



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II**

245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

March 1, 2017

Mr. Joseph W. Shea  
Vice President, Nuclear Licensing  
Tennessee Valley Authority  
1101 Market Street, LP 3D-C  
Chattanooga, TN 37402-2801

**SUBJECT: ANNUAL ASSESSMENT LETTER FOR WATTS BAR NUCLEAR PLANT, NRC  
INSPECTION REPORT 05000390/2016006 AND 05000391/2016006**

Dear Mr. Shea:

The NRC has completed its end-of-cycle performance review of Watts Bar Nuclear Plant (WBN) Units 1 and 2 reviewing performance indicators (PIs), inspection results, and enforcement actions from January 1, 2016, through December 31, 2016. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility. The NRC concluded that overall performance at your facility preserved public health and safety.

The NRC determined the performance at Watts Bar Units 1 and 2 during the most recent quarter was within the Licensee Response Column, the highest performance category of the NRC's Reactor Oversight Process (ROP) Action Matrix, because all inspection findings had very low safety significance (i.e., Green), and all PIs were within the expected range (i.e., Green). Therefore, the NRC plans to conduct ROP baseline inspections at your facility.

In letter dated November 21, 2016, WATTS BAR NUCLEAR PLANT, UNIT 2 – FULL TRANSITION TO THE REACTOR OVERSIGHT PROCESS AND ASSESSMENT LETTER (ADAMS Accession No. ML16326A210), the NRC communicated it had transitioned the remaining reactor safety cornerstones for the Watts Bar Nuclear Plant Unit 2 to the full oversight of the ROP as described in Inspection Manual Chapter (IMC) 2515 and IMC 0305. This also represented the conclusion of the applicability of IMC 2517. The NRC determined that overall, Watts Bar Nuclear Plant Unit 2 operated in a manner that preserved public health and safety and met all cornerstone objectives. Inspection findings and traditional enforcement violations issued across all cornerstones were determined to be of very low safety significance (i.e., Severity Level IV or Green). Additionally, PIs for previously transitioned cornerstones indicated that your performance was within the nominal, expected range (i.e., Green). Therefore, the NRC has determined that Watts Bar Nuclear Plant Unit 2 has entered the Licensee Response Column of the ROP Action Matrix, effective as of November 21, 2016.

A cross-cutting theme in the Safety Conscious Work Environment (SCWE) cross-cutting area exists, as identified in our mid-cycle letter to you dated August 31, 2016 (ADAMS Accession No. ML16244A703). Specifically, on March 23, 2016, the NRC issued letter entitled, "Chilled Work Environment for Raising and Addressing Safety Concerns at the Watts Bar Nuclear Plant" (ADAMS Accession No. ML16083A479) and the NRC identified one inspection finding in the assessment period with a cross-cutting aspect of SCWE Policy, [S.1]. The NRC will continue to follow-up on the Chilling Effect Letter and SCWE theme using baseline inspection samples and focused inspections as appropriate.

The enclosed inspection plan lists the inspections scheduled through December 31, 2018. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last twelve months of the inspection plan are tentative and may be revised. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes. This inspection plan does not include security-related inspections, which will be sent via separate, non-publicly available correspondence.

In addition to the ROP baseline inspections at your facility, we also plan on conducting infrequently performed inspections which include: Operator Licensing Examinations; IP 93100, Safety-Conscious Work Environment Issue of Concern Followup; and IP 92702, Follow-up On Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, And Alternative Dispute Resolution Confirmatory Orders. Follow-up inspections in accordance with IP 92702 will be accomplished as necessary for the follow-up to open Confirmatory Order actions, willful violations, and escalated enforcements items.

Additionally, the NRC will perform Temporary Instruction 2515/192, "Inspection of the Licensee's Interim Compensatory Measures Associated With the Open Phase Condition Design Vulnerabilities in Electric Power Systems," in the first quarter of 2017.

