



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

February 12, 2009

Mr. Preston D. Swafford
Chief Nuclear Officer and Executive Vice President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

**SUBJECT: WATTS BAR NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT
05000390/2008005, 05000391/2008005, AND 05000390/2008501 AND
EXERCISE OF ENFORCEMENT DISCRETION**

Dear Mr. Swafford:

On December 31, 2008, 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 January 7, and February 12, 2009, 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.

This report documents two NRC-identified findings and two self-revealing findings of very low safety significance (Green). Three of the findings were determined to involve violations of NRC requirements. Additionally, two licensee-identified violations, which were determined to be of very low safety significance, are listed in this report. However, because of the very low safety significance and because the violations were entered into your corrective action program, the NRC is treating these violations as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy. In addition, the NRC is exercising enforcement discretion in accordance with Section VII.B.6, "Violations Involving Special Circumstances," of the NRC Enforcement Policy, and in accordance with Enforcement Guidance Memorandum 09-001, for a violation of Technical Specification 3.4.15 involving the gaseous lower containment atmosphere radioactivity monitor sensitivity. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Watts Bar facility.

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/

Heather J. Gepford, Acting 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 05000390/2008005, 05000391/2008005,
05000390/2008501 w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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/

Heather J. Gepford, Acting 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 05000390/2008005, 05000391/2008005,
05000390/2008501 w/Attachment: Supplemental Information

cc w/encl: (See page 3)

PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE

ADAMS: Yes ACCESSION NUMBER:

OFFICE	RII:DRP	RII:DRP	RII:DRP	RII:DRP	RII:DRS	RII:DRS	RII:DRS
SIGNATURE	JBB5	HJG1	RLM2	MEP2	CAP3	LEM	RRR1
NAME	JBaptist	HGepford	BMonk	MPribish	CPeabody	LMiller	RRodriguez
DATE	02/12/2009x	02/12/2009	02/12/2009	02/12/2009	02/12/2009	02/12/2009	02/12/2009
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
OFFICE	RII:EICS	RII:DRS	RII:DRS	RII:	RII:	RII:DRS	RII:
SIGNATURE	SSparks for	RFA	BLC2				
NAME	CEvans	RAiello	BCaballero				
DATE	02/12/2009x	02/12/2009	02/12/2009	02/ /2009	02/ /2009	02/ /2009	02/ /2009
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME

cc w/encl:

Gordon P. Arent
Manager
Watts Bar Unit 2
Watts Bar Nuclear Plant
Electronic Mail Distribution

Ashok S. Bhatnagar
Senior Vice President
Nuclear Generation Development and
Construction
Tennessee Valley Authority
Electronic Mail Distribution

Michael K. Brandon
Manager
Licensing and Industry Affairs
Tennessee Valley Authority
Electronic Mail Distribution

Preston D. Swafford.
Chief Nuclear Officer and Executive Vice
President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Tom Coutu
Vice President
Nuclear Support
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

General Counsel
Tennessee Valley Authority
Electronic Mail Distribution
John C. Fornicola
General Manager
Nuclear Assurance
Tennessee Valley Authority
Electronic Mail Distribution

Gregory A. Boerschig
Plant Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

Larry E. Nicholson
General Manager
Licensing & Performance Improvement
Tennessee Valley Authority
Electronic Mail Distribution

Michael A. Purcell
Senior Licensing Manager
Nuclear Power Group
Tennessee Valley Authority
Electronic Mail Distribution

Michael J. Lorek
Interim Vice President
Nuclear Engineering & Projects
Tennessee Valley Authority
Electronic Mail Distribution

Michael D. Skaggs
Site Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

Mr. Fredrick C. Mashburn, Acting Manager
Corporate Nuclear Licensing and Industry
Affairs
Tennessee Valley Authority
4k Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Senior Resident Inspector
Watts Bar Nuclear Plant
U.S. Nuclear Regulatory Commission
1260 Nuclear Plant Road
Spring City, TN 37381-2000

County Executive
375 Church Street
Suite 215
Dayton, TN 37321

County Mayor
P.O. Box 156
Decatur, TN 37322

cc w/encl. (cont'd)
Lawrence Edward Nanney
Director
Division of Radiological Health
TN Dept. of Environment & Conservation
Electronic Mail Distribution

James H. Bassham
Director
Tennessee Emergency Management Agency
Electronic Mail Distribution

Ann Harris
341 Swing Loop
Rockwood, TN 37854

Letter to Preston D. Swafford from Heather J. Gepford dated February 12, 2009

SUBJECT: WATTS BAR NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT
05000390/2008005, 05000391/2008005, AND 05000390/2008501 AND
EXERCISE OF ENFORCEMENT DISCRETION

Distribution w/encl:

C. Evans, RII EICS

L. Slack, RII EICS

OE Mail

RIDSNRRDIRS

PUBLIC

P. Milano, NRR

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-390, 50-391

License Nos: NPF-90 and Construction Permit CPPR-92

Report Nos: 05000390/2008005, 05000391/2008005, 05000390/2008501

Licensee: Tennessee Valley Authority (TVA)

Facility: Watts Bar Nuclear Plant, Units 1 and 2

Location: Spring City, TN 37381

Dates: October 1, 2008 – December 31, 2008

Inspectors: R. Monk, Senior Resident Inspector
C. Peabody, Acting Resident Inspector
M. Pribish, Resident Inspector
H. Gepford, Senior Health Physicist (Section 2PS1)
L. Miller, Senior Emergency Preparedness Inspector (Sections 1EP2,
1EP3, 1EP4, 1EP5, 4OA1, 4OA5.5)
R. Aiello, Senior Operations Engineer (Sections 1R11 and 4OA2.5)
B. Caballero, Operations Engineer (Sections 1R11 and 4OA2.5)
R. Rodriguez, Sr. Reactor Inspector (Section 4OA3.5)

Approved by: Heather J. Gepford, Acting Chief
Reactor Projects Branch 6
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000390/2008-005, 05000391/2008-005, 05000390/2008501; 10/01/2008 - 12/31/2008; Watts Bar, Units 1 & 2; Plant Modifications, Identification and Resolution of Problems, and Event Followup.

The report covered a three-month period of routine inspection by resident inspectors and announced inspections by regional inspectors. Two NRC-identified Green findings and two self-revealing Green findings were identified. Three of these findings were non-cited violations. The significance of an issue is indicated by its color (Green, White, Yellow, Red) using the Significance Determination Process in Inspection Manual Chapter (IMC) 0609, Significance Determination Process (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. The NRC identified a Green, non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control, for failure to translate revised design parameters into the setpoint and scaling document for the lower containment particulate radiation monitor. As a result, the radiation monitor was inoperable, due to incorrect alarm setpoints, for longer than the Technical Specification allowed out of service time. The licensee corrected the radiation monitor alarm setpoint and initiated entered the issue into their corrective action program as Problem Evaluation Report 154635.

The inspectors concluded that the finding was more than minor because the radiation monitor inoperability resulted in potential impact on reactor safety and adversely affected the availability and reliability of the equipment performance attribute of the Initiating Events Cornerstone. This finding was evaluated using the Significance Determination Process Phase 1 screening criteria and was determined to be of very low safety significance because other methods of reactor coolant system leak detection were available. The finding directly involved the cross-cutting area of Problem Identification and Resolution under the thorough evaluation of identified problems aspect of the corrective action program component, in that, the licensee failed to properly evaluate the radiation monitor's as-found alarm setpoint, which was substantially different than the specified setpoint, prior to resetting the alarm setpoint to the larger value (P.1.c). (Section 4OA2.4)

- Green. A Green self-revealing finding was identified for the failure to obtain authorization prior to opening the main generator exciter field breaker compartment and operating the de-latching bar. The licensee's procedures for controlling sensitive plant equipment specified that personnel obtain the Unit Supervisor's authorization prior to beginning work on sensitive equipment. Operating the de-latching bar resulted in the exciter field breaker opening which resulted in the turbine generator and the reactor tripping. The licensee entered

Enclosure

this issue into their corrective action program as Problem Evaluation Report 152955.

