November 23, 2010

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

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

SUBJECT: AUDIT OF STP NUCLEAR OPERATING COMPANY COMBINED LICENSE APPLICATION FLOW-INDUCED VIBRATION ANALYSES

By letter dated October 5, 2010, STP 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 reactor internals stress analyses and the result from the dryer subscale testing that were developed to support the flow-induced vibration program for STP Units 3 and 4. The audit will take place at Westinghouse Windsor in Windsor, Connecticut from December 1 to 3, 2010. 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

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ADAMS Accession No: ML103260500 **NRO-002**

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DATE	11/23/10	11/23/10	11/23/10	11/23/10	11/23/10

OFFICIAL RECORD COPY

AUDIT PLAN TO REVIEW FLOW-INDUCED VIBRATION PROGRAM
STP NUCLEAR OPERATING COMPANY UNITS 3 AND 4 COMBINED LICENSE APPLICATION

APPLICANT:	STP Nuclear Operating Company
APPLICANT CONTACT:	Scott Head John Price Bill Mookhoek, et. al.
TIME:	December 1 - 3, 2010 8:30 a.m. to 5:00 p.m.
LOCATION:	Westinghouse 20 International Drive, Building 19 Windsor, CT 06095
REVIEWERS:	Yuken Wong (NRO/DE/EMB2) Samir Ziada (NRC Consultant) David Ma (NRC Consultant) Omesh Chopra (NRC Consultant) Tom Tai (NRO/DNRL/BWR)

BACKGROUND

On September 20, 2007, STP 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 South Texas Project (STP) Units 3 and 4 combined license (COL) application that incorporates by reference the design certification for the ABWR. However, in the area of dynamic testing and analyses under Chapter 3.9.2, STPNOC has advised the NRC that to address the issues associated with flow-induced vibration, STP Unit 3 will be the prototype plant and Unit 4 will be the non-prototype Category 1 plant. This is a change in the licensing position as described in the STP Units 3 and 4 FSAR. The Engineering Mechanics Branch 2 (EMB2) proposes to conduct another audit from December 1 - 3, 2010, as a follow-up to the October, 2010 audit in support of this review. The NRC staff will perform the audit at Westinghouse Windsor in Windsor, Connecticut. The NRC staff will follow the guidance in the Office of New Reactors' (NRO) Office Instruction NRO-REG-108, "Regulatory Audits," in performing this audit.

PURPOSE AND APPROACH

The purpose of this audit is to continue the audit of the results of the subscale testing and the results of the acoustic analyses performed to support the comprehensive vibration assessment program (CVAP). The audit team will also look at the non-dryer stress calculations, the dryer stress analysis models, the measurement and inspection plan and the dryer load definition using scale model test. These are proprietary calculations developed for the reactor internal components. Any significant findings during the audit will be documented in the audit report and Requests for Additional Information may be issued for scheduled action.

AUDIT ACTIVITIES AND SCHEDULE

The NRC staff will conduct the audit from December 1 to 3, 2010. 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 Enclosure 1. Please contact Tom Tai at 301-415-8484 or at Tom.Tai@nrc.gov, if you have any questions related to the audit.

Proposed Agenda
Flow-Induced Vibration Audit
December 1 - 3, 2010
STP Nuclear Operating Company
Combined License Application

Wednesday December 1, 2010: Audit - Proprietary

8:30 a.m. - 9:00 a.m.	Entrance/Introduction	NRC/STPNOC
9:00 a.m. – 5:00 p.m.	Audit of Calculations	NRC

Thursday December 2, 2010: Audit - Proprietary

8:30 a.m. – 5:00 p.m.	Discussion of dryer and non-dryer stress analysis	NRC/STPNOC

Friday December 3, 2010: Audit – Proprietary

8:30 a.m. – 12:00 p.m.	Audit Measurement and Inspection Plan	NRC
12:00 p.m. - 1:00 p.m.	Exit meeting	

Enclosure