



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

September 3, 2014

Mr. Michael D. Skaggs  
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 05000391/2014606)**

Dear Mr. Skaggs:

On August 11, 2014, the NRC staff completed its performance review of the Watts Bar Nuclear Plant Unit 2 construction project. Our technical staff reviewed inspection results for the period from July 1, 2013 through June 30, 2014. 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, Watts Bar Nuclear Plant 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 and testing programs were sufficiently implemented to support ongoing construction and testing activities. Management and Quality Assurance oversight effectively monitored and assessed these activities. The corrective action program implementation activities, including initiation, classification, disposition, and trending were deemed satisfactory. 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 issues were identified. Therefore, we do not plan to expand our inspection activities beyond what is specified by Inspection Manual Chapter (IMC) 2517.

The NRC staff spent over 17,900 hours during the 12-month Mid-Cycle Assessment period performing inspections, assessments, public meetings, allegation follow-up, and inspection program support for WBN Unit 2. The NRC staff anticipates this level of effort will increase over the next 12-month assessment cycle as WBN Unit 2 construction and pre-operational testing activities are completed.

As a result of reviewing your construction schedule and through interaction with your staff, the enclosed inspection plan contains those projected inspection activities that we have currently identified. Many of the inspections listed in the enclosed inspection plan were scheduled based on information your staff provided to the NRC. This information involved dates for completion of construction activities that would be subject to the corresponding NRC inspections. Therefore, it is crucial that you keep us apprised of any changes to the scheduled completion dates, in order to maintain our inspection plan current. As additional details of your project schedule become

available, we will plan other inspections specified in Inspection Manual Chapter 2517. Your staff will be given ample notification of changes to upcoming inspection activities or newly identified inspections as they become finalized in order to allow for the resolution of any scheduling conflicts and personnel availability. Routine inspections performed by the resident staff are not listed on the inspection plan due to their ongoing and continuous nature.

The NRC continues implementation of Inspection Manual Chapter 2513, Light Water Reactor Inspection Program – Preoperational Testing and Operational Preparedness Phase. We have not listed preoperational testing inspections in the enclosed inspection plan due to likelihood that the inspection dates will change as adjustments to your preoperational testing schedule occur.

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:  
Watts Bar Unit 2 Scheduled Inspection Items List

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Greg Scott

Tennessee Valley Authority

Electronic Mail Distribution

Watts Bar Unit 2 Licensing

Tennessee Valley Authority

Electronic Mail Distribution



## *Watts Bar Unit 2*

### *Scheduled Inspection Items List*

**71 Items**

<i>Type</i>	<i>Item #</i>	<i>Title</i>	<i>Scheduled Inspection</i>
TMI	II.D.3	Valve position indication	09/08/2014
GL	79-36	Adequacy of station electric distribution systems voltages	09/08/2014
GL	06-02	Grid reliability and impact on plant risk and operability of offsite power	09/08/2014
TI	2515/174	Hydrogen igniter backup power	09/08/2014
TI	2515/165	Offsite power and impact on plant risk	09/08/2014
SER	SSER App HH Item 74	NRC staff will verify installation of acoustic-monitoring system for the power-operated relief valve (PORV) position indication in WBN U2 before fuel load (Section 7.8.1)	09/08/2014
TI	2512/021	Equipment Seismic CAP	09/15/2014
TMI	II.B.2	Plant shielding	10/06/2014
GL	89-04	Guidelines on developing acceptable inservice testing programs	10/06/2014
TI	2515/110, R1	SR check valves, GL 89-04	10/06/2014
TI	2515/114	GL 89-04, Inservice Testing	10/06/2014
CDR	83-48	Installation of flow switch & sensing lines	10/06/2014

<i>Type</i>	<i>Item #</i>	<i>Title</i>	<i>Scheduled Inspection</i>
SER	SSER App HH Item 41	Confirm adequacy of updates for plant data displays and dose assessment models prior to issuance of Unit 2 OL (Section 13.3.2.9)	10/06/2014
SER	SSER App HH Item 38	NRC staff will confirm availability & operability of ERDS for U2 prior to issuance of U2 OL (SSER 22, Section 13.3.2.6)	10/06/2014
TI	2512/026	Instrument Lines CAP	10/20/2014
GL	89-19	Request for actions related to resolution of unresolved safety issue A-47, Safety implication of control systems in LWR nuclear power plants, pursuant to 10CFR50.54(f)	10/20/2014
GL	96-01	Testing of safety-related circuits	10/20/2014
TI	2515/139	GL 96-01, Testing of SR logics circuits	10/20/2014
IP	71111.07	Heat Sink Performance - Subissue: ERCW testing (02.02.d.5)	10/20/2014
SER	SSER App HH Item 90	NRC staff should verify the ERCW dual unit flow balance confirms that ERCW pumps meet all specified performance requirements & have sufficient capability to supply all required ERCW normal & accident flows for dual unit operation	10/20/2014
OTHER		Fire Protection Program Inspection	10/20/2014
IP	80210	Environmental Protection	10/27/2014
BL	79-24	Frozen lines	11/03/2014
VIO	87-19-02	Failure to preseve equipment installed in north/south valve rooms	11/03/2014
CDR	86-24	Inadequate flexibility of instrument tubing attached to steel containmt vessel	11/03/2014
CDR	94-04	Potential freezing of main steam pressure transmitter sense line	11/03/2014