The finding was more than minor because it was associated with the Human Performance attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during at-power operations. This finding was evaluated using the Significance Determination Process Phase 1 screening criteria and was determined to be of very low safety significance because the finding did not contribute to both a reactor trip and the likelihood of mitigation equipment or functions not being available. The cause of the finding was directly related to the human performance and error prevention aspect of the cross-cutting area of Human Performance, in that, personnel failed to use the self-checking technique to stop and consider their actions for two minutes prior to proceeding with an activity (H.4.a). (Section 4OA3.3)

Cornerstone: Mitigating Systems

- Green. A Green self-revealing non-cited violation of 10 CFR 50 Appendix B, Criterion III, Design Control, was identified for the failure to adequately translate material specifications into procedures. As a result, the B-A essential raw cooling water (ERCW) pump coupling failed due to an improper material being used. The licensee entered this issue into their corrective action program as Problem Evaluation Report 148716.

This finding is more than minor because it affects the plant modifications area of the design control attribute of the Mitigating Systems Cornerstone objective of reliability and availability, and if left uncorrected, it would result failure of other ERCW pumps. This finding was evaluated using the Significance Determination Phase 1 screening criteria and was determined to be of very low safety significance because the finding did not represent an actual loss of safety function of a single train of equipment for greater than its Technical Specification allowed outage time. (Section 1R18.1)

- Green. The NRC identified a Green, non-cited violation of Unit 1 Operating License Condition 2.F for not having a carbon dioxide (CO₂) suppression system for the Unit 1 auxiliary instrumentation room with the capability to maintain the design basis gas concentration of 50 percent in portions of the room for 15 minutes. The licensee entered the problem into their corrective action program.

The finding is more than minor because it affects the Mitigating Systems cornerstone objective of ensuring reliability and capability of systems that respond to initiating events and the cornerstone attribute of protection against external factors, i.e. fire. The finding was determined to be of very low safety significance by a Significance Determination Process Phase 1 evaluation. Test records indicated a 50 percent CO₂ concentration for 15 minutes in the lower half of the room and a 45 percent concentration for 15 minutes at three quarters of room height. This concentration was an acceptable amount to extinguish the most likely fire in this portion of the room. (Section 4OA3.5)

B. Licensee-Identified Violations

Two violations of very low safety significance, which were identified by the licensee, were reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. The violations and corrective action program tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near 100 percent rated thermal power for the entire inspection period.

Restart of construction on Unit 2 began in December of 2007. Information on Watts Bar Unit 2 reactivation can be found at <http://www.nrc.gov/reactors/plant-specific-items/watts-bar.html>

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

.1 Extreme Weather Readiness

a. Inspection Scope

The inspectors reviewed licensee actions taken in preparation for low temperature weather conditions to limit the risk of freeze-related initiating events and to adequately protect mitigating systems from its effects. The inspectors reviewed licensee procedure 1-PI-OPS-1-FP, Freeze Protection, and walked down selected components associated with the four areas listed below to evaluate implementation of plant freeze protection, including the material condition of insulation, heat trace elements, and temporary heated enclosures. Corrective actions for items identified in relevant problem evaluation reports (PERs) and work orders (WOs) were assessed for effectiveness and timeliness. Documents reviewed are listed in the Attachment to this report.

- Refueling water storage tank (RWST) freeze protection preparations
- A train and B-train essential raw cooling water (ERCW) system freeze protection preparations
- A-train and B-train high pressure fire protection system freeze protection preparations
- Main feedwater sensing lines freeze protection preparations

b. Findings

No findings of significance were identified.

.2 Readiness for Impending Adverse Weather Condition

a. Inspection Scope

The inspectors reviewed the licensee's preparation for and response to an actual freezing condition on December 5, 2008. The inspectors verified performance and reviewed the data associated with temperature monitoring of the RWST, which is required per licensee procedure 1-PI-OPS-1-FP for outside air temperature less than 25° F. In addition, the inspectors performed a walkdown of the RWST freeze protection enclosures to verify the adequacy of construction and the operation of the installed temporary lighting.

b. Findings

No findings of significance were identified.

1R04 Equipment AlignmentPartial Walkdownsa. Inspection Scope

The inspectors conducted three equipment alignment partial walkdowns, listed below, to evaluate the operability of selected redundant trains or backup systems with the other train or system inoperable or out of service (OOS). The inspectors reviewed the functional system descriptions, Updated Final Safety Analysis Report (UFSAR), system operating procedures, and Technical Specifications (TSs) 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.

- Partial walkdown of turbine-driven auxiliary feedwater (TDAFW) system following component outage
- Partial walkdown of 1B component cooling system (CCS) while the 1A CCS pump was out OOS for motor preventive maintenance
- Partial walkdown of the TDAFW pump while the 1A motor-driven auxiliary feedwater pump was out of service for testing

b. Findings

No findings of significance were identified.

1R05 Fire ProtectionFire Protection - Toursa. Inspection Scope

The inspectors conducted tours of the 10 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; and 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.

- Cable spreading room
- 480 V reactor (RX) motor-operated valve (MOV) board room 1A
- 480 V RX MOV board room 1B
- 480 V RX MOV board room 2A

- 480 V RX MOV board room 2B
- Vital Battery Rooms I, II, III, IV, and V

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 to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

.1 Biennial Review

a. Inspection Scope

The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. During the week of December 8, 2008, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of operating tests associated with the licensee's operator requalification program. Each of the activities performed by the inspectors was done to assess the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR Part 55, Operators' Licenses. The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, Operator Licensing Examination Standards for Power Reactors. The inspectors also evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations using ANSI/ANS-3.5-1985, American National Standard for Nuclear Power Plant Simulators for use in Operator Training and Examination. The documentation reviewed by the inspectors included written examinations, job performance measures (JPMs), simulator scenarios, licensee procedures, on-shift records, simulator problem report and performance test records, operator feedback records, licensed operator qualification records, remediation plans, watch standing records, and medical records. The records were inspected using the criteria listed in Inspection Procedure 71111.11.

Documents reviewed during the inspection are identified in the Attachment to this report. The inspectors observed the licensee administer portions of the annual operating exam, including three scenarios to one shift operating crew, and several JPMs. The inspectors interviewed five licensed operators.

On December 19, 2008, the licensee completed the annual requalification operating tests which are required to be administered to all licensed operators in accordance with 10 CFR 55.59(a) (2). The inspectors performed an in-office review of the overall pass/fail results of the 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.

.2 Resident Inspector Quarterly Review

a. Inspection Scope

On October 21, 2008, the inspectors observed the simulator evaluation for scenario 3-OT-SRT-E2-3B, Main Steam Line Leak/Break in Containment. The plant conditions led to a Notice of Unusual Event emergency level classification.

The inspectors specifically evaluated the following attributes related to the crew's performance:

- Clarity and formality of communication
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms
- Correct use and implementation of abnormal operating instructions and emergency operating instructions
- Timely and appropriate emergency action level declarations per emergency plan implementing procedures
- Control board operation and manipulation including high-risk operator actions
- Command and control provided by the unit supervisor and shift manager

The inspectors also attended the critique to assess the effectiveness of the licensee evaluators and to verify that licensee-identified issues were comparable to issues identified by the inspectors.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the two performance-based problems listed below. The focus of the reviews was to assess the effectiveness of maintenance efforts that apply to SSCs and to verify that the licensee was following the requirements of 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).