As described in Watts Bar Nuclear Plant Unit 2 Reactor Oversight Process (ROP) Transition Plan (ADAMS Accession No. ML15096A204), because the PIs for Initiating Events indicators IE01 and IE03; and Mitigating Systems indicators MS06, MS07, MS08, MS09, and MS10 are not yet valid for Unit 2; those PIs will be subject to augmented inspections until declared fully valid.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter 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).

J. Shea

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Please contact me at (404) 997-4415 with any questions you have regarding this letter.

Sincerely,

***/RA/***

Alan Blamey, Chief  
Reactor Projects Branch 6  
Division of Reactor Projects

Docket No.: 50-390, 391  
License No.: NPF-90, 96

Enclosure:  
Watts Bar Inspection/Activity Plan  
03/01/2017 – 12/31/2018

cc: Distribution via ListServ

J. Shea

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Institute of Nuclear Power Operations (INPO)

ADAMS Accession Number: ML 17060A160

OFFICE	RII:DRP	RII:DRP			
NAME	JSeat	ABlamey			
DATE	2/23/2017	2/24/2017			

**Official Agency Record**

**Watts Bar**  
**Inspection / Activity Plan**  
**03/01/2017 - 12/31/2018**

Unit Number	Planned Dates Start End	Inspection Activity	Title	No. of Staff on Site
		<b>CDBI - COMPONENT DESIGN BASES INSPECTION</b>		<b>1</b>
1, 2	01/06/2017 04/28/2017	IP 7111121	Component Design Bases Inspection	
		<b>ISI - UNIT 1 IN-SERVICE INSPECTION</b>		<b>1</b>
1	03/27/2017 03/31/2017	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>RP - RP OCCUPATIONAL INSPECTION WEEK 1</b>		<b>2</b>
1, 2	03/27/2017 03/31/2017	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1, 2	03/27/2017 03/31/2017	IP 71124.02	Occupational ALARA Planning and Controls	
1, 2	03/27/2017 03/31/2017	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1, 2	03/27/2017 03/31/2017	IP 71124.04	Occupational Dose Assessment	
1, 2	03/27/2017 03/31/2017	IP 71124.05	Radiation Monitoring Instrumentation	
1, 2	03/27/2017 03/31/2017	IP 71151	Performance Indicator Verification	
		<b>SGISI - UNIT 1 SG IN-SERVICE INSPECTION</b>		<b>1</b>
1	04/03/2017 04/07/2017	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>RP - RP OCCUPATIONAL INSPECTION WEEK 2</b>		<b>3</b>
1	04/17/2017 04/21/2017	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1	04/17/2017 04/21/2017	IP 71124.02	Occupational ALARA Planning and Controls	
1	04/17/2017 04/21/2017	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1	04/17/2017 04/21/2017	IP 71124.04	Occupational Dose Assessment	
1	04/17/2017 04/21/2017	IP 71124.05	Radiation Monitoring Instrumentation	
1	04/17/2017 04/21/2017	IP 71151	Performance Indicator Verification	
		<b>EQI - DESIGN BASES ASSURANCE INSPECTION (PROGR</b>		<b>4</b>
1, 2	05/08/2017 05/12/2017	IP 7111121N	Component Design Bases Inspection (Programs)	
1, 2	06/05/2017 06/09/2017	IP 7111121N	Component Design Bases Inspection (Programs)	
1, 2	06/19/2017 06/23/2017	IP 7111121N	Component Design Bases Inspection (Programs)	
		<b>ISI - UNIT 2 IN-SERVICE INSPECTION</b>		<b>1</b>
2	10/23/2017 10/27/2017	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>SGISI - UNIT 2 SG IN-SERVICE INSPECTION</b>		<b>1</b>
2	10/30/2017 11/03/2017	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>EP - EP EXERCISE</b>		<b>3</b>
1, 2	12/11/2017 12/15/2017	IP 7111401	Exercise Evaluation	
1, 2	12/11/2017 12/15/2017	IP 7111404	Emergency Action Level and Emergency Plan Changes	
1, 2	12/11/2017 12/15/2017	IP 7111408	Exercise Evaluation – Scenario Review	
1, 2	12/11/2017 12/15/2017	IP 71151	Performance Indicator Verification	

This report does not include INPO and OUTAGE activities.  
This report shows only on-site and announced inspection procedures.

