



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

February 28, 2018

Mr. Joseph W. Shea  
Vice President, Nuclear Regulatory Affairs  
and Support Services  
Tennessee Valley Authority  
1101 Market Street, LP 4A  
Chattanooga, TN 37402-2801

**SUBJECT: ANNUAL ASSESSMENT LETTER FOR WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 – REPORT 05000390/2017006 AND 05000391/2017006, REPORT 05000390/2017402 AND 05000391/2017402, AND 05000390/2017501 AND 05000391/2017501**

Dear Mr. Shea:

The Nuclear Regulatory Commission (NRC) has completed its end-of-cycle performance assessment of Watts Bar Nuclear Plant (WBN), Units 1 and 2, reviewing performance indicators (PIs), inspection results, and enforcement actions from January 1, 2017, through December 31, 2017. 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 WBN Unit 1 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).

WBN Unit 2 was within the Regulatory Response Column, the second highest performance column of the NRC's ROP Action Matrix. This conclusion was based on one PI, Unplanned Scrams per 7000 Critical hours, in the Initiating Events cornerstone, crossing the White threshold in the fourth quarter of 2017. All other PIs were within the expected range (i.e., Green).

Therefore, in addition to ROP baseline inspections, the NRC plans to conduct a supplemental inspection in accordance with Inspection Procedure 95001, "Supplemental Inspection Response to Action Matrix Column 2 Inputs." The objectives of the supplemental inspection are: (1) to ensure the root and contributing causes, and extent of condition and extent of cause of significant performance issues are understood, (2) to ensure corrective actions taken to address and preclude repetition are prompt and effective, and (3) to ensure corrective action plans direct prompt actions to effectively address and preclude repetition of significant performance issues. This inspection will be scheduled after you notify the NRC of your readiness.

The NRC initiated a review of the environment for raising and addressing safety issues at the Watts Bar Nuclear Plant in 2015. The NRC concluded that a Chilled Work Environment existed in the Operations Department because of a perception that operators were not free to raise safety concerns using all available avenues without fear of retaliation. No serious safety violations or instances involving plant safety issues were identified. However, the information obtained led to concerns about the impact the work environment could have on plant operations and raised questions about the licensee's commitment to emphasize safety over competing goals. The NRC conducted a public meeting and documented this conclusion with the issuance of a Chilling Effect Letter dated March 23, 2016, entitled, "Chilled Work Environment for Raising and Addressing Safety Concerns at the Watts Bar Nuclear Plant" (Agency-wide Documents Access and Management System (ADAMS) Accession No. ML16083A479).

As a result of issuance of this Chilling Effect Letter, a cross-cutting theme in the Safety Conscious Work Environment (SCWE) cross-cutting area was identified and documented in our mid-cycle letter to you dated August 31, 2016 (ADAMS Accession No. ML16244A703) in accordance with Inspection Manual Chapter (IMC) 0305. As a follow-up to the NRC Chilling Effect Letter and the licensee's response, the NRC conducted inspections for verification of licensee actions with a focused assessment of the safety conscious work environment in September and December 2016. The results from this inspection were documented in a March 10, 2017, report (Inspection Report 05000390/2016013, 05000391/2016013, ADAMS Accession No. ML17069A133). In this report, the NRC issued one Apparent Violation (AV) which involved TVA's failure to implement a process to review proposed licensee adverse employment actions at WBN, to determine whether the proposed action comports with employee protection regulations, and whether the proposed actions could negatively impact the SCWE at TVA nuclear facilities.

In response to that report, TVA requested to participate in the agency's Alternate Dispute Resolution (ADR) program to resolve the enforcement aspects of this issue. This ADR session was conducted in June 2017. The NRC issued a Confirmatory Order (CO) on July 27, 2017, (ADAMS Accession No. ML17208A596) to document the results and agreement reached during the ADR process. During the ADR, the NRC concluded that the corrective actions and enhancements discussed by TVA, both completed and planned, were prompt and comprehensive.

The NRC acknowledges that TVA has made progress toward improving the SCWE at Watts Bar. Specifically, during this assessment period, the number of allegations received has significantly decreased; the licensee has made significant progress to address most of the SCWE items described in the Chilling Effect Letter (CEL); no SCWE findings were identified during an October 2017 SCWE follow-up inspection; and the recent independent safety culture assessment results have shown improvements. As a follow-up to the CEL and CO a team inspection was completed onsite on February 2, 2018, and the results will be documented in a forthcoming inspection report. Because of the progress made in addressing the SCWE concern, the NRC has decided not to open a cross-cutting issue, but will continue to monitor your corrective actions to address the SCWE theme. A follow-up SCWE/CEL inspection is scheduled for summer 2018 and will assess the effectiveness of the final root cause and corrective actions. The NRC will use the results of that inspection to determine whether closure of the CEL letter and the cross-cutting theme in SCWE is warranted.