- 125 V DC vital power a(1) performance improvement plan
- (a)(1) classification of B-train auxiliary building gas treatment system

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 unforeseen 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.

- Emergency diesel generator (EDG) 2A-A maintenance while the A-A ERCW pump was OOS
- Planned maintenance on 1A CCS motor with A-A ERCW pump OOS
- Emergent failure of A train main control room (MCR) air conditioner with B train MCR air conditioner inoperable
- Orange risk condition due to A-A ERCW pump unavailability combined with ERCW pump coupling degradation and pressurizer power-operated relief valve (PORV) B lock valve closed
- Review of work week 607 activities with ERCW pump couplings degraded and one PORV block valve closed

b. Findings

No findings of significance were identified.

1R15 Operability Evaluationsa. 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 the compensatory measures, if involved, were in place, would work as intended, and were appropriately controlled; (4) where continued operability was considered unjustified, the impact on TS LCOs and the risk significance in accordance with the SDP. The inspectors verified that the operability evaluations were performed in accordance with SPP-3.1, Corrective Action Program.

- PER 148716, functional evaluation (FE) 42857, B-A ERCW pump shaft coupling failure
- PER 154635, Containment radiation monitor 1-RM-90-112 alarm setpoints found out of tolerance
- PERs 153738/153993, Incore instrument room containment penetration thermal relief check valves 1-CKV-31-3907 and 3421 found stuck shut
- PER 148716, FE 42961, ERCW pump continued operability with 410 SS couplings installed
- PER 154828, ERCW flow to spent fuel pump area cooler was less than TI-67.002 acceptance criteria

b. Findings

No findings of significance were identified.

1R18 Plant Modificationsa. Inspection Scope

The inspectors reviewed two permanent plant modifications to verify that design change installation controls were adequate, affected operational procedures and licensing documents were identified and revised accordingly, and that post-maintenance testing and equipment return to service was adequate. Documents reviewed are listed in the attachment.

- Design change notice (DCN) S-10781-A and DCN S-08187-A, Revise ERCW pump shaft material to XM-19 alloy
- DCN 52631, Revise setpoint on lower containment radiation monitor gas channel

b. Findings.1 Essential Raw Cooling Water Pump Coupling

Introduction: A Green self-revealing non-cited violation of 10 CFR 50 Appendix B, Criterion III, Design Control, was identified for the failure to adequately translate material specifications into procedures which resulted in the failure of the B-A ERCW pump coupling

due to an improper material being used. The licensee entered this issue into their corrective action program as PER 148716.

Description: On July 21, 2008, the B-A ERCW pump failed during operation due to the shearing of a 410 stainless steel coupling caused by intergranular stress corrosion cracking. The B-A ERCW pump was rebuilt, pre-service tested, and declared operable on July 25, 2008.

The ERCW pumps were originally purchased with 410 stainless steel shafts and couplings. Prior to plant operation, the licensee had issued DCN-S-10781-A to specify that the preferred material for the ERCW pump shafts and couplings was XM-19 alloy. However, procedure MI-67.001, Removal, Inspection and Repair of ERCW Pumps, which was revised as a result of the design change process, lacked sufficient clarity to ensure that the couplings would be replaced with XM-19 alloy. As a result, during the September 1995 B-A ERCW pump overhaul, the shafts were replaced with XM-19 alloy but not the couplings. Watts Bar Unit 1 began commercial operation in February 1996 with couplings of the incorrect material installed on this pump, as well as, on other ERCW pumps.

Analysis: The licensee's failure to adequately translate DCN S-10781-A material specifications into the rebuild procedure was a performance deficiency, which resulted in the failure of the B-A shaft coupling. This finding is more than minor because it affects the plant modifications area of the design control attribute of the Mitigating Systems Cornerstone objective of reliability and availability, and if left uncorrected, it would result in the failure of other ERCW pumps. The inspectors evaluated this finding using IMC 0609, Significance Determination Process, and determined that it was of very low safety significance (Green) because the finding did not represent an actual loss of safety function of a single train of equipment for greater than its TS allowed outage time. No cross-cutting aspect was assigned because the cause of the finding was not indicative of current licensee performance.

Enforcement: 10 CFR 50 Appendix B, Criterion III, Design Control, states, in part, that design basis are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, the licensee failed to adequately translate design basis into procedures, in that, material specifications for the ERCW pump couplings specified in DCN S-10781-A were not properly incorporated into procedure MI-67.001. Because this violation was of very low safety significance and it was entered into the licensee's CAP as PER 148716, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 5000390/2008005-01, Failure to Translate ERCW Pump Coupling Material Change into Procedures.

.2 Technical Specification for the Containment Gaseous Radiation Monitors

Introduction: The inspectors identified a violation of TS 3.4.15, "RCS Leakage Detection Instrumentation," for the licensee's failure to maintain the gaseous lower containment atmosphere radioactivity monitor of the RCS leakage detection instrumentation operable. The monitor had been inoperable since May 2000 as a result of not being able to perform its safety function of detecting a reactor coolant pressure boundary leak of 1 gallon per minute (gpm) in one hour due to improvements in reactor fuel quality. The NRC is exercising enforcement discretion to not issue enforcement action for this violation in accordance with Enforcement Guidance Memorandum (EGM) 09-001, "Dispositioning

Violations of NRC Requirements for Operability of Gaseous Monitors for Reactor Coolant System Leakage Detection.”

Description: On October 31, 2008, the inspectors, after consultation with the Office of Nuclear Reactor Regulation (NRR), informed the licensee that the gaseous lower containment atmosphere radioactivity was not operable. The licensee initiated PER 155844, declared the equipment inoperable, complied with the applicable actions of TS 3.4.15 which allowed up to 30 days of continued operation with compensatory actions in place, and submitted a license amendment request to change the TS. The TS amendment was issued on November 25, 2008, which removed the requirement to maintain the gaseous channel of the containment atmosphere radiation monitor as a method of RCS leakage detection.

NRR determined that the technical bases for the gaseous lower containment atmosphere radioactivity monitor to be operable included sufficient sensitivity to detect a reactor coolant pressure boundary leak of 1 gpm in one hour. This sensitivity was consistent with the information provided in NRC Information Notice (IN) 2005-024, “Nonconservatism in Leak Detection Sensitivity.” This IN informed licensees that the 0.1-percent failed fuel assumption (original source term for sensitivity calculations) introduced a nonconservatism into the TS. However, the licensing bases for Watts Bar Unit 1 was not clear, in that, the licensing basis documents acknowledged that, for fuel with little or no defects, this sensitivity would not be expected. NRR considered that this circumstance would only occur immediately after initial plant startup. However, the licensee mistakenly concluded that the monitor would likewise be considered operable any time that fuel with little or no defects was again in use, e. g., due to improved fuel quality.

In May 2000, the licensee developed calculation WBNTSR-062, “Requirements for the Containment Upper and Lower Compartment Radiation Monitors,” which concluded that for realistic RCS activity levels, the gaseous channel would not be capable of meeting the RG 1.45 detection sensitivity requirements. The UFSAR was revised to reflect this result and the change was submitted to the NRC as part of its normal periodic update. This conclusion was recently referenced in DCN 52631, dated June 20, 2008. In both cases, the licensee failed to recognize that not meeting the required sensitivity resulted in the gaseous lower containment atmosphere radioactivity monitors being inoperable. Contributing to the failure to recognize this issue in June 2008 was the licensee’s mistaken perception that since the NRC had been informed of the change by an UFSAR update, the change must have been acceptable.

