



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

March 3, 2020

Mr. Jim Barstow
Vice President, Nuclear Regulatory Affairs & Support Services
Tennessee Valley Authority
1101 Market Street, LP 4A-C
Chattanooga, TN 37402-2801

SUBJECT: ANNUAL ASSESSMENT LETTER FOR WATTS BAR NUCLEAR PLANT,
UNITS 1 AND 2 - REPORT 05000390/2019006 AND 05000391/2019006

Dear Mr. Barstow:

The NRC has completed its end-of-cycle performance assessment of Watts Bar Nuclear Plant, Units 1 and 2, reviewing performance indicators (PIs), inspection results, and enforcement actions from January 1, 2019, through December 31, 2019. 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, 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.

On August 1, 2019, the NRC issued a supplemental inspection report (NRC Inspection Report No. 05000390, 391/2019540, ML19255J600) associated with White Emergency Preparedness finding, which stated that your actions to address the performance issue were acceptable and the finding was closed. Watts Bar Units 1 and 2 returned to licensee Response Column of the ROP Action Matrix beginning on October 1, 2019.

On November 19, 2019, the NRC issued a Severity Level III Violation, with Civil Penalty of \$145,000.00, associated with 10 CFR 50.9, (NRC Inspection Report No. 05000390, 391/2019091, ML19323F546). Therefore, the NRC plans to conduct Inspection Procedure 92702, Follow-up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternate Dispute Resolution Confirmatory Orders, to follow-up on the violation.

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 determined that TVA has made progress to address the CEL and CCI closure criteria based on the January 2019 NRC Problem Identification and Resolution Inspection and Confirmatory Order and SCWE Follow-up

(ML19072A067); the follow-up of Confirmatory Order and Chilling Effect Letter inspection in October 2019; and routine resident baseline inspections. The NRC is still deliberating on the appropriate time to close the Watts Bar Chilling Effect Letter and SCWE CCI. Therefore, these items will remain open. The NRC will continue to monitor TVA's activities to maintain a SCWE at Watts Bar through the Reactor Oversight Process.

The enclosed inspection plan lists the inspections scheduled through December 31, 2021. 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. 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 an Initial License Examination inspection and Inspection Procedure 92702, Follow-up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternate Dispute Resolution Confirmatory Orders.

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 Thomas Stephen at (404) 997-4703 with any questions you may have regarding this letter.

Sincerely,

/RA/

Mark S. Miller, Director
Division of Reactor Projects

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

Enclosure:
Watts Bar Inspection/Activity
Plan (03/01/2020 –
12/31/2021)

cc: Distribution via ListServ

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 UNITS 1 AND 2 - REPORT 05000390/2019006 AND 05000391/2019006 –
 March 3, 2020

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|--------|-------------|-----------|-----------|----------|--|--|
| OFFICE | RII:DRP | RII:DRP | RII:DRP | RII:DRP | | |
| NAME | W Deschaine | S Ninh | T Stephen | M Miller | | |
| DATE | 2/20/2020 | 2/20/2020 | 3/2/2020` | 3/2/2020 | | |

OFFICIAL RECORD COPY

IP 22 Inspection Activity Plan Report

Watts Bar

03/01/2020 - 12/31/2021

| Unit | Start | End | Activity | CAC | Title | Staff Count |
|--|------------|------------|--------------|--------|---|-------------|
| UNIT 1 IN-SERVICE INSPECTION | | | | | | 1 |
| 1 | 04/27/2020 | 05/01/2020 | 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 71130.09 | 001656 | Security Plan Changes | |
| 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 | 09/04/2020 | 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 | |
| 1, 2 | 08/10/2020 | 08/14/2020 | IP 71151 | 000746 | Performance Indicator Verification | |
| DESIGN BASES ASSURANCE INSPECTION (PROGRAMS) | | | | | | 3 |
| 1, 2 | 08/31/2020 | 09/04/2020 | IP 71111.21N | 000714 | Design Bases Assurance Inspection (Programs) | |
| 1, 2 | 09/21/2020 | 09/25/2020 | 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 SAFETY & TRANSPORTATION BASELINE INSPECTION | | | | | | 2 |
| 1, 2 | 11/02/2020 | 11/06/2020 | IP 71124.01 | 000725 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 11/02/2020 | 11/06/2020 | IP 71124.08 | 000732 | Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation | |
| 1, 2 | 11/02/2020 | 11/06/2020 | IP 71151 | 000746 | Performance Indicator Verification | |
| 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 | |
| TARGET SET INSPECTION | | | | | | 1 |
| 1, 2 | 11/02/2020 | 11/06/2020 | IP 71130.14 | 000743 | Review of Power Reactor Target Sets | |

