UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

April 14, 2006

Tennessee Valley Authority
ATTN: Mr. K. W. Singer
Chief Nuclear Officer and
Executive Vice President
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000390/2006002 AND 05000391/2006002 AND ANNUAL ASSESSMENT MEETING SUMMARY

Dear Mr. Singer:

On March 31, 2006, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your Watts Bar Nuclear Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection results which were discussed on April 4, 2006, with Mr. M. Skaggs and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection no findings of significance were identified. However, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. NRC is treating this violation as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy because of the very low safety significance of the violation and because it is entered into your corrective action program. If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington D.C. 20555-0001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D. C. 20555-0001; and the NRC Resident Inspector at the Watts Bar Nuclear Plant.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) 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).

Sincerely,

/RA/

Malcolm T. Widmann, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Nos. 50-390, 50-391
License No. NPF-90 and Construction
Permit No. CPPR-92

Enclosure: NRC Inspection Report 05000390/2006002, 05000391/2006002
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-390, 50-391
License Nos:	NPF-90 and Construction Permit CPPR-92
Report Nos:	05000390/2006002, 05000391/2006002
Licensee:	Tennessee Valley Authority (TVA)
Facility:	Watts Bar Nuclear Plant, Units 1 and 2
Location:	1260 Nuclear Plant Road Spring City, TN 37381
Dates:	January 1, 2006 - March 31, 2006
Inspectors:	J. Bartley, Senior Resident Inspector M. Pribish, Resident Inspector F. Ehrhardt, Operations Engineer (Section 1R11.2) S. Vias, Senior Reactor Inspector (Section 4OA5.1)
Approved by:	Malcolm T. Widmann, Chief Reactor Projects Branch 6 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000390/2006-002, 05000391/2006-002; 01/01/2006 - 03/31/2006; Watts Bar, Units 1 & 2; Routine Integrated Report

The report covered a three-month period of routine inspection by resident inspectors and announced inspections by a regional operations engineer, and a regional senior reactor inspector. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, Reactor Oversight Process, Revision 3, dated July 2000.

A. NRC-Identified Findings and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective actions are listed in Section 4OA7 of this report.

Enclosure

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near 100 percent power until February 23 when power was reduced to 45 percent for maintenance on the main condenser waterbox. Power was returned to 100 percent on March 3 and remained there for the remainder of the inspection period. Unit 2 remained in a suspended construction status.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment

.1 Quarterly Partial Walkdowns

a. Inspection Scope

The inspectors conducted three equipment alignment partial walkdowns to evaluate the operability of selected redundant trains or backup systems, listed below, with the other train or system inoperable or out of service. The inspectors reviewed the functional system descriptions, Updated Final Safety Analysis Report (UFSAR), system operating procedures, and Technical Specifications (TS) to determine correct system lineups for the current plant conditions. The inspectors performed walkdowns of the systems to verify that critical components were properly aligned and to identify any discrepancies which could affect operability of the redundant train or backup system.

- A and B trains motor-driven auxiliary feedwater (MDAFW) pumps and level control valves during the turbine-driven auxiliary feedwater (TDAFW) pump component outage
- B train residual heat removal (RHR) pump and B train 6.9 kV shutdown board during A train RHR pump component outage
- B train auxiliary feedwater (AFW) during A train MDAFW pump outage

b. Findings

No findings of significance were identified.

.2 Semiannual Complete Walkdown

a. Inspection Scope

The inspectors conducted a detailed walkdown/review of the alignment and condition of the essential raw cooling water (ERCW) system to verify proper equipment alignment and identify any discrepancies that could impact the function of the system and increase risk. The inspectors utilized licensee procedures, as well as licensing and design documents, when verifying that the system alignment was correct.

During the walkdown, the inspectors also verified, as appropriate, that: (1) valves were correctly positioned and did not exhibit leakage that would impact the function(s) of any valve; (2) electrical power was available as required; (3) major portions of the system and components were correctly labeled, cooled, ventilated, etc.; (4) hangers and supports were correctly installed and functional; (5) essential support systems were operational; (6) ancillary equipment or debris did not interfere with system performance; (7) tagging clearances were appropriate; and (8) valves were locked as required by the licencee's locked valve program. Pending design and equipment issues were reviewed to determine if the identified deficiencies significantly impacted the system's functions. Items included in this review were the operator workaround list, the temporary modification list, system health reports, and outstanding maintenance work requests/work orders. In addition, the inspectors reviewed the licensee's corrective action program to ensure that the licensee was identifying equipment alignment problems and that they were properly addressed for resolution. Specific documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Protection - Tours

