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From: Elton, Loree [leelton@STPEGS.COM]
Sent: Wednesday, February 10, 2010 4:14 PM
To: Muniz, Adrian; Dyer, Linda; Wunder, George; Tonacci, Mark; Eudy, Michael; Kallan, Paul; Plisco, Loren; Anand, Raj; Foster, Rocky; Joseph, Stacy; Govan, Tekia; Tai, Tom
Subject: Transmittal of Letter U7-C-STP-NRC-100038
Attachments: U7-C-STP-NRC-100038.pdf

Please find attached a courtesy copy of letter number U7-C-STP-NRC-100038, which contains the revised response to the NRC staff question in Request for Additional Information (RAI) letter number 149, related to Combined License Application (COLA) Part 2, Tier 2, Section 3.2.

The official version of this correspondence will be placed in today's mail. Please call John Price at 972-754-8221 if you have any questions concerning this letter.

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Subject: Transmittal of Letter U7-C-STP-NRC-100038
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From: Elton, Loree

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February 10, 2010
U7-C-STP-NRC-100038

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
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Rockville, MD 20852-2738

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Response to Request for Additional Information

Attached is the STP Nuclear Operating Company (STPNOC) revised response to the NRC staff question in Request for Additional Information (RAI) letter number 149, related to Combined License Application (COLA) Part 2, Tier 2, Section 3.2. This submittal is in response to additional information requested by the NRC Staff as a follow-up to the STPNOC response to RAI 03.02.02-6 provided in letter U7-C-NRC-090111, dated August 26, 2009. The additional information is provided as a revision to the initial response.

There are no commitments in this letter.

If you have any questions regarding this response, 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 2/10/10

Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

jep

Attachment:
RAI 03.02.02-6, Revision 1

STI 32610478

cc: w/o attachment except*
(paper copy)

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RAI 03.02.02-6, Revision 1

QUESTION:

SRP 14.3 identifies that the ITAAC for site-specific design features should be developed at the COL stage. SRP 14.3 further identifies that the safety classification of SSCs are described in each system's design description and the functional drawings identify the boundaries of the ASME classification that are applicable to the safety class. The SRP 14.3 Appendix C design description checklist also specifically includes seismic classification and ASME code classifications that should be verified as part of ITAAC. Piping, equipment, individual system components and supports comprise a system. As stated in SRP 14.3, ASME code class boundaries for mechanical equipment and piping are shown on the figure and form the basis for the basic configuration check (system) that is required for each individual system ITAAC.

Section 14.3S of the FSAR identifies that the selection criteria and methodology provided in Section 14.3 of the reference ABWR DCD for the certified ABWR design were utilized as the site-specific selection criteria and methodology for ITAAC and, in general, the ITAAC for site-specific systems were developed to correspond with the interface criteria in Tier 1 of the reference ABWR DCD. DCD subsection 14.3.2.1 includes system and component classification information as design information that should be included in Tier 1 design descriptions and DCD subsection 14.3.2.2 states that the scope and content of the ITAAC correspond to the scope and content of the Tier 1 design descriptions. The site-specific ITAAC included in Part 9 of the COLA include basic configuration ITAAC for site-specific systems, but the definition of basic configuration in Section 1.1 of the ABWR CDM does not specifically identify classifications as part of the basic configuration ITAAC for a building or a system.

Clarify if the ITAAC criteria to verify the basic configuration include verification of seismic category and ASME Code classification for ASME systems or, if not included, explain how the as-built system classifications are verified, such as through a generic piping design ITAAC described in the DCD.

Also, the COLA ITAAC included in Part 9 of the application do not specifically define ITAAC for classification of site-specific SSCs as Tier 1, but the referenced ABWR DCD does not appear to identify any departures from Tier 1 system ITAAC for ASME Code and Seismic Category I requirements. Clarify if the classification ITAAC for plant-specific SSCs, such as the UHS, are included in Tier 1 or explain why they are not considered as Tier 1.

