



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

March 4, 2019

Mr. Joseph W. Shea
Vice President, Nuclear Regulatory
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 05000390/2018006 AND 05000391/2018006

Dear Mr. Shea:

The NRC has completed its end-of-cycle performance assessment of the Watts Bar Nuclear Plant Units 1 and 2, reviewing performance indicators (PIs), inspection results, and enforcement actions from January 1, 2018, through December 31, 2018. 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 Nuclear Plant, 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). Therefore, the NRC plans to conduct ROP baseline inspections at your facility.

The NRC determined the performance at Watts Bar Nuclear Plant, Unit 2 during the most recent quarter 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 second quarter of 2018. On December 14, 2018, the NRC completed a supplemental inspection using Inspection Procedure (IP) 95001, "Supplemental Inspection Response to Action Matrix Column 2 Inputs." Based on the results of this inspection and that the PI has returned to Green in the fourth quarter of CY 2018, the NRC determined that Watts Bar Unit 2 returned to the Licensee Response Column (Column 1) for the first quarter of CY 2019 after a Regulatory Performance Meeting was conducted on January 30, 2019, and the assessment follow-up letter for Watts Bar Unit 2 was issued on February 4, 2019.

Although plant performance for Unit 1 was within the Licensee Response Column and the plant performance for Unit 2 was within the Regulatory Response Column, the NRC has not yet finalized the significance of Apparent Violation 05000390,391/2019501-01, "Failure to Maintain the Effectiveness of the Emergency Plan and a Standard Emergency Classification Scheme Which Included Facility Effluent Parameters." The final safety significance determination may affect the NRC's assessment of plant performance and the enclosed inspection plan. Specifically, if the NRC determines that the significance of the finding is white, Unit 1 will

return to the Regulatory Response Column with Unit 2 and additional inspection of the finding will be planned.

In assessment letter dated August 31, 2018, titled Assessment Follow-up Letter and Updated Inspection Plan for Watts Bar Nuclear Plant, Units 1 and 2 (Reports 05000390, 05000391/2018005) (ML18242A458), the NRC opened a cross-cutting issue (CCI) with the aspect of Safety Conscious Work Environment (SCWE) and identified the closure criteria for the Chilling Effect Letter (CEL) and CCI. The NRC recognizes that TVA has made efforts to improve this area. The NRC will continue to monitor your staff's effort and progress in addressing the CCI by our resident inspectors, follow-up SCWE, and/or PI&R inspections.

The enclosed inspection plan lists the inspections scheduled through December 31, 2020. 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. You should be aware that the agency is pursuing potential changes to the ROP, including changes to engineering inspections (SECY-18-0113, "Recommendations for Modifying the Reactor Oversight Process Engineering Inspections"). Should these changes to the ROP be implemented, the engineering and other region-based inspections are subject to change in scope, as well as schedule, beginning in January 2020. 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.

In addition to the ROP baseline inspections, we also plan on conducting infrequently performed inspections which include Initial License Examination, Safety Conscious Work Environment and Confirmatory Orders follow-up inspections. The NRC will be in contact with your staff to schedule completion of Temporary Instruction (TI) 2515/194, "Inspection of the Licensee's Implementation of Industry Initiative Associated With the Open Phase Condition Design Vulnerabilities In Electric Power Systems (NRC Bulletin 2012-01)." The NRC intends to complete this inspection in 2019.

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 Omar López-Santiago at (404) 997-4703 with any questions you may have regarding this letter.

Sincerely,

/RA/

Joel T. Munday, Director
Division of Reactor Projects

Docket Nos.: 50-390, 50-391
License Nos.: NPF-90, NPF-96

Enclosure:
Watts Bar Inspection/Activity Plan
(03/01/2019 – 12/31/2020)

cc Distribution via ListServ

SUBJECT: ANNUAL ASSESSMENT LETTER FOR WATTS BAR NUCLEAR PLANT,
 UNITS 1 AND 2 - REPORT 05000390/2018006 AND 05000391/2018006 –
 March 4, 2019

DISTRIBUTION:

M. Kowal, RII
 S. Price, RII
 OE Mail
 RIDSNRRDIRS
 PUBLIC
 RidsNrrPMBrownsFerryResource
 ROPassessment Resource
 ROPreports Resource
 Institute of Nuclear Power Operations (INPO)