Analysis: The operation of Unit 1 in Modes 1-4 with one of the three required methods of RCS leakage detection instrumentation required by TS 3.4.15 being inoperable was a performance deficiency. The finding was more than minor because it was associated with the Initiating Events Cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the inoperability of a TS-required RCS leakage detection method affected the likelihood of a loss of coolant accident initiator in keeping with the “leak-before-break” concept. In EGM 09-001, the NRC states that the significance associated with a longer response time (due to the lower sensitivity) is of very low safety significance. The EGM 09-001 significance conclusion was based, in part, upon the availability of multiple and diverse means for licensees to detect significant reactor coolant pressure boundary degradation

and take action to ensure continued public health and safety. No cross-cutting aspect was assigned.

Enforcement. TS 3.4.15 required, in part, that one lower containment atmosphere radioactivity monitors (gaseous and particulate) be operable or restored to operable status within 30 days, while in Modes 1, 2, 3, and 4. Contrary to this, between May 2000 and November 25, 2008, the gaseous lower containment atmosphere radioactivity monitor was inoperable while in Modes 1, 2, 3 and 4, in that, the containment atmosphere radioactivity monitor was not capable of detecting a reactor coolant pressure boundary leak of 1 gpm in one hour when radioactive gas content in the reactor coolant was low. Because this violation was identified during the discretion period described in Enforcement Guidance Memorandum 09-001, the NRC is exercising enforcement discretion in accordance with Section VII.B.6, "Violations Involving Special Circumstances," of the NRC Enforcement Policy and is, therefore, not issuing enforcement action for this violation.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed three post-maintenance test procedures, listed below, 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.

- WO 08-819455-000, Replace D common station service transformer (CSST) auto tap changer control relay
- WO 08-823012-000, Repair of A train main control room chiller load control circuit
- WO 08-816313-000, Card replacement on No. 2 vital battery charger

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed four 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.

Routine Surveillance Test:

- WO 08-817807-000, 0-SI-82-12-B, Monthly diesel generator start and load test DG 2B-B
- WO 08-815234-000, 0-SI-215-41-A, Diesel generator 1A-A, 18-month service test and battery charger test

In-Service Tests:

- WO 08-822561-000, 1-SI-3-901-B, MDAFW (motor driven auxiliary feedwater) pump B performance test

RCS leak detection

- WO 08-817551-000, 1-SI-90-13, 92-day channel operational test of the containment building lower compartment particulate radiation monitor loop 1-LPR-90-106A

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Testinga. Inspection Scope

The inspector evaluated the adequacy of licensee's methods for testing the alert and notification system in accordance with NRC Inspection Procedure 71114, Attachment 02, Alert and Notification System Evaluation. The applicable planning standard 10 CFR Part 50.47(b)(5) and its related 10 CFR Part 50, Appendix E, Section IV.D requirements were used as reference criteria. The criteria contained in NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Revision 1, was also used as a reference.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the alert and notification system on a biennial basis.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentationa. Inspection Scope

The inspector reviewed the licensee's Emergency Response Organization (ERO) augmentation staffing requirements and process for notifying the ERO to ensure the readiness of key staff for responding to an event and timely facility activation. The qualification records of key position ERO personnel were reviewed to ensure all ERO qualifications were current. A sample of problems identified from augmentation drills or

system tests performed since the last inspection were reviewed to assess the effectiveness of corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, Emergency Response Organization Staffing and Augmentation System. The applicable planning standard, 10 CFR 50.47(b) (2) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the ERO staffing and augmentation system on a biennial basis.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, Revisions 87 and 88 of the Watts Bar Emergency Plan were implemented based on the licensee's determination, in accordance with 10 CFR 50.54(q), that the changes resulted in no decrease in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The inspector conducted a sampling review of the Plan changes and implementing procedure changes made between October 1, 2007 and October 10, 2008 to evaluate for potential decreases in effectiveness of the Plan. However, this review was not documented in a Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 04, Emergency Action Level and Emergency Plan Changes. The applicable planning standard (PS), 10 CFR 50.47(b) (4) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the emergency action level and emergency plan changes on an annual basis.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector reviewed the corrective actions identified through the Emergency Preparedness program to determine the significance of the issues and to determine if repeat problems were occurring. The facility's self-assessments and audits were reviewed

to assess the licensee's ability to be self-critical. In addition, the inspector reviewed licensee self-assessments and audits to assess the completeness and effectiveness of all emergency preparedness related corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 05, Correction of Emergency Preparedness Weaknesses. The applicable planning standard, 10 CFR 50.47(b) (14) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the correction of emergency preparedness weaknesses on a biennial basis.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed a licensee-evaluated emergency preparedness drill on November 5, 2008, involving a scenario that lead to a general emergency. The inspectors verified 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 99-02, Regulatory Assessment Performance Indicator Guideline.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety (PS)

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

a. Inspection Scope

Groundwater monitoring: The inspectors discussed current and future programs for monitoring onsite groundwater with cognizant chemistry representatives including number and placement of monitoring wells and identification of plant systems with the most potential for contaminated leakage. The site has six onsite wells associated with the radiological environmental monitoring program (REMP) and 37 non-REMP wells that are

used to monitor the onsite groundwater plume from two leaks identified in 2002. Recent well sampling data and trends were evaluated. The inspectors reviewed and evaluated procedural guidance for identifying and assessing onsite spills and leaks of contaminated fluids. In addition, the inspectors reviewed the licensee's 10 CFR Part 50.75(g) file and compared the contents with known contaminated spill locations. The inspectors also reviewed selected parts of the 2006 and 2007 Annual Radioactive Effluent Release Reports with respect to abnormal releases or spills and releases with monitors OOS. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

Cornerstone: Emergency Preparedness

The inspector sampled licensee submittals for three Performance Indicators (PI) listed below. For each of the submittals reviewed, the inspector reviewed the period from October 1, 2007 through June 30, 2008. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Indicator Guideline, Revision 5, were used to verify the basis in reporting for each data element.

- Emergency Response Organization Drill/Exercise Performance (DEP)
- Emergency Response Organization Readiness (ERO)
- Alert and Notification System Reliability (ANS)

The inspectors reviewed portions of the raw PI data developed from monthly performance indicator reports and discussed the methods for compiling and reporting the PIs with cognizant emergency preparedness personnel. The inspector also independently screened drill and exercise opportunity evaluations, drill participation reports, and drill evaluations. Selected reported values were calculated to verify their accuracy. The inspectors compared graphical representations from the most recent PI report to the raw data to verify that the data was correctly reflected in the report. Reviewed documents are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 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 CAP. This review was accomplished by reviewing daily PER summary reports and attending daily PER review meetings.

.2 Semi-Annual Review to Identify Trends

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on human performance trends, licensee trending efforts, and repetitive equipment and corrective maintenance issues. The inspectors also considered the results of the daily inspector CAP item screening discussed in Section 4OA2.1. The inspectors' review nominally considered the six-month period of July 2008 through December 2008, although some examples expanded beyond those dates when the scope of the trend warranted. Documents reviewed are listed in the Attachment to this report.

b. Assessment and Observations

No findings of significance were identified. Two potential trends were identified from the information reviewed.

- The inspectors identified that the licensee missed including two PI entries into quarterly reports to the NRC, one for an unplanned downpower and one for the high head safety injection mitigating system performance index. The inspectors reviewed the consequences surrounding each example and determined that in neither case was the color of the PI affected and that both issues were independently entered into the CAP as PERs 152109 and 152229.
- The inspectors observed that the licensee had two instances of entering degraded equipment into the CAP, without the recognition in the subsequent CAP process that this equipment might require a TS or Offsite Dose Manual past operability evaluation. Additionally, the inspectors identified that the licensee's CAP process review did not recognize a condition as potentially reportable, thus not obtaining an Engineering review. In each case, the inspectors evaluated the PERs and determined there were no significant consequences as the result of this problem..