<i>Type</i>	<i>Item #</i>	<i>Title</i>	<i>Scheduled Inspection</i>
OTHER		Fire Protection Program Inspection	11/04/2014
IP	73051	Inservice Inspection Program	11/10/2014
IP	73052	Inservice Inspection Procedures	11/10/2014
IP	73053	Preservice Inspection Observation	11/10/2014
IP	71111.07	Heat Sink Performance	11/17/2014
IP	71111.07	Heat Sink Performance - Subissue: CCS HX B heat transfer test (02.02.b.1)	11/17/2014
IP	71111.07	Heat Sink Performance - Subissue: Intake inspections, system controls, and system chemistry (02.02.d.2&4)	11/17/2014
SER	SSER App HH Item 23	Resolve reasoning for not upgrading MSIV solenoid valves to Category 1	11/17/2014
TI	2512/036	Environmental Qualification SP	12/01/2014
GL	04-02	Potential impact of debris blockage on emergency recirculation during design basis accidents at PWRs	12/01/2014
TI	2515/87	MPA A-17: RG 1.97	12/01/2014
TI	2515/166, R1	Containment sump blockage	12/01/2014
CDR	87-10	Failure of Category "C" devices may adversely affect Category "A" devices	12/01/2014
SER	SSER App HH Item 16	Perform detailed inspection/evaluation prior to fuel load on EQ program compliance with 10CFR50.49 requirements (Section 3.11.2)	12/01/2014

<i>Type</i>	<i>Item #</i>	<i>Title</i>	<i>Scheduled Inspection</i>
SER	SSER App HH Item 17	Verify accuracy of WBN U2 EQ list prior to fuel load (Section 3.11.2.1)	12/01/2014
IP	79501	LWR Water Chemistry Control And Chemical Analysis – Audits	12/01/2014
IP	79502	Plant Systems Affecting Plant Water Chemistry	12/01/2014
IP	84525	Quality Assurance and Confirmatory Measurements for In Plant Radiochemical Analysis (Preoperational And Supplemental)	12/01/2014
IP	71130	Security Operational Readiness Inspection	12/08/2014
IP	35742	QA Program (Document Control)	12/08/2014
BL	96-02	Movement of heavy loads over spent fuel, over fuel in reactor, or over safety-related equipment	12/15/2014
SER	SSER App HH Item 33	Verify completion of DCNs of 125V dc vital battery system prior to issuance of Unit 2 OL (Section 8.3.2.3)	12/15/2014
BL	80-04	Analysis of PWR main steam line break with continuous feedwater addition	01/05/2015
BL	03-02	Leakage from RPV lower head penetrations and reactor coolant pressure boundary integrity (PWRs)	01/05/2015
TMI	II.E.1.2	Auxiliary feedwater system initiation and flow	01/05/2015
GL	88-14	Instrument air supply system problems affecting safety-related equipment	01/05/2015
TI	2500/19	Licensee's actions taken to implement USI A-26: Transient protection	01/05/2015
TI	2515/120	MPA Item A-22, Station Blackout Rule	01/05/2015



<i>Type</i>	<i>Item #</i>	<i>Title</i>	<i>Scheduled Inspection</i>
TI	2515/152, R1	BL 2003-02, RPV nozzles	01/05/2015
IFI	86-10-03	U2 instrument air preop test	01/05/2015
CDR	86-11	Lack of thermal qualification for Systems 43 & 90 piping	01/05/2015
TI	2515/171	Verification of site specific implementation of B.5.b Phase 2 & 3 mitigating strategies	01/05/2015
SER	SSER App HH Item 40	Confirm adequacy of emergency facilities/equipment to support dual unit operations prior to issuance of Unit 2 OL (Section 13.3.2.8)	01/05/2015
SER	SSER App HH Item 75	NRC staff will verify test procedures & qualification testing for auxiliary feedwater initiation & control & flow indication are completed in WBN U2 before fuel load (Section 7.8.2)	01/05/2015
TI	2512/041	Radiation Monitoring System SP	01/12/2015
TMI	II.F.1.2.a	Noble gas	01/12/2015
TMI	II.F.1.2.c	Containment high range monitoring	01/12/2015
BL	88-11	PZR surge line thermal stratification	02/02/2015
IP	42451	Maintenance Procedures	02/02/2015
TI	2512/037	Master Fuse List SP	02/09/2015
URI	87-19-06	Nonsafety-related cable in close proximity to safety-related cable in electrical panels	02/09/2015
TI	2512/020	Electrical Issues CAP - Subissue: Cable separation and electrical isolation	02/09/2015

<i>Type</i>	<i>Item #</i>	<i>Title</i>	<i>Scheduled Inspection</i>
TI	2512/038	Mechanical Equipment Qualification SP	02/16/2015
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TMI	I.C.7	NSSS vendor revision of procedures	03/09/2015
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BL	80-06	Emergency safety feature reset controls	04/06/2015
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available, we will plan other inspections specified in Inspection Manual Chapter 2517. Your staff will be given ample notification of changes to upcoming inspection activities or newly identified inspections as they become finalized in order to allow for the resolution of any scheduling conflicts and personnel availability. Routine inspections performed by the resident staff are not listed on the inspection plan due to their ongoing and continuous nature.

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Sincerely,

/RA/

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

Docket No. 50-391  
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cc: (See next page)

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Letter to Michael D. Skaggs from Robert C. Haag dated September 3, 2014.

SUBJECT: WATTS BAR NUCLEAR PLANT UNIT 2 CONSTRUCTION - NRC INSPECTION  
REPORT 05000391/2014606

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