a. Inspection Scope

The inspectors conducted eight tours of areas important to reactor safety, listed below, to verify the licensee's implementation of fire protection requirements as described in the Fire Protection Program, Standard Programs and Processes (SPP)-10.0, Control of Fire Protection Impairments, SPP-10.10, Control of Transient Combustibles, SPP-10.11, Control of Ignition Sources (Hot Work). The inspectors evaluated, as appropriate, conditions related to: (1) licensee control of transient combustibles and ignition sources; (2) the material condition, operational status, and operational lineup of fire protection systems, equipment, and features; and (3) the fire barriers used to prevent fire damage or fire propagation.

- Control room emergency ventilation system (CREVS)
- Vital DC Boardrooms I, II, III, IV
- A 6.9 KV shutdown board room (SDBR)
- B 6.9 KV SDBR
- MDAFW pumps/component cooling water system (CCS) pumps

b. Findings

No findings of significance were identified.

.2 Fire Protection - Drill Observation

On March 8, 2006, the inspectors observed a fire drill performed at the Unit 2 auxiliary building 713 ft elevation penetration room. The drill was observed to evaluate the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies, openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were: (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) fire area entered in a controlled manner; (4) sufficient fire fighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) efficient and effective radio communications; (7) search for victims and propagation of the fire into other plant areas; (8) effective smoke removal operations simulated; (9) utilization of pre-planned strategies; and (10) adherence to the pre-planned drill scenario and drill objectives acceptance criteria were met.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed internal flood protection measures for the turbine building area. Flooding in the turbine building could impact risk-significant components in the control building if turbine building flood mitigation features were degraded. Turbine building flood protection features were examined to verify that they were installed and maintained consistent with the plant design basis. The inspectors reviewed the instrumentation and associated alarms for turbine building floods to verify that the instrumentation was periodically calibrated and that the respective alarms were appropriately integrated into plant procedures. The inspectors also reviewed the licensee calculation for determining maximum flood level in the turbine building for a condenser circulating water rupture and licensee instructions for shutdown in the event of severe flooding to evaluate the availability of structures, systems, or components (SSCs) for safe shutdown under worst case water levels. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

.1 Resident Inspector Quarterly Review

a. Inspection Scope

On February 17, 2006, the inspectors observed operators in the plant's simulator during scenario 3-OT-SRE0018, Steam Generator Tube Rupture with Failure of Normal Pressurizer Sprays, to verify operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with procedures TRN-1, Administering Training, and TRN-11.4, Continuing Training for Licensed Personnel. The inspectors also reviewed simulator physical fidelity to ensure recent modifications and current plant conditions such as elevated RCS activity were accurately reflected.

b. Findings

No findings of significance were identified.

.2 Annual Operating Test Results

a. Inspection Scope

Annual review of Licensee Requalification Examination Results. On December 11, 2005, the licensee completed the comprehensive requalification biennial written examinations and annual operating tests required to be given to all licensed operators by 10 CFR 55.59(a)(2). The inspectors performed an in-office review of the overall pass/fail results of the written examinations, individual operating tests, and the crew simulator operating tests. These results were compared to the thresholds established in Manual Chapter 609, Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the three performance-based problems listed below. The focus of the reviews was to assess the effectiveness of maintenance efforts that apply to scoped SSCs and to verify that the licensee was following the requirements of Technical Instruction (TI)-119, Maintenance Rule Performance Indicator Monitoring, Trending, and Reporting 10 CFR 50.65, and SPP-6.6, Maintenance Rule Performance Indicator Monitoring, Trending, and Reporting 10 CFR 50.65. Reviews focused, as appropriate, on: (1) appropriate work practices; (2) identification and resolution of

common cause failures; (3) scoping in accordance with 10 CFR 50.65; (4) characterization of reliability issues; (5) charging unavailability time; (6) trending key parameters; (7) 10 CFR 50.65 (a) (1) or (a) (2) classification and reclassification; and (8) the appropriateness of performance criteria for SSCs classified as (a)(2) or goals and corrective actions for SSCs classified as (a)(1). Additional documents reviewed are listed in the attachment.