.3 Annual Sample: Review of Operator Workarounds

a. Inspection Scope

The inspectors reviewed the operator workaround program to verify that workarounds were identified at an appropriate threshold, were entered into the CAP, and that corrective actions were proposed or implemented. Specifically, the inspectors reviewed the licensee's workaround list and repair schedules, conducted tours, and interviewed operators about required compensatory actions. Additionally, the inspectors looked for undocumented workarounds, reviewed appropriate system health documents, and reviewed PERs related to items on the workaround list.

b. Findings and Observations

No findings of significance were identified.

.4 Annual Sample: Incorrect Alarm Setpoint for the Lower Containment Particulate Radiation Monitor

a. Inspection Scope

The inspectors reviewed the licensee's assessment and corrective actions for PER 154635, Incorrect Alarm Setpoint for the Lower Containment Particulate Radiation Monitor. The PER was reviewed to ensure that the full extent of the issue was identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized.

b. Findings

Introduction: The inspectors identified a Green, non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for failure to translate revised design parameters into the setpoint and scaling document (SSD) for the lower containment particulate radiation monitor. As a result, the radiation monitor was inoperable, due to incorrect alarm setpoints, for longer than the Technical Specification allowed OOS time. The licensee corrected the radiation monitor alarm setpoint and entered the issue into their corrective action program as PER154635.

Discussion: The containment radiation monitors used for RCS leakage detection each consist of a particulate and a gas detector channel. One monitor (1-RM-90-106) is normally aligned to lower containment, while a redundant radiation monitor (1-RM-90-112) is aligned to upper containment. TS 3.4.15, RCS Leakage Detection Instrumentation, only applies to the radiation monitor which is aligned to lower containment.

On September 3, 2008, the 90-112 containment radiation monitor was aligned to lower containment using preventive maintenance procedure PM 0639W, Conditional Calibration To Be Performed If (90-112) Aligned To Lower Containment. PM 0639W is the procedure used to ensure the correct alarm setpoints are selected for the particulate and gaseous channels.

On October 14, 2008, during performance of licensee procedure 1-SI-90-19, 92 Day Channel Operability Test Of Containment Building Upper Compartment Particulate Radiation Monitor Loop 1-LPR-90-112A, the as-found alarm setpoint was out of tolerance. The licensee initiated PER 154635 to document the discrepancy and adjusted the alarm setpoint as specified in the radiation monitor's SSD. PER 154635 description stated that the as-found values were out of tolerance and the as-left values were in accordance with the SSD; no specifics were given.

During a review of the completed 1-SI-90-19 paperwork, the inspectors found that the as-found alarm setpoint for the particulate monitor was 1500 counts per minute (cpm) when 13,000 cpm was expected per the 90-112 radiation monitor's SSD. The particulate radiation monitor was returned to service with the alarm setpoint set at 13,000 cpm. The inspectors determined that the 1500 cpm setpoint came from the 90-106 monitor's SSD and that PM 0639W had directed the use of 1500 cpm for the 90-112 monitor's alarm setpoint.

On October 29, 2008, the licensee determined that containment radiation monitor alarm setpoint changes made by design change 52631, dated July 11, 2008, had not been properly incorporated into the SSD for the 90-112 particulate radiation monitor and, as a result, the particulate radiation monitor would not be able to meet its TS specified safety function of detecting a 1 gpm increase in RCS leakage in one hour if the SSD setpoint (13,000 cpm) was selected. After the inspectors informed the licensee that the 90-112 particulate setpoint had been set at 13,000 cpm since October 14, 2008, the licensee entered TS 3.4.15, RCS Leakage Detection Instrumentation.

Analysis: The inspectors determined that the continued operation of the containment radiation monitor with an incorrect alarm setpoint was a performance deficiency. The inspectors concluded that the finding was more than minor because the radiation monitor inoperability resulted in a potential impact on reactor safety and adversely affected the availability and reliability of the barrier integrity equipment performance attribute of the Initiating Events Cornerstone.

The inspectors evaluated this finding using IMC 0609, Significance Determination Process, and determined that it was of very low safety significance (Green) because other methods of RCS leak detection were available and no actual leakage above 1 gpm was indicated through the RCS water inventory surveillance. The finding directly involved the cross-cutting area of Problem Identification and Resolution under the thorough evaluation of identified problems aspect of the corrective action program component, in that, the licensee failed to properly evaluate the radiation monitor's as-found alarm setpoint of 1500 cpm, which was substantially different than the 13,000 cpm specified setpoint, prior to resetting the alarm setpoint to the larger value (P.1.c).

Enforcement: 10 CFR 50 Appendix B, Criterion III, Design Control, states, in part, that measures shall be established to ensure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, the licensee failed to translate design basis information into specifications, in that, the alarm setpoint, developed under DCN 52631, for the 90-112 containment radiation monitor was not incorporated in the SSD. Because this finding is of very low safety significance and because it was entered into the licensee's corrective action program as PER 155844, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000390/2008005-02, Failure to Incorporate Design Parameters into Plant Setpoint Document for the Containment Particulate Radiation Monitor.

.5 Annual Sample: Biennial Licensed Operator Requalification Inspection

a. Inspection Scope

The inspectors selected PERs 158392, 158697 and 158926 to verify that they correctly described an issue related to excessive examination test item overlap and test item duplication on remediation examinations for licensed operator written examinations.

b. Findings and Observations

The inspectors conducted this review during the Biennial Licensed Operator Requalification Inspection, which was conducted during the week of December 8, 2008. The licensee had identified that 95% of one licensed operator's retake examination was derived from a

previously administered exam of the current biennial written exam cycle. During an extent of condition review, the licensee subsequently identified 3 additional operators who had taken exams which excessively overlapped a previously administered exam. The licensee's procedure associated with licensed operator written examination development was TRN-11.10, Annual Requalification Examination Development and Implementation, Revision 13. Section 3.3, Step B of this procedure required that at least 50% of the questions shall be different from the previous examinations developed for the same cycle. The facility licensee initiated an apparent cause evaluation to determine why the decision making process resulted in a departure from procedural requirements. The inspectors verified that this issue had been accurately described in the licensee's (CAP via PERs 158392, 158697 and 158926. The inspectors also verified that examination integrity concerns were addressed by analyzing exam security agreements and operator test scores with respect to test item duplication. However, the inspectors did not verify adequacy of the corrective actions associated with the PERs because the licensee had not had sufficient time to develop these actions.

40A3 Event Followup

.1 (Closed) Licensee Event Report (LER) 05000390/2008-002-00, Manual Reactor Trip in Response to Start of Feedwater Heater Isolation

On August 7, 2008, Unit 1 shut down to make a repair to the stator water cooling system. With the plant near 53 percent power, operators secured both of the No. 7 heater drain tank (HDT) pumps in accordance with the plant shutdown procedure. HDT level should have been maintained by its bypass to condenser valve, but the level control valve's air signal line had failed so the valve failed to open. The high HDT level caused levels in the low pressure feedwater heaters to rise until they reached the automatic isolation setpoint on all three feedwater heater strings. The operators then manually tripped the plant. All systems performed their intended safety functions in response to the trip. The LER was reviewed by the inspectors, and no findings of significance were identified and no violation of NRC requirements occurred. The licensee documented the failed equipment in PERs 149778 and 149790. This LER is closed.