ADAMS Accession No. ML19063D287

| | | | | | | |
|--------|------------|-------------|-----------|-----------|-----------|--|
| OFFICE | RII:DRP | RII:DRP | RII:DRP | RII:DRP | RII: DRP | |
| NAME | WDeschaine | SNinh | AMasters | MCrespo | JMunday | |
| DATE | 2/26/2019 | 2/ 26 /2019 | 2/20/2019 | 2/26/2019 | 2/28/2019 | |

OFFICIAL RECORD COPY

IP 22 Inspection Activity Plan Report

Watts Bar

03/01/2019 - 12/31/2020

| Unit | Start | End | Activity | CAC | Title | Staff Count |
|----------------------------------------------------------------|------------|------------|--------------|--------|--------------------------------------------------------------|-------------|
| FORCE-ON-FORCE PLANNING AND EXERCISE | | | | | | 6 |
| 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 | |
| UNIT 2 IN-SERVICE INSPECTION +SG | | | | | | 2 |
| 1, 2 | 04/22/2019 | 04/26/2019 | IP 71111.08P | 000702 | Inservice Inspection Activities (PWR) | |
| RP OCCUPATIONAL RAD SAFETY BASELINE INSPECTION - WEEK 1 | | | | | | 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 | 000728 | Occupational Dose Assessment | |
| 1, 2 | 04/22/2019 | 04/26/2019 | IP 71124.05 | 000729 | Radiation Monitoring Instrumentation | |
| RP OCCUPATIONAL RAD SAFETY BASELINE INSPECTION - WEEK 2 | | | | | | 3 |
| 1, 2 | 05/06/2019 | 05/10/2019 | IP 71124.01 | 000725 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 05/06/2019 | 05/10/2019 | IP 71124.02 | 000726 | Occupational ALARA Planning and Controls | |
| 1, 2 | 05/06/2019 | 05/10/2019 | IP 71124.03 | 000727 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1, 2 | 05/06/2019 | 05/10/2019 | IP 71124.04 | 000728 | Occupational Dose Assessment | |
| 1, 2 | 05/06/2019 | 05/10/2019 | IP 71124.05 | 000729 | Radiation Monitoring Instrumentation | |
| SECURITY BASELINE INSPECTION | | | | | | 1 |
| 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 | |
| WATTS BAR INITIAL LICENSE EXAM | | | | | | 3 |
| 1, 2 | 07/08/2019 | 07/12/2019 | OV | 000956 | VALIDATION OF INITIAL LICENSE EXAMINATION (OV) | |
| 1, 2 | 08/12/2019 | 08/16/2019 | EXAD | 000500 | LICENSE EXAM ADMINISTRATION (EXAD) | |
| DESIGN BASES ASSURANCE INSPECTION (TEAM) | | | | | | 6 |
| 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) | |
| SCWE AND CONFIRMATORY ORDERS FOLLOWUP INSPECTIONS | | | | | | 2 |
| 1, 2 | 09/09/2019 | 09/13/2019 | IP 92702 | 000238 | Followup on Corrective Actions For Violations And Deviations | |
| 1, 2 | 09/09/2019 | 09/13/2019 | IP 93100 | 000921 | Safety-Conscious Work Environment Issue of Concern Followup | |

