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

January 17, 2003

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

SUBJECT: WATTS BAR NRC INTEGRATED INSPECTION REPORT 50-390/02-04 AND 50-391/02-04

Dear Mr. Scalice:

On December 21, 2002, the Nuclear Regulatory Commission (NRC) completed an inspection at your Watts Bar Nuclear Plant, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on January 7, 2003, with Mr. W. Lagergren 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, the inspectors identified one issue of very low safety significance (Green) which was determined to be a violation of NRC requirements. However, because of the very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. This report also documents one issue that has potential safety significance greater than very low significance. Although this issue did present some immediate safety concern, your staff implemented appropriate short-term corrective measures while long-term corrective measures and consequences are being evaluated. If you deny the non-cited violation in the enclosed 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, 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 facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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/

Stephen J. Cahill, 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 50-390/02-04**,** 50-391/02-04
w/Attachment

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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 No:	50-390/02-04, 50-391/02-04
Licensee:	Tennessee Valley Authority (TVA)
Facility:	Watts Bar Nuclear Plant, Units 1 and 2
Location:	1260 Nuclear Plant Road Spring City, TN 37381
Dates:	September 15 through December 21, 2002
Inspectors:	J. Bartley, Senior Resident Inspector J. Reece, Resident Inspector J. Ennis and D. Forbes, Physical Security Specialists (Section 4OA5.2) D. Jones, Senior Health Physicist (Section 4OA5.3) L. Miller, Senior Operations Engineer (Section 1R11.2) R. Monk, Operations Engineer (Section 1R11.2) W. Sartor, Senior Emergency Preparedness Inspector (Sections 1EP2, 3, 4, 5 and 4OA1.2) P. Taylor, Senior Project Engineer
Approved by:	S. Cahill, Chief Reactor Projects Branch 6 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000390-2002-04, 05000391-2002-04, Tennessee Valley Authority, September 15, 2002 - December 21, 2002, Watts Bar, Units 1 & 2. Licensed operator requalification

The inspection was conducted by resident inspectors, a senior emergency preparedness inspector, a senior health physicist, two physical security specialists, two operations engineers, and a senior project engineer. The inspection identified two findings; one a non-cited violation and one an unresolved item with potential safety significance greater than Green. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 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 3, dated July 2000.

A. Inspector-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A grading error on a comprehensive licensed operator requalification biennial written examination allowed two failed licensed operators to receive passing scores and return to shift without remediation.

  A non-cited violation (NCV) of 10 CFR 50.54(i) was identified. This finding is greater than minor because it allowed two failed licensee operators to return to shift without remediation. The finding was of very low safety significance, as determined by the Operator Requalification Human Performance SDP, Manual Chapter 0609, Appendix I. (Section 1R11.2).

Cornerstone: Mitigating Systems

- TBD. An inadequate procedure to control Emergency Core Cooling System (ECCS) venting resulted in a significant amount of gas collecting in the cold leg #1 Residual Heat Removal System (RHR) injection line and a lesser amount collecting in the Safety Injection Pump cold leg injection line.

  This finding is unresolved pending a licensee evaluation of any adverse conditions involving water hammer or accident mitigation due to the injection of noncondensible gas into the reactor vessel. The finding is greater than minor because it is associated with the RHR system equipment and degraded the ability to meet the mitigating system cornerstone objective. (Section 1R22).

B. Licensee-Identified Violations

None.

Report Details

Summary of Plant Status

Unit 1 operated at or near 100 percent power for the entire inspection period with one exception. On December 19, Unit 1 power was reduced to repair a condenser tube leak in the west water-box. Unit 1 returned to 100% power on December 20. On September 27, a fire at the Watts Bar Hydro Electric Plant caused a loss of both preferred offsite power lines. Unit 1 remained at 100 percent power during this event and preferred offsite power was restored on September 28. The fire event was reviewed and documented in Special Inspection Report 50-390/02-07. Unit 2 remained in a deferred construction status.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors verified that the licensee had taken actions against freezing weather conditions to limit the risk of freeze-related initiating events and to adequately protect mitigating systems from its effects. The inspectors walked down selected components associated with the refueling water storage tank level instruments, condensate storage tank level instruments, essential raw cooling water (ERCW) instrumentation and piping, and emergency diesel generator (EDG) buildings to evaluate implementation of plant freeze protection. In addition, the material condition of selected freeze-protected components' insulation was inspected for damage. Corrective actions to items identified in relevant problem evaluation reports (PERs), work orders (WOs), and a self-assessment of freeze protection practices and procedures were assessed for effectiveness and timeliness. Specific documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

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. In addition, the inspectors conducted a full alignment walkdown of the 1A-A EDG.