.2 (Closed) LER 05000390/2008-003-00, Automatic Start of Auxiliary Feedwater Unavailable during Startup Entry into Modes 2 and 1

On August 7, 2008, the NRC issued Integrated Inspection Report (IR) 05000390/2008003 which documented an NCV for inoperable auxiliary feedwater (AFW) automatic start channels as required by TS 3.3.2, Function 6.e, start on trip of all main feedwater (MFW) pumps. The finding was determined to be of very low safety significance because the finding did not represent an actual loss of safety function of a single train for greater than its TS-allowed outage time since other initiation signals were available to automatically start the AFW pumps if needed. With this inspection report, NRC clarified that the instrumentation channels must not only be capable of transmitting a trip signal but must also reflect the actual operating condition of the MFW pumps.

The licensee documented this event in PER 147351. The enforcement aspect of this event is documented in IR 05000390/2008003, Section 40A2. This LER is closed.

.3 (Closed) LER 05000390/2008-004-00, Automatic Reactor Trip in Response to Opening of Exciter Field Breaker

a. Inspection Scope

On September 20, 2008, Unit 1 was tripped from 100% power due to a non-licensed operator opening the Main Generator Exciter field breaker. The initial event follow-up was conducted per inspection procedure 71153 and documented in Section 4OA3.2 of IR 05000390/2008004. The inspectors have subsequently reviewed the LER and associated PER 152955, which included the root cause analysis and corrective action plans. The inspectors also interviewed responsible Operations department personnel. Furthermore, the inspectors verified that the corrective actions and extent of condition were consistent with the root cause. This LER is considered closed.

b. Findings

Introduction: A Green self-revealing finding was identified for the failure to obtain authorization prior to opening the main generator exciter field breaker compartment and operating the de-latching bar. Licensee's procedures for controlling sensitive plant equipment specified that personnel obtain the Unit Supervisor's authorization prior to beginning work on sensitive equipment. Operating the de-latching bar resulted in the exciter field breaker opening which resulted in the turbine generator and the reactor tripping. The licensee entered this issue into their corrective action program as PER 152955.

Description: On September 20, 2008, Unit 1 experienced a reactor trip from 100 percent power. During rounds, a non-licensed operator stopped and opened the exciter field breaker panel to show a trainee the breaker and explain that the breaker had to be manually aligned and pushed into the cubicle while a second party pushed the de-latching bar. The non-licensed operator pushed the de-latching bar during the explanation. This resulted in the breaker opening, a turbine trip, and a reactor trip. All systems responded as designed and performed their intended safety functions in response to the trip. The non-licensed operator had not requested permission from control room personnel to either open the breaker compartment door or operate the de-latching bar.

The licensee has established a self-imposed standard for controlling sensitive plant equipment. TI-12.10, Control of Sensitive Equipment, states, in part, that the Shift Manager or Unit Supervisor authorizes activities on sensitive equipment prior to work beginning. TI-12.10 further states that "the Exciter Field Breaker and controls," were components covered by TI-12.10. The breaker compartment was labeled as Sensitive Equipment. Not obtaining the Unit Supervisor's permission before opening the main generator exciter field breaker compartment and operating the breaker de-latching bar, as specified in TI-12.10, was considered a Finding.

Analysis: Operating the de-latching bar on the exciter field breaker while the breaker was closed was a performance deficiency which resulted in a reactor scram. The finding was more than minor because it was associated with the human performance attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during at-power operations. This finding was evaluated using the SDP Phase 1 screening criteria and was determined to be a finding of very low safety significance (Green) because

the finding did not contribute to both a reactor trip and the likelihood of mitigation equipment or functions would not be available.

The cause of the finding was directly related to the human performance and error prevention aspect of the cross-cutting area of Human Performance, in that, personnel failed to use a self-checking technique, the two minute rule. The two minute rule required personnel to stop and consider their actions for two minutes prior to proceeding with an activity (H.4(a)).

Enforcement: Enforcement action does not apply because the performance deficiency did not involve a violation of a regulatory requirement. Because this finding does not involve a violation of regulatory requirements and has very low safety significance, it is identified as FIN 05000390/2008005-03, Performing Non-Authorized Activities on Exciter Field Breaker Results In Reactor Trip.

.4 (Closed) LER 05000390/2008-005-00, Report of Inoperability of Radiation Monitor due to Non-conservative Setpoint

On October 29, 2008, a discrepancy in the setpoint was identified for the particulate channel of the radiation monitor being credited for meeting TS 3.4.15, Leakage Detection Instrumentation. From October 14 to October 29, 2008, the RCS leakage detection system had been inoperable due to this incorrect setpoint. Consequently, the licensee had been operating in a condition prohibited by technical specifications. The enforcement aspects of violation are discussed in section 4OA2.4 of this report. This LER is closed.

.5 (Closed) Unresolved Item (URI) 05000390/2007007-01, Carbon Dioxide System in FA 48 Appears to Deviate From Design Criterion in SSER

Introduction: The inspectors identified a Green NCV of Unit 1 Operating License Condition 2.F for the failure of the installed carbon dioxide (CO₂) fire suppression system to deliver and maintain the design basis gas concentration of 50 percent for 15 minutes in portions of Fire Area (FA) 48, the auxiliary instrumentation room.

Description: Alternative shutdown was selected for the auxiliary instrument room and thus a CO₂ gas suppression system was installed to meet the requirements of 10 CFR 50 Appendix R, Section III.G.3. The CO₂ system was required to be designed in accordance with National Fire Protection Association standard-12 (NFPA 12), Standard on Carbon Dioxide Extinguishing Systems; and the Watts Bar Fire Protection Report (FPR) as approved in NRC Supplemental Safety Evaluation Report (SSER) No. 18 (NUREG 0847). The applicable edition of NFPA-12 specified 50 percent concentration for deep-seated fires, but did not specify a definite hold time. The approved SSER stated that the CO₂ system must achieve a concentration of at least 50 percent within seven minutes of initiation and hold that concentration for 15 minutes. The concentration values must be achieved at any point in the room where combustibles capable of deep seated fires are located. The basis for these values in the SSER was testing performed by Sandia National Laboratory on deep seated fires and CO₂ systems as described in NRC IN 92-28, Inadequate Fire Suppression System Testing, issued April 8, 1992. The inspectors reviewed records of a discharge test conducted at the time of initial CO₂ system installation. The test records indicated that 50 percent CO₂ concentration for 15 minutes was achieved in the lower half of the room and 45 percent concentration was held for 15 minutes at the three quarters of room height level.

Therefore, the approved SSER concentration for the upper portion of the room was not met. The licensee initiated PER 125632 to address this issue.

Analysis: The finding was a performance deficiency because the licensee failed to meet their NFPA code of record and it was within their ability to identify and correct. The finding was more than minor because it was associated with the reactor safety Mitigating Systems cornerstone attribute of protection against external factors, i.e. fire, and it affected the objective of ensuring reliability and capability of systems that respond to initiating events. The finding was screened as of very low safety significance by a SDP Phase 1 evaluation, in accordance with IMC 0609, Appendix F, Fire Protection Significance Determination Process. This was due to assigning a low degradation factor to the deficient CO₂ system based upon:

- Test records indicated a 50 percent CO₂ concentration in the lower half and 45 percent at three quarters of the room's height. These concentrations lasted for 15 minutes.
- Most of the ignition sources were located in the lower portion of the room where the required concentration was maintained.
- Fire spread from the lower portion of the room was difficult since a great majority of the targets (electrical cables) were located in conduits or enclosed raceways. These configurations preclude a secondary ignition source outside of the 50 percent CO₂ concentration zone.
- The only ignition sources in the upper portion of the room were thermoplastic cables capable of self-igniting. However, their failure would not affect the credited SSD strategy of alternative shutdown which used equipment powered by other cables not located in this room.