RESPONSE (Updated):

In a conference call relative to RAI 03.02.02-6 on 1/14/2010, the NRC requested that STPNOC supplement the initial response describing how, instead of using an ITAAC, SSC classifications are verified. STPNOC provided the initial response by letter U7-C-STP-NRC-090111, dated August 26, 2009, which follows. The new information is identified by sidebar markings.

Response to NRC Question related to ITAAC for Classifications

As discussed in the response to RAI 03.02.02-2, the STP Units 3 & 4 FSAR Piping and Instrumentation Diagrams (P&IDs) provide the ASME Code classification and seismic design classification.

As discussed in the response to RAI 03.02.01-5 (see letter U7-C-STP-NRC-090096 dated August 6, 2009), COLA Part 9 includes ITAAC for verification of basic configuration, and those ITAAC use the methodology for verification of basic configuration as provided in ABWR DCD Tier 1, Section 1.2. That methodology provides for the verification of:

- Inspections of system functional arrangement
- Inspections of pressure boundary welds for ASME Code Class 1, 2, or 3 components
- Type tests and analyses to demonstrate that Seismic Category I mechanical and electrical equipment are qualified to withstand design basis dynamic loads
- Type tests and analyses to demonstrate that Class 1E electrical equipment are qualified to withstand environmental conditions associated with design basis accidents
- Tests of motor operated valves

The verification of basic configuration does not include a verification of seismic category or ASME code classification, other than as may be indirectly encompassed within the bullets discussed above. Similarly, the design acceptance criteria (DAC) for piping systems in ABWR DCD Tier 1, Section 3.3, does not include a verification of seismic category or ASME code classification, other than as may be indirectly encompassed within the ASME stress reports.

In developing the Tier 1 document and ITAAC for the ABWR, a conscious decision was made to specify the seismic category and ASME code class in the Tier 1 design descriptions, but not to require a verification of seismic category and ASME code class as part of the ITAAC. General Electric Nuclear Energy (GE) developed the *ABWR Certified Design Material/ITAAC Review Guidance* (April 1994) as a guide for preparing the Tier 1 document. The guide was submitted by GE to the NRC on the ABWR design certification docket in a letter April 13, 1994. That guide reflected the results of years of interactions between GE and the NRC to develop the Tier 1 document. The table on pages 62 – 64 of that guide explicitly provide that the safety classification, seismic classification, and ASME code class were to be identified in the certified design material (CDM), but that there would be no ITAAC for such classifications. The relevant entries from that table are reproduced below.

Technical Issue	CDM Treatment	Corresponding Treatment in ITAAC
Safety-related or non-safety-related	Identify portions of system which are safety-related and non-safety-related.	None. Basis: system safety-related status covered by other ITAAC such as separation, Class 1E power supplies, etc.
System seismic classification	Identify Seismic Category I portions of safety-related systems.	None (seismic/dynamic qualification covered by configuration).
ASME code class and Quality Groups	In general, do not identify Quality Groups in the CDM. ASME Code Class should be identified on the figure using the legend in Appendix A of the CDM. This should be referred to in the text per Supplement 5b.	None. (Welding covered by configuration.)

This same approach is specified in the checklists contained in Appendix C to Standard Review Plan (SRP), Section 14.3 (March 2007). In particular, the checklists for the Tier 1 design descriptions and figures (SRP pp. 14.3-34 and 14.3-35) include entries for seismic and ASME code classifications. In contrast, the checklist for the ITAAC (SRP pg. 14.3-36) does not include any entries for seismic or ASME code classifications.

As provided in COLA Part 2, Tier 2, Section 14.3S, the selection criteria and methodology used for the ABWR ITAAC were utilized to develop the STP site-specific ITAAC. Therefore, in accordance with the approach discussed above for the ABWR Tier 1 document and in accordance with SRP Section 14.3, Appendix C, the STP site-specific ITAAC do not include entries to verify seismic category or ASME Code Class (but those classifications will be identified in the figures referenced in the ITAAC).