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

Watts Bar

03/01/2019 - 12/31/2020

| Unit | Start | End | Activity | CAC | Title | Staff Count |
|-------------------------------------------------------|------------|------------|--------------|--------|---------------------------------------------------|-------------|
| EMERGENCY PREPAREDNESS EXERCISE | | | | | | 6 |
| 1, 2 | 11/04/2019 | 11/08/2019 | IP 71114.01 | 000716 | Exercise Evaluation | |
| 1, 2 | 11/04/2019 | 11/08/2019 | IP 71114.04 | 000719 | Emergency Action Level and Emergency Plan Changes | |
| 1, 2 | 11/04/2019 | 11/08/2019 | IP 71114.08 | 000723 | Exercise Evaluation □ Scenario Review | |
| 1, 2 | 11/04/2019 | 11/08/2019 | IP 71151 | 001397 | Performance Indicator Verification | |
| CYBER SECURITY | | | | | | 4 |
| 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 | |
| TVA CORPORATE OFFICE FFD/AA/S&I INSPECTION | | | | | | 2 |
| 1, 2 | 01/06/2020 | 01/10/2020 | IP 71130.01 | 000733 | Access Authorization | |
| 1, 2 | 01/06/2020 | 01/10/2020 | IP 71130.06 | 000738 | Protection of Safeguards Information | |
| 1, 2 | 01/06/2020 | 01/10/2020 | IP 71130.08 | 000740 | Fitness For Duty Program | |
| SECURITY BASELINE INSPECTION | | | | | | 1 |
| 1, 2 | 02/24/2020 | 02/28/2020 | IP 71130.01 | 000733 | Access Authorization | |
| 1, 2 | 02/24/2020 | 02/28/2020 | IP 71130.06 | 000738 | Protection of Safeguards Information | |
| 1, 2 | 02/24/2020 | 02/28/2020 | IP 71130.08 | 000740 | Fitness For Duty Program | |
| UNIT 1 IN-SERVICE INSPECTION | | | | | | 1 |
| 1 | 03/23/2020 | 03/27/2020 | IP 71111.08P | 000702 | Inservice Inspection Activities (PWR) | |
| SECURITY BASELINE INSPECTION | | | | | | 1 |
| 1, 2 | 06/15/2020 | 06/19/2020 | IP 71130.02 | 000734 | Access Control | |
| 1, 2 | 06/15/2020 | 06/19/2020 | IP 71151 | 001338 | Performance Indicator Verification | |
| WATTS BAR INITIAL LICENSE EXAM | | | | | | 4 |
| 1, 2 | 07/20/2020 | 07/24/2020 | OV | 000956 | VALIDATION OF INITIAL LICENSE EXAMINATION (OV) | |
| 1, 2 | 08/24/2020 | 09/11/2020 | EXAD | 000500 | LICENSE EXAM ADMINISTRATION (EXAD) | |
| RP PUBLIC RAD SAFETY BASELINE | | | | | | 2 |
| 1, 2 | 08/10/2020 | 08/14/2020 | IP 71124.06 | 000730 | Radioactive Gaseous and Liquid Effluent Treatment | |
| 1, 2 | 08/10/2020 | 08/14/2020 | IP 71124.07 | 000731 | Radiological Environmental Monitoring Program | |
| DESIGN BASES ASSURANCE INSPECTION (PROGRAMS) | | | | | | 3 |
| 1, 2 | 09/21/2020 | 09/25/2020 | IP 71111.21N | 000714 | Design Bases Assurance Inspection (Programs) | |

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

Watts Bar

03/01/2019 - 12/31/2020

| Unit | Start | End | Activity | CAC | Title | Staff Count |
|-----------------------------------------------------------------------------|------------|------------|--------------|--------|---------------------------------------------------------------------------------------------------|-------------|
| DESIGN BASES ASSURANCE INSPECTION (PROGRAMS) | | | | | | 3 |
| 1, 2 | 10/05/2020 | 10/09/2020 | IP 71111.21N | 000714 | Design Bases Assurance Inspection (Programs) | |
| UNIT 2 IN-SERVICE INSPECTION +SG | | | | | | 2 |
| 2 | 10/26/2020 | 10/30/2020 | IP 71111.08P | 000702 | Inservice Inspection Activities (PWR) | |
| RP OCCUPATIONAL RAD HAZARDS & TRANSPORTATION BASELINE INSPECTION | | | | | | 2 |
| 1, 2 | 10/26/2020 | 10/30/2020 | IP 71124.01 | 000725 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 10/26/2020 | 10/30/2020 | IP 71124.08 | 000732 | Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation | |
| WATTS BAR REQUAL INSPECTION | | | | | | 2 |
| 1, 2 | 11/02/2020 | 11/06/2020 | IP 71111.11B | 000704 | Licensed Operator Requalification Program and Licensed Operator Performance (Biennial) | |
| SECURITY BASELINE INSPECTION | | | | | | 2 |
| 1, 2 | 11/02/2020 | 11/06/2020 | IP 71130.04 | 000736 | Equipment Performance, Testing, and Maintenance | |
| 1, 2 | 11/02/2020 | 11/06/2020 | IP 71130.07 | 000739 | Security Training | |
| 1, 2 | 11/02/2020 | 11/06/2020 | IP 71151 | 001338 | Performance Indicator Verification | |

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