- PER 90112, B-train main control room chiller (a)(1) action plan
- PER 96507, continuing malfunctions of 0-RM-90-101 after design change to improve reliability
- PER 99066, B-train auxiliary air compressor unplanned start due to air dryer system flow control valves

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors evaluated, as appropriate for the five work activities listed below: (1) the effectiveness of the risk assessments performed before maintenance activities were conducted; (2) the management of risk; (3) that, upon identification of an unforseen situation, necessary steps were taken to plan and control the resulting emergent work activities; and (4) that maintenance risk assessments and emergent work problems were adequately identified and resolved. The inspectors verified that the licensee was complying with the requirements of 10 CFR 50.65 (a)(4); SPP-7.0, Work Control and Outage Management; SPP-7.1, Work Control Process; and TI-124, Equipment to Plant Risk Matrix.

- Emergent work on 1B SDBR chiller concurrent with TDAFW pump component outage
- Maintenance risk for B train CREVS testing with B train emergency gas treatment system (EGTS) out of service
- Emergent work on B train auxiliary control air during A train work week
- Work on A train auxiliary air compressor rolled into work week 210
- Emergent work on the 2A 480V boardroom chiller during B train work week

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions

a. Inspection Scope

The inspectors reviewed and observed personnel performance during a power reduction to 45 percent on February 23 and subsequent return to 100 percent power on March 3 to conduct main condenser water box maintenance. The inspectors observed crew performance during the power changes, and reviewed operator logs and plant computer data to determine if operator actions and responses were in accordance with General Operating Instruction (GO)-4, Normal Power Operation, and training.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed five operability evaluations affecting risk-significant mitigating systems, listed below, to assess, as appropriate: (1) the technical adequacy of the evaluations; (2) whether continued system operability was warranted; (3) whether other existing degraded conditions were considered as compensating measures; (4) whether the compensatory measures, if involved, were in place, would work as intended, and were appropriately controlled; (5) where continued operability was considered unjustified, the impact on TS Limiting Conditions for Operation (LCOs) and the risk significance in accordance with the Significance Determination Process (SDP). The inspectors verified that the operability evaluations were performed in accordance with SPP-3.1, Corrective Action Program.

- PER 95337, Significant air in ERCW emergency supply to B train AFW pumps
- PER 95168, Extension cords and light stringers left in upper containment
- PER 96288, B-main control room chiller oil cooler temp control valve interim replacement
- PER 96145, Loss of CCS cooling to the seal water heat exchanger during an Appendix R fire
- PER 90504, A train shutdown boardroom chiller has potentially developed a small internal water leak based on oil and refrigerant samples

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed five post-maintenance test (PMT) procedures and/or test activities, as appropriate, for selected risk-significant mitigating systems to assess whether: (1) the effect of testing on the plant had been adequately addressed by control room and/or engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and adequately demonstrated operational readiness consistent with design and licensing basis documents; (4) test instrumentation had current calibrations, range, and accuracy consistent with the application; (5) tests were performed as written with applicable prerequisites satisfied; (6) jumpers installed or leads lifted were properly controlled; (7) test equipment was removed following testing; and (8) equipment was returned to the status required to perform its safety function. The inspectors verified that these activities were performed in accordance with SPP-8.0, Testing Programs; SPP-6.3, Pre-/Post-Maintenance Testing; and SPP-7.1, Work Control Process. Additional documents reviewed are listed in the attachment.

- WO 05-824926-000, Repack outboard gland of TDAFW pump
- WO 06-810690-000, Troubleshoot and repair B EGTS fan discharge damper
- WO 06-810862-001, Replace B-MCR chiller oil cooler temperature control valve
- WO 05-812577-000, Replace zone switch for containment isolation valve 1-FCV-90-117
- WO 06-812307-000, Troubleshoot and adjust cam timer for B train auxiliary air dryer

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed eight surveillance tests and/or reviewed test data of selected risk-significant SSCs, listed below, to assess, as appropriate, whether the SSCs met the requirements of the TS; the UFSAR; SPP-8.0, Testing Programs; SPP-8.2, Surveillance Test Program; and SPP-9.1, ASME Section XI. The inspectors also determined whether the testing effectively demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions.

