



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVE., NE., SUITE 1200
ATLANTA, GEORGIA 30303-1257

September 1, 2011

Mr. Ashok S. Bhatnagar
Senior Vice President
Nuclear Generation Development and Construction
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

**SUBJECT: MID-CYCLE ASSESSMENT LETTER – WATTS BAR NUCLEAR PLANT
UNIT 2 (NRC INSPECTION REPORT 05000391/2012601)**

Dear Mr. Bhatnagar:

On August 11, 2011, the NRC staff completed its performance review of the Watts Bar Nuclear (WBN) Plant Unit 2 construction project. Our technical staff reviewed inspection results for the period from July 1, 2010 through June 30, 2011. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at your facility.

Overall, WBN Unit 2 construction activities were conducted in a manner that complied with the Commission's rules and regulations, the conditions of your construction permit, and the Unit 2 regulatory framework commitments. Our inspections indicated that your construction program and procedure development, along with project staffing, were sufficiently implemented to support ongoing construction activities. Management and Quality Assurance oversight effectively monitored and assessed construction activities. Recently our inspections identified concerns with the completeness and adequacy in the implementation of your corrective actions associated with several historical issues. Specifically, for non-cited violation (NCV) 05000391/2011605-01, "Failure to take adequate corrective action associated with construction deficiency reports (CDRs) and issues identified in a NRC Bulletin," the NRC staff identified four examples of inadequate corrective actions to resolve the historical issues. Because of the large number of historical Watt Bar 2 issues that will require resolution, the NRC is concerned with the possible implications if your corrective actions are not thorough and properly documented. Your approach taken to resolve this NCV should be rigorous enough to ensure that all historical issues are properly resolved and that the final closure packages contain appropriate documentation to demonstrate implementation of corrective actions. The NRC staff will continue to inspect this area during review of corrective actions for historical issues and review of your closure packages. In addition, a review of your corrective actions for the NCV will be accomplished by performing a focused Problem Identification and Resolution (PI&R) sample inspection in this area.

The corrective action program implementation activities, including initiation, classification, disposition, and trending were deemed satisfactory; however, some issues that were entered into your corrective action program have not yet been resolved. Specifically, for violation (VIO) 005000391/2010603-08, "Failure to Adequately Evaluate and Qualify Molded Case Circuit

Breakers” and for unresolved item (URI) 05000391/2011606-01, “Electrical Design Issues,” the NRC staff has not seen the corrective actions necessary to close these items. These items are of high priority for the NRC staff where follow-up inspection will be required. It is important that you have a plan to resolve these items and implement adequate corrective actions to ensure that the quality requirements are satisfied so these components and systems will be able to perform their safety-related function during a worst case design basis accident.

During the 2010 End-of-Cycle Assessment, a cross-cutting theme was identified in the Work Practices component of the Human Performance cross-cutting area (H.4(b)), for the failure to effectively communicate expectations regarding procedural compliance and that personnel follow procedures. The NRC staff evaluated this cross-cutting theme during the 2010 End-of-Cycle Assessment to determine if a Substantive Cross-Cutting Issue existed. Because two of the four findings that comprised the cross-cutting theme were documented in last quarter of that assessment period, the NRC staff determined more time was needed to assess the effectiveness of your corrective actions. In preparation for the 2011 Mid-Cycle Assessment, the NRC staff reviewed your corrective actions associated with the cross-cutting theme. Based on these corrective actions and the fact that only three findings exist in the Work Practices component of the Human Performance cross-cutting area (H.4(b)) for the twelve (12) month period considered during the Mid-Cycle Assessment review, we have concluded that a Substantive Cross-Cutting Issue does not exist.

The NRC staff has expended a large effort toward the WBN Unit 2 project over the last twelve months. Specifically, the Region II office has spent over 17,200 hours performing inspections, assessments, public meetings, allegation follow-up, and inspection program support for WBN Unit 2. The NRC staff anticipates the number of hours to increase as WBN Unit 2 construction activities continue and pre-operational testing is performed on additional safety-related systems.

In conclusion, project performance for the most recent quarter, as well as for the previous three quarters of the assessment cycle, was acceptable based on the above inspection conclusions, the fact that all violations were classified as severity level IV or below, and that no Substantive Cross-Cutting Issue was identified. Therefore, we do not plan to expand our inspection activities beyond what is specified by Inspection Manual Chapter (IMC) 2517.

The enclosed inspection plan contains those major or infrequent projected inspection activities that we have currently identified, in part, by reviewing your project schedule. It is crucial that you keep us apprised of any project schedule changes as soon as they are identified, in order to maintain our inspection plan current. As additional details of your project schedule become available, we will plan other inspections specified in IMC 2517. Your staff will be informed of changes/ additions to our inspection plans. Routine inspections performed by the resident inspectors and regional staff on construction activities, Corrective Action Programs (CAPs), Special Programs (SPs), Generic Communications, historical open items, and CDRs are not listed on the inspection plan due to their ongoing and continuous nature. We plan to give your staff ample notification of specific upcoming inspection activities as their schedule becomes available in order to allow for the resolution of any scheduling conflicts and personnel availability issues.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Please contact me at (404) 997-4446 with any questions you may have regarding this letter or our planned inspections.

Sincerely,

/RA/

Robert C. Haag, Chief
Construction Projects Branch 3
Division of Construction Projects

Docket No. 50-391
Construction Permit No: CPPR-92

Enclosure

cc: (See next page)

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Letter to Ashok S. Bhatnagar from Robert C. Haag dated September 1, 2010.

SUBJECT: WATTS BAR NUCLEAR PLANT UNIT 2 CONSTRUCTION - NRC INSPECTION
REPORT 05000391/2009601

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Inspection Plan

Watts Bar Unit 2*

Inspection Activity	Calendar Quarter for Inspection
Electrical Distribution System Functional Inspection (EDSFI) Follow-up	Fourth Quarter 2011 Team Inspection
Nuclear Reactor Regulation (NRR) Audit of Fire Protection Plan	Fourth Quarter 2011 Team Inspection
Fire Protection Inspection	First Quarter 2012 Team Inspection
Problem Identification and Resolution (IP 35007)	Second Quarter 2012 Team Inspection
Cyber Security Plan Implementation Inspection	Second Quarter 2012
Construction Refurbishment Process (IP 37002)	Ongoing
Pre-operational testing inspection of ERCW system	Fourth Quarter 2011 With pre-operational testing inspections on other safety-related systems starting First Quarter 2012
Commercial Grade Dedication follow-up inspection	Fourth Quarter 2011

* The inspections listed above are limited to major or infrequently performed inspections. They are in addition to routine inspections performed by the resident inspectors and regional staff such as inspections of routine construction activities, CAPs, SPs, Generic Communications and historical open items.