Since the CO₂ concentration issue occurred during the original installation of the CO₂ suppression system, the issue was not indicative of licensee current performance and no cross-cutting aspect was assigned.

Enforcement: Watts Bar Unit 1 License Condition 2F requires that the licensee implement and maintain in effect all provisions of the approved fire protection program, as approved in Supplements 18 and 19 of the SER (NUREG-0847). These documents incorporate the requirements of 10 CFR 50, Appendix R, Section III.G.3. This section of Appendix R requires a fixed fire suppression system for the auxiliary instrumentation room area since it contains safe shutdown equipment and alternative safe shutdown was selected for this area. The Watts Bar CO₂ gas suppression system was required to be designed in accordance with NFPA 12, 1973 Edition and the SSER No.18. NFPA 12, 1973, specified that an acceptable CO₂ system deliver and hold a minimum gas concentration of 50 percent and the SSER stated that this concentration must be held for 15 minutes.

Contrary to the above, since receipt of the operating license on February 7, 1996, until the present, the CO₂ system for the auxiliary instrumentation room was not designed in accordance with the 1973 Edition of NFPA 12 and SSER No. 18, in that, the CO₂ system was unable to deliver and maintain a minimum gas concentration of 50 percent in the upper portion of the room for 15 minutes. Because this finding is of very low safety significance

and has been entered into the licensee's corrective action program as PER 125632, this finding is being treated as an NCV, consistent with Section VI.A.1 of the NRC's Enforcement Policy: NCV 05000390/2008005-04, Carbon Dioxide System in Fire Area 48 Failed to Meet Design Criterion.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings of significance were identified.

.2 (Closed) NRC Temporary Instruction (TI) 2525/175, Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review

The inspectors completed TI 2515/175. Appropriate documentation of the results was provided to NRC, HQ, as required by the TI. This completed the Region II inspection requirements of this TI for the Watts Bar Nuclear Plant.

4OA6 Meetings, including Exit

The inspectors presented the inspection results to Mr. M. Skaggs and other members of licensee management at the conclusion of the inspection on January 7, and again on February 12, 2009. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

- TS 5.2.2.3, Administrative Controls Section, required that the Operations Superintendent shall have a valid senior reactor operator's (SRO) license. During the time period of March 26, 2008, until October 17, 2008, the Operations Superintendent had an expired SRO license. This finding is of very low safety significance because the Operations Superintendent attended all required training

and completed successfully all required examinations during the expired period. This issue was entered in the licensee's CAP as PER 155152.

- 10 CFR 55.25 states "If, during the term of the license, the licensee develops a permanent physical or mental condition that causes the licensee to fail to meet the requirements of § 55.21 of this part, the facility licensee shall notify the Commission, within 30 days of learning of the diagnosis, in accordance with § 50.74(c)." Contrary to the above, on October 21, 2008, the licensee discovered they had failed to notify the Commission within 30 days after one licensed operator had a permanent change in physical medical condition, as required by 10 CFR 55.25. This finding was evaluated using the traditional enforcement process because it impacted the Commission's ability to perform its regulatory licensing function. This finding was of very low safety significance because the medical condition was under control and had no impact on the individual's ability to perform licensed duties. The licensee entered this issue into their CAP as PERs 155159 and 155130.

ATTACHEMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

L. Belvin, Radiation Protection Manager
G. Boerschig, Plant Manager
M. Brandon, Licensing and Industry Affairs Manager
R. Crews, Operations Training Manager
T. Coutu, Vice President, Nuclear Support
T. Detchemedy, Emergency Preparedness Manager
N. Good, Simulator Services Supervisor
B. Hunt, Operations Superintendent
B. Marks, Corporate Emergency Preparedness Manager
G. Mauldin, Site Engineering Manager
M. McFadden, Site Nuclear Assurance Manager
T. Newman, Operations Training Contractor
S. Reininghaus, Operations Training Contractor
A. Scales, Operations Manager
M. Skaggs, Site Vice President
W. Thompson, Training Manager
J. Tortura, Site Support
D. Voeller, Maintenance and Modifications Manager

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000390/2008005-01	NCV	Failure to Translate ERCW Pump Coupling Material Change into Procedures (Section 1R18.1)
05000390/2008005-02	NCV	Failure to Incorporate Design Parameters into Plant Setpoint Document for the Containment Particulate Radiation Monitor (Section 4OA2.4)
05000390/2008005-03	FIN	Performing Non-Authorized Activities on Exciter Field Breaker Results In Reactor Trip (Section 4OA3.3)
05000390/2008005-04	NCV	Carbon Dioxide System in Fire Area 48 Failed to Meet Design Criterion (Section 4OA3.5)

Closed

05000390/2008-002-00	LER	Manual Reactor Trip in Response to Start of Feedwater Heater Isolation (Section 4OA3.1)
----------------------	-----	-----------------------------------------------------------------------------------------

05000390/2008-003-00	LER	Automatic Start of Auxiliary Feedwater Unavailable During Startup Entry into Modes 2 and 1 (Section 4OA3.2)
05000390/2008-004-00	LER	Automatic Reactor Trip in Response to Opening of Exciter Field Breaker (Section 4OA3.3)
05000390/2008-005-00	LER	Report of Inoperability of Radiation Monitor due to Non-conservative Setpoint (Section 4OA3.4)
05000390/2007007-01	URI	Carbon Dioxide System in FA 48 Appears to Deviate From Design Criterion in SSER (Section 4OA3.5)
2515/175	TI	Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review (Section 4OA5.2)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

PER 158406 – Freeze protection discrepancies for the month of November.

PER 156045 – Freeze protection for RWST not checked

WO 08-812230-000

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 1R11: Licensed Operator Requalification

Procedures:

TRN-12, Simulator Regulatory Requirements, Rev. 8

TRN-11.10, Annual Examination Development and Administration, Rev. 13

TRN-11.4, Continuing Training for Licensed Individuals, Rev. 14

TRN-11.11 Requalification Periodic Written Exam Development & Implementation, Rev. 6

TRN-11.7 Simulator Exercise Guide Development and Revision, Rev. 3

Written Examinations Reviewed:

All 2007 Biennial Written Examinations

Simulator Documents:

TVA Simulator Services Group Directive, Core Model Evaluations, 11/19/08
 TVA Simulator Services Group Directive, Simulator Testing Program, 06/17/08
 Closed Simulator Problem Reports since 2006
 Outstanding Simulator Problem Report List as of 01/01/2008

Transient Tests

Transient No. 8: Max Sized LOCA w/ LOOP (2007 & 2008)
 Transient No. 10: RCS Depressurization to Saturation Using PORV w/o HP ECCS (2007 & 2008)

Malfunction Tests:

FW23, Main Feedwater Break Inside Containment (2002 & 2006)
 MS02, Main Steam Line Break Outside of Containment (2002 & 2006)
 RH01, RHR Pump Trip or Fails (2002 & 2006)
 TU02, Main Turbine High Vibration (2002)
 TC09, Main Turbine Trip on Low Bearing Oil Pressure (2006)
 TH05, Steam Generator Tube Failure (2004 & 2008)

Normal Evolutions Tests:

Cycle 8 Core Reload Test Packages (9)

Job Performance Measures (JPMs)

