## PMSTPCOL PEmails

**From:** Tai, Tom
**Sent:** Tuesday, December 14, 2010 3:01 PM
**To:** Tomkins, James
**Cc:** Price, John E; STPCOL
**Subject:** STP - Ch 3.9.3 Draft Audit Plan
**Attachments:** January18-20 2011 EMB Audit Plan & IOM.docx

Jim,

Attached for your information is a draft of the audit plan for January 18-20, 2011 to address ASME design specifications.

Please provide your comments by COB Thursday (12/16).

Regards

Tom Tai
DNRL/NRO
(301) 415-8484
Tom.Tai@NRC.GOV

**Hearing Identifier:** SouthTexas34Public_EX
**Email Number:** 2554

**Mail Envelope Properties** (0A64B42AAA8FD4418CE1EB5240A6FED124599DACE5)

**Subject:** STP - Ch 3.9.3 Draft Audit Plan
**Sent Date:** 12/14/2010 3:01:28 PM
**Received Date:** 12/14/2010 3:01:31 PM
**From:** Tai, Tom

**Created By:** Tom.Tai@nrc.gov

**Recipients:**
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Tracking Status: None
"STPCOL" <STP.COL@nrc.gov>
Tracking Status: None
"Tomkins, James" <jetomkins@STPEGS.COM>
Tracking Status: None

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December 14, 2010

MEMORANDUM TO: Mark Tonacci, Chief
BWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

FROM: Tom Tai, Senior Project Manager
BWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: AUDIT PLAN OF SOUTH TEXAS PROJECT (STP) DESIGN SPECIFICATIONS - REGULATORY AUDIT OF RISK SIGNIFICANT COMPONENTS

By letter dated October 5, 2010, South Texas Nuclear Operating Company STPNOC, applicant) submitted Revision 4 of the South Texas Project (STP) Units 3 and 4 Combined License Application (COLA). The staff has identified a need to audit the design approach and documentation of risk significant structures, systems and components. The audit will take place at the Westinghouse facility in Rockville, Maryland from January 18 to 19, 2011, and in the NRC headquarter on January 20, 2011. A copy of the audit plan is enclosed.

Docket Nos.: 52-012
52-013

Enclosure:
As stated

CONTACT: Tom Tai, NRO/DNRL
301-415-8484

December 14, 2010

MEMORANDUM TO: Mark Tonacci, Chief
BWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

FROM: Tom Tai, Senior Project Manager
BWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

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Docket Nos.: 52-012
52-013

Enclosure:
As stated

CONTACT: Tom Tai, NRO/DNRL
301-415-8484

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| BAbeywickrama, NRO | GWunder, NRO | |

**ADAMS Accession No:** **NRO-002**

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|---|---|---|---|---|---|
| NAME | TTai | BAbeywickrama | TLe | JDHerrity | GWunder |
| DATE | | | | | |

**OFFICIAL RECORD COPY**

**AUDIT PLAN OF SOUTH TEXAS PROJECT (STP) DESIGN SPECIFICATIONS - REGULATORY AUDIT OF RISK SIGNIFICANT COMPONENTS**

| | |
|---|---|
| APPLICANT: | South Texas Project Nuclear Operating Company (STPNOC) |
| APPLICANT CONTACT: | Scott Head<br>John Price<br>Bill Mookhoek, at, el |
| TIME: | 8:30 am to 4:30 pm on January 18 & 19, 2011<br>8:30 am to 3:30 pm on January 20, 2011 |
| LOCATION: | Westinghouse<br>12300 Twinbrook Building<br>Rockville, MD 20852 |
| REVIEWERS: | Tuan Le (NRO/DE/EMB2)<br>Richard McNally (NRO/DE/EMB2)<br>Jason Huang (NRO/DE/EMB2)<br>Sardar Ahmed (NRO/DE/EMB2)<br>Yui Law (NRO/DE/EMB2)<br>Tom Tai (NRO/DNRL/BWR) |

**BACKGROUND**

On September 20, 2007 South Texas Project Nuclear Operating Company (STPNOC) submitted to the U.S. Nuclear Regulatory Commission (NRC), a Combined License Application (COLA) Final Safety Analysis Report (FSAR) to construct and operate two additional units (Units 3 and 4) based on the U.S. Advanced Boiling Water Reactor (ABWR) Certified Design Control Documents (DCD) at the South Texas Project Nuclear Power Plant (STPNPP) site located in the county of Matagorda near Bay City, Texas.

The NRC staff is reviewing the STP Units 3 & 4 combined license (COL) application that incorporates by reference the design certification for the Advanced Boiling Water Reactor (ABWR). In the review of Chapter 3.9.3, the staff requested, and STP provided a list of risk significant components for which the design specifications of risk significant components would be completed and available for the NRC audit. These include, but not limit to the reactor pressure vessel, reactor internals, control rod drive, pumps and valves and heat exchangers of the Residual Heat Removal System, valves in the Nuclear Boiler System, and pumps, valves, tanks, and piping of the Standby Liquid Control System,

In Appendix A of SRP Section 3.9.3, “ASME Code Class 1, 2, and 3 Components and Component Supports, and Core Support Structures,” Section 7 of the appendix provides

guidance that the staff may request the submission of the Code-required Design Documents (such as Design Specifications, Design Reports, Load Capacity Data Sheets, or other related material or portion thereof), in order to establish that the design criteria, analytical methods, and functional capability satisfy the guidance provided by the SRP Section 3.9.3. This includes verification that the design information described in the DCD was adequately translated into documentation for each of the components designed to ASME Code Section III, Class 1, 2, and 3 requirements.