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. The specific documents reviewed are listed in the attachment.

- A train residual heat removal (RHR) during B train RHR preventative maintenance
- B train EDGs during 1A-A train EDG and A train shutdown boardroom chiller work
- A train motor-driven auxiliary feedwater pump and turbine-driven auxiliary feedwater pump including A train flow path during B train auxiliary control air outage

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors conducted tours of seven 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.

- Unit 1 auxiliary instrument area
- Cable spreading room
- Vital battery areas
- A train centrifugal charging pump room
- B train centrifugal charging pump room
- A train safety injection pump room
- B train safety injection pump room

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed internal flood protection devices associated with the auxiliary building 676 ft elevation to verify that the flood protection equipment was being maintained consistent with the UFSAR and the licensee's internal flood protection strategy. The inspectors reviewed licensee-completed maintenance instructions for emergency core cooling system (ECCS) pump room flood detectors, passive sump level detectors, and the passive sump manual drain valve. In addition, the inspectors reviewed the design documentation for the RHR pump and containment spray pump room drop-out panels to the passive sump. The inspectors walked down the selected area, which contained risk-important equipment located below design flood levels, to evaluate the material condition of flood barriers, doors, floor drains, sump level switches, and sump pumps to protect the equipment. The specific documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the licensee's heat exchanger performance program to verify if potential heat exchanger deficiencies which could mask degraded performance were identified and corrected. The inspectors also verified that program documents met the licensee's commitments to Generic Letter 89-13. The inspectors reviewed the documents listed in the attachment for the A and C component cooling system (CCS) heat exchangers and verified that (1) test acceptance criteria and results appropriately considered differences between testing conditions and design conditions; (2) inspection results were appropriately categorized against pre-established acceptance criteria and were acceptable; (3) frequency of testing or inspection was sufficient to detect degradation prior to loss of heat removal capabilities below design basis values; and (4) test results considered test instrument inaccuracies and differences. In addition, the inspectors reviewed the sections of SOI-67.01, Essential Raw Cooling Water, listed in the attachment to verify that the B train containment spray heat exchanger was filled with de-ionized water and thus not subject to periodic performance testing under the heat exchanger test program.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

.1 Quarterly Inspection

a. Inspection Scope

The inspectors observed operators in the plant's simulator during licensed operator annual requalification evaluations to verify operator performance was adequate; that the training was being conducted in accordance with Procedures TRN-1, Administering Training, and TRN-11.4, Continuing Training for Licensed Personnel; and that evaluators' critiques covered identified deficiencies. The inspectors observed scenario 3-OT-SRE0001A, Main Steam Line Break Inside Containment with Loss of Offsite Power, and 3-OT-SRE0032A, Loss of Coolant Accident from 1% Power.

b. Findings

No findings of significance were identified.

.2 Biennial Inspection

a. Inspection Scope

During the week of November 18, 2002, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of simulator operating tests associated with the licensee's operator requalification program. Each of the activities performed by the inspectors assessed the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR 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, and Inspection Procedure 71111.11, Licensed Operator Requalification Program. The inspectors observed two operator crews during the performance of the operating tests. Documentation reviewed included written examinations, job performance measures (JPMs), simulator scenarios, licensee procedures, on-shift records, licensed operator qualification records, watchstanding records, simulator modification request records, and medical records. Licensee documents reviewed during the inspection are listed in the attachment.

The inspectors reviewed the biennial written examination for the examination testing cycle which ended on December 31, 2001. The inspectors reviewed the individual JPM operating tests and the simulator operating tests administered by the licensee during the current operator licensing requalification cycle. These results were compared to the thresholds established in Manual Chapter 609, Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

Introduction: A Green non-cited violation (NCV) of 10 CFR 50.54(i) was identified for the facility licensee permitting two individuals, who did not pass a comprehensive requalification biennial written examination as required by 10 CFR 55.53(h) and 10 CFR 55.59(a)(2), to manipulate the controls.

Description: On November 21, 2002, the inspectors noted that a grading error on two crews' requalification biennial written examinations resulted in two licensed individuals inappropriately passing the written examination on December 7, 2001. Upon being notified by the inspectors, the licensee captured the issue in the licensee's corrective action program as PER 02-016996-000.

