20.3.8 contains question 420.92 and response with Tier 2* requirements. The referenced ABWR DCD Tier 2 Subsection 7.8.3, "Localized High Heat Spots in Semiconductor Materials for Computing Devices," contains the following paragraph:

"The response to NRC Question 420.92 provides recommendations for limiting high current densities which could result in localized heat spots in semiconductor materials used in computing devices. The COL applicant shall provide assurance that these recommendations are followed, or an acceptable alternative is presented, by the selected equipment vendor(s). To ensure that adequate compensation for heat rise is incorporated into the design, a thermal analysis shall be performed at the circuit board, instrument and panel design stages (see Chapter 20, NRC Question 420.92)."

NRC question 420.92 is referenced in DCD Tier 2 Subsection 7.8.3 and therefore the question and response are incorporated by reference in COLA Tier 2 Section 7.8.3 and were not subject to a departure. In addition, the following supplement has been added to FSAR Subsection 7.8.3, "Localized High Heat Spots in Semiconductor Materials for Computing Devices," as follows (see Reference 2):

"The following standard supplement addresses COL License Information Item 7.5 and incorporates design-related information originally provided in Chapter 20 of the DCD.

Equipment purchase specifications for the Safety System Logic and Control (SSLC) systems will include the following provisions:

- Supplier shall follow vendor recommendations for the design and use of heat sinking and ventilation of local areas where power semiconductors of solid state load drivers are used.
- Supplier shall design solid-state load drivers such that high power devices will be physically separated from low power circuitry in accordance with vendor recommendations.

- Supplier shall design the SSLC computing devices for the external cabinet environment according to the environmental tables in Appendix 3I.
- Supplier shall perform environmental qualification of SSLC equipment, including temperature and humidity in accordance with IEEE 323.
- Supplier shall be permitted to provide the RPS equipment that utilizes convective cooling (no fans) only.
- Supplier shall be permitted to provide the ELCS equipment that utilizes internal forced air cooling. A local temperature sensor and diagnostic alarm shall be provided for each cabinet.
- The temperature rise internal to the cabinet shall be verified during environmental qualification and during factory acceptance testing for each cabinet.

The above provisions will be completed at the time that purchase orders are placed for the SSLC systems. In accordance with 10 CFR 50.71(e), the FSAR will be updated to reflect the results of the environmental qualification. (COM 7.8-2)"

The requirement is also called out in the DCD Table 1.8-21 as a Tier 2* item and was not subject to a departure in the COLA. Accordingly, this Tier 2* requirement continues in force per its inclusion in FSAR Tier 2 Table 1.8-21 (Reference 2).

As stated in Attachment 2 of the referenced letters, in accordance with 10 CFR 52.7 and 50.12 (a), an exemption is justified because:

- The exemption is authorized by law. The Atomic Energy Act does not specify whether the FSAR must use the same organization and numbering as the generic DCD.
- The exemption does not present an undue risk to the public. These changes to the generic DCD format do not present an undue risk to the public, since the information is not a required part of the COLA, it represents historical information, or it is addressed in other sections of the FSAR or DCD.
- The exemption is consistent with the common defense and security. The information in question does not pertain to security. Furthermore, the exemption pertains to a formatting issue, and does not delete any substantive design information not included in other sections of the FSAR or DCD.
- Special circumstances are present in accordance with 10 CFR 50.12(a)(2)(ii). Specifically, application of the regulation in these particular instances would not serve the underlying purpose of the rule. The underlying purpose of the rule is to ensure that the information in the generic DCD is included in the plant-specific DCD. STPNOC has reviewed the information in Chapter 20 and has moved information from this section to other sections of the FSAR as necessary to ensure that the FSAR completely addresses the design-related information in Chapter 20.

There are no commitments in this letter.

If you have any questions, please contact me at (361) 972-7136, or Bill Mookhoek at (361)-972-7274.

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

Executed on 12/11/08



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