- WO 05-820031-000, 0-SI-82-11-A monthly diesel generator (DG) start and load test DG 1A-A
- WO 05-819503-000, 18 month reactor coolant pump under-frequency relay calibration
- WO 05-820209-000, 1-SI-43-201 31-day channel operational check LOCA containment hydrogen analyzer loop 1-HZAN-45-200 Train A

- WO 05-821247-000, 0-SI-31-7-B control room emergency ventilation system filter Train B test
- WO 05-816457-000, 0-SI-236-42, 125 vdc Vital Battery II 18-month service test and 125 vdc Vital Battery Charger II test
- WO 05-822639-000, 1-SI-99-10-B 31-day functional test of solid state protection system (SSPS) Train B and reactor trip Breaker B
- WO 05-819941-000, 1SI-68-92, 18-month channel calibration of power-operated relief valve (PORV) 1-PCV-68-340A cold overpressure mitigation system actuation channel
- WO 05-822927-000, 1-SI-3-901-A motor-driven auxiliary feedwater pump 1A-A quarterly performance test*

*in-service test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed temporary plant modification TACF 0-06-0002-067, Install a continuous vent on the B-ERCW discharge header, against the requirements of SPP-9.5, Temporary Alterations, and SPP-9.4, 10 CFR 50.59 Evaluation of Changes, Test, and Experiments, and verified that the modifications did not affect system operability or availability as described by the TS and UFSAR. In addition, the inspectors verified that the installation of the temporary modification was in accordance with the work package, that adequate configuration control was in place, procedures and drawings were updated, and post-installation tests verified operability of the affected systems.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

On March 14, 2006, the inspectors observed a licensee-evaluated emergency preparedness drill to verify that the emergency response organization was properly classifying the event in accordance with Emergency Plan Implementing Procedure (EPIP)-1, Emergency Plan Classification Flowchart, and making accurate and timely notifications and protective action recommendations in accordance with EPIP-2, Notification of Unusual Event; EPIP-3, Alert; EPIP-4, Site Area Emergency; EPIP-5,

General Emergency; and the Radiological Emergency Plan. In addition, the inspectors verified that licensee evaluators were identifying deficiencies and properly dispositioning performance against the performance indicator criteria in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verifications

Licensee records were reviewed to determine whether the submitted PI statistics were calculated in accordance with the guidance contained in Nuclear Energy Institute 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 3.

Initiating Events Cornerstone

a. Inspection Scope

The inspectors reviewed operating logs and monthly operating reports for the periods (in parenthesis) to verify the accuracy and completeness of the three PIs listed below. The inspectors also independently calculated the reported values to verify their accuracy. Performance indicator definitions and guidance contained in NEI 99-02 were used to verify the basis in reporting for each data element.

- Unplanned Scrams per 7000 Critical Hours (Oct. 1, 2004 to Dec. 31, 2005)
- Scrams with Loss of Normal Heat Removal (Oct. 1, 2004 to Dec. 31, 2005)
- Unplanned Power Changes per 7000 Critical Hours (Jan. 1, 2004 to Dec. 31, 2005)

b. Findings

No findings of significance were identified.

4OA2 Identification & Resolution of Problems

Review of Items Entered into the Corrective Action Program

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program (CAP). This review was accomplished by reviewing daily PER summary reports and attending daily PER review meetings.

4OA3 Event Followup

.1 (Closed) Licensee Event Report (LER) 05000390/2005-001-00: Two Trains of ABGTS Inoperable

On March 11, 2005, the licensee identified that, contrary to TS 3.7.12, fuel movement in the spent fuel pool had occurred on March 9 with both trains of Auxiliary Building Gas Treatment System (ABGTS) inoperable. Operations personnel did not recognize that having the containment hatch open while containment purge system was in operation made both trains of ABGTS inoperable. The licensee determined that the cause of the event was inadequate procedures in that the requirements of the system descriptions were not completely incorporated into the site implementing procedures. The enforcement aspect of this event is documented in Inspection Report 05000390, 05000391/2005002 Section 4OA7. This LER is closed.

.2 (Closed) LER 05000390/2005-002-00: G45 Fuel Assembly Clad Damage (Preliminary Report)

On November 14, 2005, during inspection of spent fuel assembly G45, degradation of a fuel rod's cladding (a principal safety barrier) was confirmed to exceed expected values and was reported as an eight-hour report (Event Notification 42140) under 10 CFR 50.72(b)(3)(ii)(A). The visual inspections concluded that some fuel pellet material had been dislocated from the rod. The LER was reviewed by the inspectors and no findings of significance were identified and no violation of NRC requirements occurred. The damage to the fuel assembly G45 was documented in PER 92432. Additional inspections of the affected fuel assembly are planned and the results of the inspections will be provided in a supplement to the subject LER. This LER is closed.