J. Shea

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The enclosed inspection plan lists the inspections scheduled through December 31, 2019. 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 12 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.

In addition to the ROP baseline inspections at your facility, we also plan to conduct the Initial License Examination.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, and Requests for Withholding." Please contact Anthony Masters at (404) 997-4465 with any questions you may have regarding this letter.

Sincerely,

*/RA/*

Joel T. Munday, Director  
Division of Reactor Projects

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

Enclosure:  
Watts Bar Inspection/Activity Plan  
(03/01/2018 – 12/31/2019)

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 1 AND 2 - REPORT 05000390/2017006 AND 05000391/2017006, REPORT  
 05000390/2017402 AND 05000391/2017402, AND 05000390/2017501 AND  
 05000391/2017501 February 28, 2018

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**ADAMS Accession No. ML 18059A150**

OFFICE	RII:DRP	RII:DRP	RII:DRP	RII:DRP	RII:DRS	RII:DRS
NAME	BBishop	SNinh	JNadel	AMasters	DGolden	SSanchez
DATE	2/16/2018	2/23/2018	2/15/2018	2/27/2018	2/15/2018	2/15/2018
OFFICE	RII:DRP					
NAME	JMunday					
DATE	2/27/2018					

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# IP 22 Inspection Activity Plan Report

## Watts Bar

03/01/2018 - 12/31/2019

Unit	Start	End	Activity	CAC	Title	Staff Count
<b>CONFIRMATORY ORDER FOLLOWUP</b>						5
1, 2	11/27/2017	03/09/2018	IP 92702	000238	Followup On Corrective Actions For Violations And Deviations	
1, 2	11/27/2017	03/09/2018	IP 93100	000921	Safety-Conscious Work Environment Issue of Concern Followup	
<b>EVALUATIONS OF CHANGES, TESTS AND EXPERIMENTS</b>						3
1, 2	03/19/2018	03/23/2018	IP 71111.17T	000709	Evaluations of Changes, Tests, and Experiments	
<b>SECURITY BASELINE INSPECTION</b>						2
1, 2	04/23/2018	04/27/2018	IP 71130.02	000734	Access Control	
1, 2	04/23/2018	04/27/2018	IP 71130.04	000736	Equipment Performance, Testing, and Maintenance	
1, 2	04/23/2018	04/27/2018	IP 71130.07	000739	Security Training	
1, 2	04/23/2018	04/27/2018	IP 71151	001338	Performance Indicator Verification	
<b>CEL AND CONFIRMATORY ORDER FOLLOWUP INSPECTION</b>						3
1, 2	06/18/2018	06/22/2018	IP 92702	000238	Followup On Corrective Actions For Violations And Deviations	
1, 2	06/18/2018	06/22/2018	IP 93100	000921	Safety-Conscious Work Environment Issue of Concern Followup	
<b>MC&amp;A INSPECTION</b>						2
1, 2	07/01/2018	09/30/2018	IP 71130.11	000742	Material Control and Accounting (MC&A)	
<b>TRIENNIAL HEAT SINK PERFORMANCE</b>						1
1, 2	07/09/2018	07/13/2018	IP 71111.07T	000700	Heat Sink Performance -Triennial	
<b>RP PUBLIC INSPECTION</b>						2
1, 2	08/06/2018	08/10/2018	IP 71124.06	000730	Radioactive Gaseous and Liquid Effluent Treatment	
1, 2	08/06/2018	08/10/2018	IP 71124.07	000731	Radiological Environmental Monitoring Program	
1, 2	08/06/2018	08/10/2018	IP 71151	000746	Performance Indicator Verification	
<b>WATTS BAR INITIAL LICENSE EXAM</b>						4
1, 2	08/06/2018	08/10/2018	OV	000956	VALIDATION OF INITIAL LICENSE EXAMINATION (OV)	
1, 2	09/03/2018	09/21/2018	EXAD	000500	LICENSE EXAM ADMINISTRATION (EXAD)	
<b>RAD HAZARD AND TRANSPORTATION</b>						2
1, 2	09/10/2018	09/14/2018	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	
1, 2	09/10/2018	09/14/2018	IP 71124.08	000732	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
1, 2	09/10/2018	09/14/2018	IP 71151	000746	Performance Indicator Verification	