3-OT-JPMAADMIN1, Demonstrate Knowledge of Admin/Rad Procedure, Rev. 6
 3-OT-JPMA015, Local Operation of Turbine Driven AFW Pump, Rev. 7
 3-OT-JPMA001B, Local Restart of Control & Service Air Compressors, Rev. 4
 3-OT-JPMR069A, Transfer ECCS to RHR Containment Sump, Rev. 2
 3-OT-JPMS082A, Classify the Event (Loss of Annunciators), Rev. 7
 3-OT-JPMR039, Start Thermal Barrier Booster Pump, Rev. 9
 3-OT-JPMR168, Respond to Multiple Dropped Rod, Rev. 3

Simulator Scenarios

3-OT-SRE0019, Steam Generator Tube Rupture, Rev. 9
 3-OT-SRE0020, MSL Break I/S Containment w/ Loss of Containment Spray, Rev. 6
 3-OT-SRE0006B, ATWS/Stm Line Break (O/S Containment) Loss of Offsite Power, Rev. 4

Problem Evaluation Reports (PERs)

PER 117527, Core Model Impact on ΔI Limits During Simulator Scenarios
 PER 139711, Simulator RVLIS & Rod Step Counters
 PER 144939, Steam Generator Tube Rupture Pressure Response on Simulator
 PER 138223, Questions Regarding Simulator Steam Generator Tube Rupture Response
 PER 148319, WBN Simulator Out of Service
 PER 155130, Expired SRO License
 PER 155159, SRO Change in Medical Condition
 PER 158392, Retake Biennial Exam w/ Excessive Overlap & Test Item Duplication
 PER 158697, Additional Biennial Exams w/ Excessive Overlap
 PER 158926, Test Item Duplication on Weekly LOR Retake Exams

Other:

Attendance Records (4)
 Reactivation Records (4)
 Medical Records (10)

Feedback Comments from Licensed Operator Requal 2006 thru 2008
Remedial Packages (4)

Section 1R18: Plant Modifications

DCN-50107, Revise High Radiation Alarm Setpoint to Allow for Changes in Background Radiation
DCN-52631, Revise Setpoint on Gas Channel
WBNTSR-062, Requirements for the Containment Upper and Lower Compartment Radiation
Monitors

Section 1EP2: Alert and Notification System Testing

Procedures and Documentation

EPFS-9, Inspection, Service, and Maintenance of the Prompt Notification System (PNS) at Browns
Ferry, Sequoyah, and Watts Bar Nuclear Plants, Rev. 2
EPIL-18, Evaluation of Changes to Alert and Notification Systems (ANS), Rev. 1

Records and Data

PNS Checklist and Trouble Reports, September 06, 2006 - October 1, 2008
Annual Maintenance documentation, April 1, 2007 - June 3, 2007

Section 1EP3: Emergency Response Organization Augmentation

Procedures

EPIL-14, Facilitation of the Alert & Notification System and Pager Tests, Rev. 13

Records and Data

January 9, 2007 to October 14, 2008, Weekly Emergency Paging Systems Tests
March 15, 2007, REP Drill - Blue Team
May 10, 2007, REP Drill - Red Team
March 31, 2008, REP Drill - Green Team
May 29, 2008, REP Drill - Orange Team
September 15, 2008, REP Drill - Blue Team
September 11, 2008, Annual Emergency Preparedness Medical Drill - Rhea County Medical
Center and Rhea County Emergency Medical Service
September 18, 2007, Annual Emergency Preparedness Medical Drill - Rhea County Medical
Center and Rhea County Emergency Medical Service
December 11, 2007, Annual Emergency Preparedness Medical Drill - Athens Regional Hospital

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Tennessee Valley Authority Nuclear Radiological Emergency Plan, Rev. 87 and 88
EPIL-1, Procedures, Maps and Drawings, Rev. 25

Plans and Changes packages

EPIP-1, Emergency Plan Classification Flowchart, Rev. 28 and 29

Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies

Audits and Self-Assessments

NA-CH-07-003, Assessment of Emergency Preparedness Performance, June 2007

SSA0804, Radiological Emergency Preparedness Program Audit Report, May 19 - August 22, 2008

WBN-SIT-08-013, Emergency Preparedness Program Self-Assessment Report, April 28 - May 2, 2008

WBN-SIT-08-020, B5b Phase 2 and 3 Implementation Self-Assessment Report, April 28 - May 2, 2008

WBN-SIT-08-015, Emergency Equipment Inventories Self-Assessment Report, December 17 - 20, 2008

PER Summary of Corrective Actions

128350, 130252, 130346, 130383, 130385, 130388, 130457, 133561, 133625, 134131, 136400, 137996, 138725, 141449, 142644, 145306, 145742, 155274, 155275, 155276, 155277, 155373, 155374, 155376, 155377, 155414

Section 2PS1: Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

Procedures, Guidance Documents, and Reports

2006 Annual Radioactive Effluent Release Report

2007 Annual Radioactive Effluent Release Report

2006 Annual Environmental Radiological Operating Report

2007 Annual Environmental Radiological Operating Report

Offsite Dose Calculation Manual, Rev. 20

SPP-5.14, Guide for Communicating Inadvertent Radiological Spills/Leaks to Outside Agencies, Rev. 1

RCDP-11, Protocol for Remediation of Inadvertent Spills or Leaks of Contaminated Liquids, Rev. 0

0-PI-CEM-11.0, Monitoring Well Sampling, Rev. 1

Arcadis Presentation, 4/16/04

Records and Data

Groundwater monitoring well results, calendar years 2007 and 2008

Corrective Action Program Documents

PER 146594, Well tritium above acceptance criteria, 6/11/08

PER 134706, Well 'K' tritium, 12/04/07

PER 125208, Well K and L above acceptance criteria, 5/22/07

Section 4OA1: Performance Indicator Verification

Procedures

EPIL-15, Emergency Preparedness Performance Indicators, Rev. 12

Records and Data

DEP data from 4th Qtr 2007 to 2nd Qtr 2008

ERO data from 4th Qtr 2007 to 2nd Qtr 2008
 ANS data from 4th Qtr 2007 to 2nd Qtr 2008

Section 4OA2: Identification and Resolution of Problems

NADP-3, Managing the Operating Experience Program

PERs written as a result of NRC identified issues

149257	Water is leaking from the ceiling near 2B-1B RX MOV board
151046	No protected equipment sign on the door of the 1A SIP room, although the 1B SIP was OOS and 1A was protected
148243	Inadequate instructions for replacing and installation of the controller and no PMT specified for Primary Water Blender Flow Control
151026	AUO did not have keys to spaces required for EOP actions in a timely manner
151252	CAP process failed to recognize an operability issue (ODCM TS 2.0.3 not met) when Steam Generator Blowdown effluent release valve (1-FCV 15-44) was found out of surveillance grace
151962	PER Screening Committee composition not IAW PIDP-4
152038	Insulation missing from 1B RHR Hx
152109	Missed Unplanned Transient input
152229	Missed MSPI failure input of 1B CCP
152372	CAP process failed to recognize an operability issue when RM-106 found inop during calibration
153779	LCO time tracking error
155193	Conduit separation inadequacy
155524	PER screening committee failed to ensure secondary boundary doors left ajar was not reportable
155844	DCN output inadequately captured in implementing procedure
155046	Failure to comply w/ Tech Specs for RCS leak detection gaseous monitors
156371	PER Screening Committee untimely in processing request for Functional Evaluation
159025	B EBR chiller TCV indicated fully open w/ chiller not running
159474	Scaffold w/ insufficient (0") clearance to safety related equipment
159743	Vendor drawings and DCA's do not reflect the as built configuration of ERCW pump Shaft Coupling materials.
159751	Lack of timeliness of communication of potential issues found on Unit 2 that could affect Unit 1

Section 4OA5: Other Activities

PER 125632, NRC SER difference with docket
 Fire Protection Program Change Regulatory Review for PER 125632