.3 (Closed) LER 05000390/2006-001-00: Entrained Air in Essential Raw Cooling Water (ERCW) Piping

On January 13, 2006, a licensee chemistry technician identified that the 12-inch B train backup safety-related water supply for the B train MDAFW and the TDAFW pumps had air in the piping. Followup venting and ultrasonic testing identified that all three high points in the 12-inch line had significant air pockets and the 30-inch B train ERCW return header was only half full of water. The air in the two lines rendered the backup safety-related water supply inoperable because it would have air bound the pumps. The licensee determined that the air in the 12-inch header was caused by an inadequate fill and vent of the line following maintenance during the March 2005 refueling outage. The source of the air in the 30-inch header was determined to be air entrained in ERCW (river water) coming out of solution after the water was heated up and then depressurized through system throttle valves. The condition on the 30-inch header has existed since initial plant operations during periods of low ERCW flow and cold river water temperatures. The enforcement aspect of this event is documented in Section 4OA7. This LER is closed.

4OA5 Other

.1 Pre-Service Baseline Examination, Eddy Current (ET) of Replacement Steam Generators

a. Inspection Scope

The inspectors reviewed the Watts Bar Nuclear Plant Preservice Degradation Assessment for Unit 1 Replacement Steam Generators, Revision 0, and Steam Generator Eddy Current Examination Guideline, Revision 0. The inspectors reviewed aspects of the examination program for the Westinghouse steam generators (SGs), Model 68 AXP with Inconel 690 thermally treated tubes, which included multifrequency bobbin testing for indications of degradation, loose parts, dents, etc., and rotating probe testing for detection of anomalies in the tube sheet region (+/- 3"), further evaluation of detected bobbin indications, and a rotating probe examination of the U-bend region for the first four rows and other areas of interest. The inspection was to determine if all examinations were in compliance with the NRC Regulatory Guide 1.83, TVA Watts Bar TS, and Sections V and XI of the 1995 ASME Code through the 1996 Addenda. The inspectors held discussions with cognizant personnel and reviewed results of the pre-service examinations of the four SGs, which identified one tube to be plugged in SG D. The inspectors also reviewed documentation that one tube was plugged and stabilized during the initial exams of SG B.

Information was reviewed to determine if the SG tube Eddy Current Testing (ET) examination scope was sufficient to identify tube degradation and to confirm that the ET scope completed was consistent with the licensee's procedures and plant TS requirements. Additionally, the inspectors reviewed the SG tube ET examination scope to determine that it was consistent with that recommended in EPRI Pressurized Water Reactor Steam Generator Examination Guidelines: Revision 6, and included tube areas which represent ET challenges such as the tubesheet regions, expansion transitions, and support plates.

Information was reviewed to confirm that the ET probes and equipment configurations used to acquire ET data from the SG tubes were qualified to detect the known/expected types of SG tube degradation in accordance with Appendix H, Performance Demonstration for Eddy Current Examination of EPRI Pressurized Water Reactor Steam Generator Examination Guidelines: Revision 6.

The inspectors performed a review of SG eddy current related issues that were identified by the licensee and entered into the corrective action program (CAP). The inspectors reviewed these CAP documents to confirm that the licensee had appropriately described the scope of the problems. Additionally, the inspectors' review included confirmation that the licensee had an appropriate threshold for identifying issues and had implemented effective corrective actions.

The inspectors evaluated the threshold for identifying issues through interviews with licensee staff and review of licensee actions to incorporate lessons learned from industry issues related to the inservice inspection program. The inspectors performed these reviews to ensure compliance with requirements of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action. Specific documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

.2 Institute of Nuclear Power Operations (INPO) Plant Assessment Report Review

a. Inspection Scope

On March 7, 2006, the inspectors reviewed the Watts Bar final INPO plant assessment report, conducted in October 2005, and received on site February 26, 2006. The inspectors reviewed the report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and if any significant safety issues were identified that required further NRC follow-up. The Branch 6 Branch Chief subsequently reviewed the report on April 4, 2006.

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

.1 Exit Meeting

The inspectors presented the inspection results to Mr. M. Skaggs and other members of licensee management at the conclusion of the inspection on April 4, 2006. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Annual Assessment Meeting Summary

Subsequent to the end of this inspection period, on April 4, 2006, the NRC's Chief of Reactor Project's Branch 6 and the Senior Resident Inspector assigned to the Watts Bar Nuclear Plant met with the Tennessee Valley Authority (TVA) to discuss the NRC's Reactor Oversight Process (ROP) and the Watts Bar annual assessment of safety performance for the period of January through December 2005. The major topics addressed were: the NRC's assessment program, the results of the Watts Bar assessment, and NRC inspection plans. Attendees included Watts Bar site management and members of site staff. Two members of the public attended.