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

# IP 22 Inspection Activity Plan Report

<b>UNIT 1 IN-SERVICE INSPECTION</b>						1
1	09/17/2018	09/21/2018	IP 71111.08P	000702	Inservice Inspection Activities - PWR	
<b>UNIT 1 SG IN-SERVICE INSPECTION</b>						1
1	09/17/2018	09/21/2018	IP 71111.08P	000702	Inservice Inspection Activities - PWR	
<b>TRIENNIAL FIRE PROTECTION INSPECTION</b>						5
1, 2	11/05/2018	11/09/2018	IP 71111.05T	000696	Fire Protection (Triennial)	
1, 2	11/26/2018	11/30/2018	IP 71111.05T	000696	Fire Protection (Triennial)	
<b>WATTS BAR REQUAL INSPECTION</b>						2
1, 2	11/12/2018	11/16/2018	IP 71111.11B	000704	Licensed Operator Requalification Program and Licensed Operator Performance - Biennial	
<b>EP PROGRAM INSPECTION</b>						2
1, 2	11/26/2018	11/30/2018	IP 71114.02	000717	Alert and Notification System Testing	
1, 2	11/26/2018	11/30/2018	IP 71114.03	000718	Emergency Response Organization Staffing and Augmentation System	
1, 2	11/26/2018	11/30/2018	IP 71114.04	000719	Emergency Action Level and Emergency Plan Changes	
1, 2	11/26/2018	11/30/2018	IP 71114.05	000720	Correction of Emergency Preparedness Weaknesses and Deficiencies	
1, 2	11/26/2018	11/30/2018	IP 71151	001397	Performance Indicator Verification	
<b>PROBLEM IDENTIFICATION AND RESOLUTION</b>						4
1, 2	01/14/2019	01/18/2019	IP 71152B	000747	Problem Identification and Resolution	
1, 2	01/28/2019	02/01/2019	IP 71152B	000747	Problem Identification and Resolution	
<b>FORCE-ON-FORCE PLANNING AND EXERCISES</b>						8
1, 2	02/25/2019	03/01/2019	IP 71130.03	000735	Contingency Response - Force-On-Force Testing	
1, 2	03/18/2019	03/22/2019	IP 71130.03	000735	Contingency Response - Force-On-Force Testing	
<b>UNIT 2 IN-SERVICE INSPECTION</b>						1
2	04/22/2019	04/26/2019	IP 71111.08P	000702	Inservice Inspection Activities - PWR	
<b>UNIT 2 SG IN-SERVICE INSPECTION</b>						1
2	04/22/2019	04/26/2019	IP 71111.08P	000702	Inservice Inspection Activities - PWR	
<b>RP OCCUPATIONAL WEEK 1</b>						2
1, 2	04/22/2019	04/26/2019	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	
1, 2	04/22/2019	04/26/2019	IP 71124.02	000726	Occupational ALARA Planning and Controls	
1, 2	04/22/2019	04/26/2019	IP 71124.03	000727	In-Plant Airborne Radioactivity Control and Mitigation	
1, 2	04/22/2019	04/26/2019	IP 71124.04	000729	Occupational Dose Assessment	
1, 2	04/22/2019	04/26/2019	IP 71124.05	000729	Radiation Monitoring Instrumentation	
1, 2	04/22/2019	04/26/2019	IP 71151	000746	Performance Indicator Verification	

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<b>RP OCCUPATIONAL WEEK 2</b>							<b>3</b>
1, 2	05/13/2019	05/17/2019	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls		
1, 2	05/13/2019	05/17/2019	IP 71124.02	000726	Occupational ALARA Planning and Controls		
1, 2	05/13/2019	05/17/2019	IP 71124.03	000727	In-Plant Airborne Radioactivity Control and Mitigation		
1, 2	05/13/2019	05/17/2019	IP 71124.04	000729	Occupational Dose Assessment		
1, 2	05/13/2019	05/17/2019	IP 71124.05	000729	Radiation Monitoring Instrumentation		
1, 2	05/13/2019	05/17/2019	IP 71151	000746	Performance Indicator Verification		
<b>SECURITY BASELINE INSPECTION</b>							<b>1</b>
1, 2	06/03/2019	06/07/2019	IP 71130.02	000734	Access Control		
1, 2	06/03/2019	06/07/2019	IP 71151	001338	Performance Indicator Verification		
<b>DESIGN BASES ASSURANCE INSPECTION (TEAM)</b>							<b>5</b>
1, 2	07/22/2019	07/26/2019	IP 71111.21M	000713	Design Bases Assurance Inspection (Teams)		
1, 2	08/12/2019	08/16/2019	IP 71111.21M	000713	Design Bases Assurance Inspection (Teams)		
1, 2	08/26/2019	08/30/2019	IP 71111.21M	000713	Design Bases Assurance Inspection (Teams)		
<b>CYBER SECURITY</b>							<b>2</b>
1, 2	11/18/2019	11/22/2019	IP 71130.10P	000741	Cyber Security		
1, 2	12/02/2019	12/06/2019	IP 71130.10P	000741	Cyber Security		