For the classification of components, the NRC staff will review the classification of components in support of its review of the STP COL application using SRP Sections 3.2.1 and 3.2.2.

The NRC staff will follow the guidance in NRO Office Instruction NRO-REG-108, "Regulatory Audits," in performing this audit.

## PURPOSE AND APPROACH

The purpose of the regulatory audit is to verify that the South Texas Project (STP) component design and qualification are being performed in accordance with the methodology and criteria described in the Advanced Boiling Water Reactor Design Control Document (ABWR DCD) in support of the STP Combined Operation License (COL) application.

The staff will review design specifications for components categorized as ASME Code Section III, Class 1, 2, and 3 developed by STP to:

- Confirm that the component design reflects the ABWR DCD.
- Confirm that the design documents have been adequately prepared in accordance with the ASME Code, Section III, NCA-3250 for design specifications.
- Confirm the risk significant components of ASME Code Design Specifications meet the design criteria, and that the analytical methods and functional capability satisfy the guidance provided in SRP Section 3.9.3.
- Confirm that the functional design, qualification, and classification to be used in the STP unit 3 and 4 satisfy SRP Sections 3.2.1 and 3.2.2.
- Identify further information that is necessary for the applicant to submit for the staff to reach a safety determination for the STP COL application. This might result in requests for additional information (RAIs).

Attachment B is a list of the systems and components of interest in the audit.

## AUDIT ACTIVITIES AND SCHEDULE

The NRC staff will conduct the audit in the Westinghouse office in Twinbrook, Rockville, MD on January 18 and 19, 2011 and in the NRC headquarter in Rockville, MD on

January 20, 2011. The NRC staff may request an ad-hoc extension of the audit if deemed necessary. Such an extension will be requested before the meeting is adjourned on January 20, 2011 by the NRC staff responsible for the audit.

Following the audit, the NRC staff responsible for the audit will assemble and prepare a final audit report. The final report will be made available to all contributors.

The audit agenda is provided in Attachment A. Please contact Tom Tai at 301-415-8484 or at Tom.Tai@NRC.GOV if you have any questions related to the audit.

**Attachment A**

**Proposed Agenda**
**STP COLA ASME Design Specifications Audit**
**January 18 - 20, 2011**
**South Texas Project Nuclear Operating Company**

**Tuesday, January 18, 2011: Audit - Proprietary**

| | | |
|---|---|---|
| **8:30 am - 8:45 am** | Entrance / Introduction | [NRC/STPNOC] |
| **8:45 am – 9:15 am** | Status Overview | [STPNOC] |
| **9:15 am - 4:30 pm** | Design Specification Review | [NRC] |

**Wednesday, January 19, 2011: Audit - Proprietary**

| | | |
|---|---|---|
| **8:30 am - 9:15 am** | Recap of January 18, 2011 Audit | [NRC/STPNOC] |
| **9:15 am - 4:30 pm** | Design Specification Review | [NRC] |

**Thursday, January 20, 2011: Audit - Proprietary**

| | | |
|---|---|---|
| **8:30 am - 9:15 am** | Recap of January 19, 2011 Audit | [NRC/STPNOC] |
| **9:15 am - 12:00 pm** | Design Specification Review | [NRC] |
| **12:00 pm - 1:30 pm** | Lunch | |
| **1:30 pm – 2:30 pm** | NRC Caucus | [NRC] |
| **3:30 pm – 3:30 pm** | Exit Discussion | [NRC/STPNOC] |

**Attachment B**
**Risk Significant Systems, and Components**

| Systems | Risk Significant SSC* |
|---|---|
| Reactor Core Isolation Cooling System | Turbine, Pump, Min Flow Bypass Valve, Injection Valve, Check Valve F038, Check Valves {F003, F005}, Isolation Valves {F035, F036, F039} |
| Containment Overpressure Protection system | AOV {F007, F010}<br>Rupture Disks<br>Flow Lines |
| Reactor Pressure Vessel | Reactor Vessel Design<br>Reactor Internals |
| Containment | Wetwell/Drywell Vacuum Breakers |
| Classification | Component Classification, Q-List, P & IDs |
| High pressure core flooder | Pumps, Maintenance Valve F005 {B, C},<br>Injection Valves F003 {B,C} |
| Control Rod Drive | Hydraulic Control Units<br>Scram Pilot Solenoid Valves (part of HCU)<br>Scram Valves to FMCRDs (part of HCU) |
| Nuclear Boiler System | Isolation Check Valves F003B and F004B<br>SRV discharge piping<br>ADS F010 {A,C,F,H,L,N,R,T}<br>Non-ADS F010 {B,D,E,G,J,K,M,P,S,U} |
| Reactor Service Water System | Pumps<br>Supply Isolation Valves F015 {A,B,C,D,E,F} F002 {A,B,C,D,E,F}<br>Heat Exchangers |
| Reactor Cooling Water System | Pumps<br>Isolation Valves F015 {A,B,C,D,E,F} F002 {A,B,C,D,E,F}<br>Heat Exchangers |
| Residual Heat Removal System | ACIWA Manual Valves {F101, F102}<br>Heat Exchangers<br>Pumps<br>Injection Valves {F001, F003, F005, F006} {A,B,C}<br>Admission Valves, F012 |
| Standby Liquid Control System | Tank<br>Valves {F006}<br>Piping<br>Pumps |
| Reactor Water Cleanup System | Isolation Valves {F002, F003}<br>Remote Manual Shutoff Valve {F028} |
| Emergency Diesel Generator System | Starting Receiver Tanks and Valves<br>Safety-related diesel cooling water system and lube oil system |

COL - STP Nuclear - South Texas Mailing List (Revised 05/11/2010)

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