This meeting was open to the public. The presentation material used for the discussion is available from the NRC's document system (ADAMS) as accession number ML061020264. A slide was added to the presentation to include the list of attendees. ADAMS is accessible from the NRC Web site at http://www/reading-rm/pdr.html (the Public Electronic Reading Room).

4OA7 Licensee-Identified Violations

The following violation of very low safety significance was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as a non-cited violation (NCV):

- Technical Specification 3.3.2 requires that an inoperable train of backup water supply to the AFW pumps be restored within 48 hours. Contrary to this, from March 26, 2005, through January 14, 2006, the ERCW backup water supply to the B train MDAFW pump and the TDAFW pump was not operable and the function was not restored within 48 hours. This issue is in the licensee's CAP as PER 95337. Corrective actions included venting and refilling the affected piping, frequent monitoring of the pipes using UT to confirm the piping remained full, revision of procedures, installation of a temporary alteration to continuously vent both ERCW return headers, and initiation of a design change to install continuous air release valves on the ERCW return headers. This finding is of very low significance because it only affects the Mitigating System Cornerstone, the A train backup water supply to the A train MDAFW pump was operable, and the very low initiating event frequency for tornados and seismic events. The backup water supply function is only required for loss of offsite power caused by a seismic event or tornado.

Attachment: Supplemental Information

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

B. Briody, Maintenance and Modifications Manager
H. Cothron, TVA Steam Generator Project Manager
M. DeRoche, Site Nuclear Assurance Manager
D. Feldman, Training Manager
J. Frisco, Site Engineering Manager
J. Hinman, Manager of Projects
G. Laughlin, Plant Manager
P. Pace, Licensing and Industry Affairs Manager
P. Sawyer, Radiation Protection Manager
M. Skaggs, Site Vice President
S. Smith, Operations Superintendent
P. Trudel, Replacement Steam Generator Project Manager
C. Webber, TVA Steam Generator Services Project Manager
D. White, Operations Manager

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

05000390/2005-001-00	LER	Two Trains of ABGTS Inoperable (Section 4OA3.1)
05000390/2005-002-00	LER	G45 Fuel Assembly Clad Damage (Preliminary Report) (Section 4OA3.2)
05000390/2006-001-00	LER	Entrained Air in Essential Raw Cooling Water (ERCW) Piping (Section 4OA3.3)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

- TI-128, Post Accident Technical Considerations (TSC)
- 1-SI-67-1, ERCW Valves Servicing Safety Equipment Position Verification
- N3-67-4002, ERCW System Description
- SOI-67.01, ERCW System Operating Instructions

Section 1R06: Flood Protection Measures

- Watts Bar Unit 1 Individual Plant Examination, Appendix E, Section 1.4.3, Turbine Building (flood analysis)
- PMUG 2127F, Functional Check and Calibration of Flood Mode Switches (1-LS–040-0019, Unit 1 Condenser Pit Flood Detector)
- Design Criteria WB-DC-40-29, Flood Protection Provisions
- Annunciator Response Instruction, ARI-166-172, Miscellaneous & HPFP, Page 13 of 48, response for TURB/AUX/RX BLDG FLOODED.
- Calculation WBNAPS2-165, Turbine Building Flooding Due To A Break In The Condenser Circulating Water System
- Vendor Technical Document WBN-VTD-D925-0090, Mercoid Liquid Level Control Switches

Section 1R12: Maintenance Effectiveness

- Evaluation of auxiliary building vent radiation monitor alarms for Maintenance Rule Expert Panel Meeting No. 06-01
- Preventive Maintenance Preplanned Text 8311V, Cleaning and Inspection of Dunham Bush Chiller Packages

Section 1R19: Post-Maintenance Testing

- Scaling and Setpoint Document SSD-1-LPT-68-1B, RCS Loop 1 Cold Overpressure Protection
- Vendor Manual WBN-VTD-B237-0010, GH Bettis Operating and Maintenance Instructions Disassembly and Reassembly Spring Return Nuclear Series Actuators
- MI-0.037, Maintenance and Replacement of Namco Series EA180 Limit Switches

Section 4OA5: Other Activities

- WBN-400-003, Pre-Service Eddy Current Examination of Non-Ferromagnetic Steam Generator Tubing, Revision 00
- Examination Technique Specification Sheets (ETSS)
- Preservice Degradation Assessment of Unit 1 Replacement Steam Generators, Revision 0
- Steam Generator Eddy Current Examination Guideline, Revision 0