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

Enclosure

IP 22 Inspection Activity Plan Report

Watts Bar

03/01/2020 - 12/31/2021

| Unit | Start | End | Activity | CAC | Title | Staff Count |
|---|------------|------------|--------------|--------|---|-------------|
| WATTS BAR REQUAL INSPECTION | | | | | | 2 |
| 1, 2 | 11/16/2020 | 11/20/2020 | IP 71111.11B | 000704 | Licensed Operator Requalification Program and Licensed Operator Performance | |
| EMERGENCY PREPAREDNESS PROGRAM INSPECTION | | | | | | 2 |
| 1, 2 | 11/16/2020 | 11/20/2020 | IP 71114.02 | 000717 | Alert and Notification System Testing | |
| 1, 2 | 11/16/2020 | 11/20/2020 | IP 71114.03 | 000718 | Emergency Response Organization Staffing and Augmentation System | |
| 1, 2 | 11/16/2020 | 11/20/2020 | IP 71114.05 | 000720 | Maintenance of Emergency Preparedness | |
| 1, 2 | 11/16/2020 | 11/20/2020 | IP 71151 | 001397 | Performance Indicator Verification | |
| TRIENNIAL FIRE PROTECTION INSPECTION | | | | | | 4 |
| 1, 2 | 02/01/2021 | 02/05/2021 | IP 71111.05T | 000696 | Fire Protection | |
| 1, 2 | 02/15/2021 | 02/19/2021 | IP 71111.05T | 000696 | Fire Protection | |
| EVALUATIONS OF CHANGES, TESTS, AND EXPERIMENTS | | | | | | 3 |
| 1, 2 | 03/29/2021 | 04/02/2021 | IP 71111.17T | 000709 | Evaluations of Changes, Tests, and Experiments | |
| PROBLEM IDENTIFICATION AND RESOLUTION | | | | | | 4 |
| 1, 2 | 05/03/2021 | 05/07/2021 | IP 71152B | 000747 | Problem Identification and Resolution | |
| 1, 2 | 05/17/2021 | 05/21/2021 | IP 71152B | 000747 | Problem Identification and Resolution | |
| TRIENNIAL HEAT SINK PERFORMANCE | | | | | | 1 |
| 1, 2 | 07/12/2021 | 07/16/2021 | IP 71111.07T | 000700 | Heat Sink Performance | |
| SECURITY BASELINE INSPECTION | | | | | | 1 |
| 1, 2 | 09/13/2021 | 09/17/2021 | IP 71130.02 | 000734 | Access Control | |
| 1, 2 | 09/13/2021 | 09/17/2021 | IP 71130.09 | 001656 | Security Plan Changes | |
| 1, 2 | 09/13/2021 | 09/17/2021 | IP 71151 | 001338 | Performance Indicator Verification | |
| UNIT 1 IN-SERVICE INSPECTION +SG | | | | | | 2 |
| 1 | 09/20/2021 | 09/24/2021 | IP 71111.08P | 000702 | Inservice Inspection Activities (PWR) | |
| RP OCCUPATIONAL RAD SAFETY INSPECTION | | | | | | 3 |
| 1, 2 | 09/20/2021 | 09/24/2021 | IP 71124.01 | 000725 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 09/20/2021 | 09/24/2021 | IP 71124.02 | 000726 | Occupational ALARA Planning and Controls | |
| 1, 2 | 09/20/2021 | 09/24/2021 | IP 71124.03 | 000727 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1, 2 | 09/20/2021 | 09/24/2021 | IP 71124.04 | 000728 | Occupational Dose Assessment | |
| 1, 2 | 09/20/2021 | 09/24/2021 | IP 71124.05 | 000729 | Radiation Monitoring Instrumentation | |

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

03/01/2020 - 12/31/2021

| Unit | Start | End | Activity | CAC | Title | Staff Count |
|--|------------|------------|-------------|--------|--|-------------|
| RP OCCUPATIONAL RAD SAFETY INSPECTION | | | | | | 3 |
| 1, 2 | 09/20/2021 | 09/24/2021 | IP 71151 | 000746 | Performance Indicator Verification | |
| 1, 2 | 10/04/2021 | 10/08/2021 | IP 71124.01 | 000725 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 10/04/2021 | 10/08/2021 | IP 71124.02 | 000726 | Occupational ALARA Planning and Controls | |
| 1, 2 | 10/04/2021 | 10/08/2021 | IP 71124.03 | 000727 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1, 2 | 10/04/2021 | 10/08/2021 | IP 71124.04 | 000728 | Occupational Dose Assessment | |
| 1, 2 | 10/04/2021 | 10/08/2021 | IP 71124.05 | 000729 | Radiation Monitoring Instrumentation | |
| 1, 2 | 10/04/2021 | 10/08/2021 | IP 71151 | 000746 | Performance Indicator Verification | |
| MATERIAL CONTROL & ACCOUNTING | | | | | | 1 |
| 1, 2 | 10/01/2021 | 12/31/2021 | IP 71130.11 | 000742 | Material Control and Accounting (MC&A) | |
| EMERGENCY PREPAREDNESS EXERCISE | | | | | | 5 |
| 1, 2 | 11/14/2021 | 11/27/2021 | IP 71114.01 | 000716 | Exercise Evaluation | |
| 1, 2 | 11/14/2021 | 11/27/2021 | IP 71151 | 001397 | Performance Indicator Verification | |