Enclosure

**Watts Bar**  
**Inspection / Activity Plan**  
**03/01/2017 - 12/31/2018**

Unit Number	Planned Dates Start End	Inspection Activity	Title	No. of Staff on Site
		<b>MODS - PLANT MODIFICATIONS INSPECTION</b>		<b>3</b>
1, 2	03/19/2018 03/23/2018	IP 7111117T	Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications	
		<b>HS - TRIENNIAL HEAT SINK PERFORMANCE</b>		<b>1</b>
1, 2	06/04/2018 06/04/2018	IP 7111107T	Heat Sink Performance	
		<b>OL EXAM - INITIAL LICENSE EXAM PREP</b>		<b>3</b>
1	08/06/2018 08/10/2018	V23516	WATTS BAR / SEPTEMBER 2018 INITIAL EXAM AT POWER FACILITIES	
		<b>RP - RP PUBLIC INSPECTION</b>		<b>2</b>
1, 2	08/06/2018 08/10/2018	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
1, 2	08/06/2018 08/10/2018	IP 71124.07	Radiological Environmental Monitoring Program	
1, 2	08/06/2018 08/10/2018	IP 71151-OR01	Occupational Exposure Control Effectiveness	
1, 2	08/06/2018 08/10/2018	IP 71151-PR01	RETS/ODCM Radiological Effluent Occurrences	
		<b>OL EXAM - INITIAL LICENSE EXAM</b>		<b>3</b>
1	09/03/2018 09/21/2018	V23516	WATTS BAR / SEPTEMBER 2018 INITIAL EXAM AT POWER FACILITIES	
		<b>RP - RAD HAZARD AND TRANSPORTATION</b>		<b>2</b>
1, 2	09/10/2018 09/14/2018	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1, 2	09/10/2018 09/14/2018	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
		<b>ISI - UNIT 1 IN-SERVICE INSPECTION</b>		<b>1</b>
1	09/17/2018 09/21/2018	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>SGISI - UNIT 1 SG IN-SERVICE INSPECTION</b>		<b>1</b>
1	09/24/2018 09/28/2018	IP 7111108P	Inservice Inspection Activities - PWR	
		<b>PI&amp;R - PROBLEM IDENTIFICATION AND RESOLUTION</b>		<b>4</b>
1, 2	10/22/2018 10/26/2018	IP 71152	Problem Identification and Resolution	
1, 2	11/05/2018 11/09/2018	IP 71152B	Problem Identification and Resolution	
		<b>EP - EP PROGRAM INSPECTION</b>		<b>5</b>
1, 2	11/12/2018 11/16/2018	IP 7111402	Alert and Notification System Testing	
1, 2	11/12/2018 11/16/2018	IP 7111402	Alert and Notification System Testing	
1, 2	11/12/2018 11/16/2018	IP 7111403	Emergency Preparedness Organization Staffing and Augmentation System	
1, 2	11/12/2018 11/16/2018	IP 7111404	Emergency Action Level and Emergency Plan Changes	
1, 2	11/12/2018 11/16/2018	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
1, 2	11/12/2018 11/16/2018	IP 71151-EP01	Drill/Exercise Performance	
1, 2	11/12/2018 11/16/2018	IP 71151-EP02	ERO Readiness	
1, 2	11/12/2018 11/16/2018	IP 71151-EP03	Alert & Notification System Reliability	

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**Watts Bar**  
**Inspection / Activity Plan**  
**03/01/2017 - 12/31/2018**

Unit Number	Planned Dates Start      End		Inspection Activity	Title	No. of Staff on Site
OL RQ      - REQUAL INSPECTION					2
1, 2	11/12/2018	11/16/2018	IP 7111111B	Licensed Operator Requalification Program	

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