Response to NRC Question related to Inclusion of ITAAC for Site-Specific Systems in Tier 1

ABWR DCD Tier 1 does not include ITAAC for site-specific systems, such as the Ultimate Heat Sink (UHS). Instead, Chapter 4 of the ABWR DCD Tier 1 identifies Interface Requirements for site-specific systems (e.g., Tier 1, Section 4.1 identifies Interface Requirements for the UHS). In turn, COLA Part 9 identifies ITAAC for the site-specific systems, and as discussed in COLA Part 2, Tier 2, Section 14.3S those ITAAC in general correspond to the Tier 1 Interface Requirements. The ITAAC for the site-specific systems in COLA Part 9 are not considered as Tier 1 because the concepts of Tier 1 and Tier 2 only apply to Design Control Documents, not to site-specific information in a COLA. In that regard, the purpose of Tier 1 and Tier 2 is to apply different change control criteria to different tiers of information, as provided in Section VIII of the design certification rule. In contrast, changes to site-specific information after the COL is issued are controlled by 10 CFR 52.98, and that section requires NRC approval of a license amendment for a change in the ITAAC.

Supplemental information related to verification of ASME code classification boundaries, safety class and seismic classifications for SSCs.

Design Control Process and similarity to ITAAC Process

The classification verification with regard to meeting ASME Code and Seismic Category I requirements is part of Design Control carried out under an approved 10 CFR 50, Appendix B, Criteria III "Design Control" program.

Design Commitments
The STP Units 3 & 4 project program includes measures necessary to assure that the applicable regulatory requirements and the design bases, as contained in the ABWR DCD and STP Units 3 & 4 COLA, are correctly incorporated into top-level General and System Design Documents (GDDs, & SDDs) and system drawings (Piping & Instrumentation Diagrams (P&IDs))

Inspection & Acceptance
Confirmation of correct incorporation and implementation of the applicable regulatory requirements and design bases will be verified through performance of design reviews and inspections of as-built documents and the installation.

Details of selected top level Design Documents:

Project Requirements Documents (PRDs) provide high level instructions regarding topics such as "**Plant Design Guidance**." The Plant Design Guidance program document lays out the requirements to accomplish the basic process for the design of SSCs, Americanization of the Toshiba designed systems, and incorporation of specific US ABWR licensing requirements for STP 3 & 4. This PRD also includes details related to performing and documenting the Design Validation process.

A specific General Design Document (GDD), titled "**Seismic Design Classification**," defines seismic classifications. These are consistent with the seismic design classifications that are defined and identified in the ABWR DCD and STP Units 3 & 4 FSAR Section 3.2 and South Texas Project Units 3 & 4 Engineering Technical Specification project document.

System Design Descriptions (SDDs) describe the design, performance, configuration, and operation of a system or structure. SDDs also define the interfaces with other systems and define the specific requirements for major components. They include basic requirements such as ASME Code Class.

Piping & Instrumentation Diagrams (P&IDs) provide system details including seismic category as well as safety class and quality group classification information. The later two details are used to determine the corresponding ASME code class as previously discussed in the RAI 03.02.02-2 response.

The STP Units 3 & 4 project program also includes capturing the safety class, quality group classification, quality standard, ASME code class, and other related information for all the major components in project item lists. These are used to facilitate reviews and inspections.

As-Built SSC Classification Verification.

The verification process involves two parts, Design Documents and physical configuration.

Design documents (SDDs and P&IDs) are verified on an individual system basis by performance of design verifications. These documents and the item lists generated from them are used to support as-built inspections.

Following the engineering design effort, wherein as described above the ASME code class and seismic classification is verified to be incorporated into design documents under an approved 10 CFR 50, Appendix B, Quality Assurance (QA) Program, the engineering design is translated into construction work packages. As with the design effort, these work packages are prepared using procedures and processes established and maintained under an approved 10 CFR 50, Appendix B, QA Program. This assures that ASME code class and seismic classifications are properly translated from the design documents into the work package. Quality Control (QC) verification checks are inserted at key points in the work package implementation, further assuring that ASME code class and seismic classifications are properly translated from the work package into the final as-built SSC.

No COLA change is required with this response.