



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

July 7, 2011

Mr. Brian Paddock  
360 Roberts Hallow Ln  
Cookeville, TN 38501

**SUBJECT: QUESTIONS RAISED TO THE NRC DURING THE JUNE 20 PUBLIC MEETING  
REGARDING THE WATTS BAR UNIT 2 CONSTRUCTION PROJECT**

Dear Mr. Paddock:

During the public questions/comments portion of the Category 1 Public Meeting held on June 20, 2011, you raised several questions to the NRC about the construction and licensing activities at the Watts Bar Unit 2 (WB2) construction project. The enclosure to this letter restates your questions and describes the NRC's responses to your questions.

Thank you for engaging us with your questions. We believe that our actions in this matter have been responsive. We take our safety responsibility to the public seriously and will continue to do be open and transparent with the public. Should you have any additional questions or if I can be of further assistance in this matter, please call me at 404-997-4446 or response via email to [Robert.Haag@nrc.gov](mailto:Robert.Haag@nrc.gov).

Sincerely,

**/RA/**

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

Enclosure(s): As stated

CERTIFIED MAIL: 7006 0810 0000 9473 7181  
RETURN RECEIPT REQUESTED

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ADAMS:  Yes      ACCESSION NUMBER: ML111890245       SUNSI REVIEW COMPLETE  FORM 665 ATTACHED

OFFICE	RII:DCP	RII:DCP					
SIGNATURE	CJE	RCH					
NAME	CEven	RHaag					
DATE	07/07/2011	7/7/2011					
E-MAIL COPY?	YES    NO	YES    NO					

OFFICIAL RECORD COPY      DOCUMENT NAME: G:\CC\DCP\CPB3\WATTS BAR 2\PUBLIC MEETINGS\RESPONSE TO  
PUBLIC QUESTIONS\_ JUNE 20, 2011 MEETING.DOCX

RESPONSE TO QUESTIONS  
WATTS BAR UNIT 2 – PUBLIC MEETING JUNE 20, 2011

Question 1:

How will the Fukushima event affect WB2, including the construction completion schedule?

Response to Question 1:

After the Fukushima event occurred, NRC established a senior level agency task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system. The task force is ongoing and has not yet developed any final conclusions or recommendations.

Additionally, the NRC issued Temporary Instruction (TI) 2515/183, "Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event" on March 23, 2011 to assess the adequacy of actions taken by licensees in response to the Fukushima Daiichi nuclear station fuel damage event. Inspections under TI-183 assessed licensees' capability to mitigate conditions that result from beyond design basis events and their capability to mitigate station blackout (SBO) conditions, as required by 10 CFR 50.63, "Loss of All Alternating Current Power." The NRC also issued TI 2515/184, "Availability and Readiness Inspection of Severe Accident Management Guidelines (SAMGs). The objectives of TI-184 were to determine whether the SAMGs are available and how they are being maintained and to determine the nature and extent of licensee implementation of SAMGs training and exercises. While TI-183 and 184 were not performed for WB2 because it is still under construction, the TIs were completed at Watts Bar Unit 1 with the inspection results available on the NRC's public website, [www.nrc.gov](http://www.nrc.gov).

The results from the agency task force and insights from TI-183 and TI-184 inspection results will be factored into the ongoing NRC's licensing and inspection efforts for Watts Bar 2. Because the agency's Fukushima task force review has not been completed it is too soon to understand what affect Fukushima will have on the Watts Bar 2 construction project.

Question 2:

The seismic frequency for all plants in the US was just reanalyzed. How did this affect WB2?

Response to Question 2:

Nuclear power plants are built to withstand most environmental hazards, including earthquakes. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires all of its licensees to take seismic activity into account when designing and maintaining its nuclear power plants. New seismic hazard information became available for the eastern and central United States (WB2 is part of this area), and the NRC evaluated the new data and models to determine if any changes were needed at plants. The assessment found that, although overall seismic risk remains low, some plant's, including WB2, seismic hazard estimates have increased. Although the analysis showed an increase in the seismic hazard estimates, each plant's current seismic design provides an adequate safety margin. In September 2010, NRC issued a Safety/Risk Assessment report and an Information Notice, <http://www.nrc.gov/reading-rm/doc-collections/generic-issues/gis-in-implementation> to inform stakeholders of the assessment results. This analysis confirmed that nuclear power plants remain safe with no need for immediate action.

Question 3:

Has TVA addressed historical ice condenser (IC) problems at WB2, including the problem with IC doors not being able to open because of concrete and steel separating and causing a bulge that prevented the doors from opening?

Response to Question 3:

Historical IC issues were inspected by the NRC as part of the WB2 inspection program. The NRC review of generic industry IC issues was performed and documented in NRC Integrated Inspection Report 05000391/2011603, which can be found on the public website, <http://www.nrc.gov/info-finder/reactor/wb/watts-bar/construction-insp-info.html>. Specifically, regarding the IC floor heaving, the applicant has repaired openings and installed qualified sealant to prevent moisture migration and freezing with subsequent slab movement (floor heaving), thus correcting the concern that the inlet doors would be obstructed.

Question 4:

What type of hydrogen igniter system does WB2 have? Are they powered from emergency power?

Response to Question 4:

WB2 utilizes containment air return fans, hydrogen analyzer system, and hydrogen mitigation system to control the concentration of hydrogen that may be released into the containment following an accident. The containment air return fans limit hydrogen concentration by circulating air from the upper compartment to the lower compartment, through the ice condenser, and then back to the upper compartment. The hydrogen analyzer program provides the capability for extracting a sample and obtaining the measurement necessary to determine the volume percent concentration for hydrogen present in the sample, and provides indication and alarms of volume percent concentrations in the main control room. The hydrogen mitigation system is designed to increase the containment capability to accommodate hydrogen that could be released during a degraded core accident by the method of controlled ignition using thermal igniters.

There are 68 hydrogen igniters distributed throughout containment in regions where hydrogen could be released or where significant quantities could flow. The igniters are divided into two equal redundant groups, each with independent controls and power supplies. There are at least two igniters, controlled and powered redundantly in each of these regions. The power supply for both groups of igniters is backed by automatic loading of the emergency diesel generators upon loss of offsite power.

In the event of a station blackout, each train of hydrogen igniters has the capability of being manually connected to a back-up diesel generator. This capability was previously inspected for Watts Bar Unit 1 under TI-174, "Hydrogen Igniter Backup Power Verification" and documented in NRC IIR 05000390/2008003 which is available on the NRC's public website. WB2 is committed to the same actions that were implemented on Unit 1 for hydrogen igniter backup power. TI-174 will be inspected as part of NRC construction inspection program for WB2.