On November 27, 2002, the licensee provided additional information which documented the process that was used in regrading the question that allowed the operators to pass. The inspectors reviewed the information provided, the FSAR, Unit 1 TS, Electrical Logic Diagram for the Safety Injection System, and the Main Steam System Lesson Plan. Based on the reviews, the inspectors determined that the original question was a valid test of the individual's knowledge of the function of the low steam line pressure block switches and the two different main steam isolation valve isolation signals, the low steam line pressure signal, and the high negative steam line pressure rate signal. The inspectors concluded that adequate information was present in the question and distracters for the determination of the correct answer, that only one answer was acceptable, and that a grading error was made in allowing the second answer to be correct.

On December 3, 2002, in a phone conversation between the inspectors and the Operations Training Manager, the licensee was informed that all materials had been reviewed and the determination had been made that a grading error had occurred in allowing the second answer to be correct. The two individuals were then removed from shift in accordance with TRN-11.10, Annual Requalification Examination Development and Implementation, Revision 6, for remedial training and examination.

Analysis: This performance deficiency was a finding more than minor. A grading error on the requalification biennial written examination resulted in passing two failed licensed individuals and allowing them to return to shift without remediation.

The finding was of very low safety significance (Green). Operator Requalification Human Performance SDP, Manual Chapter 0609, Appendix I, was used to determine the significance of the finding.

Enforcement: 10 CFR 50.54(i) states, "...the licensee may not permit the manipulation of the controls of any facility by anyone who is not a licensed operator or senior operator as provided in part 55 of this chapter."

10 CFR 55.53(h) states, "The licensee shall complete a requalification program as described by 10 CFR 55.59," as a condition of license. 10 CFR 55.59 (a) requires each licensee to pass a comprehensive requalification written examination every two years.

Contrary to the above, the grading error allowed individuals who had not complied with the conditions of their licenses as described in part 55, back on shift without remediation and retesting for approximately 11 months past the end of the two-year cycle.

This violation of 10 CFR 50.54(i) is being treated as a non-cited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy, issued May 1, 2000, (65 FR 25368). The violation is identified as NCV-50-390/02-04-01, Failure to Meet Conditions of License.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors sampled portions of two selected structures, systems or components (SSCs), listed below, as a result of performance-based problems, to assess the effectiveness of maintenance efforts and to verify that the licensee was following the requirements of 10 CFR 50.65; Technical Instruction (TI)-119, Maintenance Rule Performance Indicator Monitoring, Trending, and Reporting; and SPP-6.6, Maintenance Rule Performance Indicator Monitoring, Trending, and Reporting 10 CFR 50.65. Reviews focused on: (1) appropriate work practices; (2) identifying and addressing common-cause failures; (3) scoping in accordance with 10 CFR 50.65(b); (4) characterizing reliability issues; (5) charging unavailability; (6) trending key parameters; (7) classifications as per 10 CFR 65.(a)(1) or (a)(2); and (8) appropriateness of performance criteria for SSCs/functions classified (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified (a)(1). The specific documents reviewed are listed in the attachment.

- PER 02-002593-000, RHR system functional failure caused by the inappropriate isolation of the suction path
- PER 02-011727-000, B-B shutdown boardroom chiller low discharge oil pressure

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 three selected SSCs 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.

- WO 02-013675-000, Replace 1A EDG lube oil filters
- WO 02-012629-000, A train shutdown boardroom chiller PMs
- Risk associated with temporary preferred offsite power supply alignment at Watts Bar Hydro switchyard

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed five selected 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; and (5) where continued operability was considered unjustified, the impact on TS Limiting Conditions for Operation and the risk significance in accordance with the Significance Determination Process. The inspectors verified that the operability evaluations were performed in accordance with SPP-3.1, Corrective Action Program, and SPP-10.6, Engineering Evaluations for Operability Determinations.

- PER 02-014224-000, Water in EDG 1A disconnect cabinet
- PER 02-014504-000, ERCW through-wall leak near strainer backwash valve 2-FCV-67-9B
- PER 02-014627-000, CCP 1B has slight residue (appears to be graphite from the seal) on both ends of pump
- PER 02-016375-000, Sheet metal cover installed over passive sump grating
- PER 02-011289-000, Cable tray penetrations missing ceramic fiber board

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed four post-maintenance testing (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. Documents reviewed which supported the WOs listed below are detailed in the attachment.

- WO 02-014219-000, Repair water leak on DG 1A-A disconnect switch cabinet
- WO 02-012629-000, A train shutdown boardroom chiller rebuild
- WO 02-014878-000, Repair pressure switch on EDG 2B1 air compressor
- WO 02-011330-000, Replace diaphram on 1-MVOP-031-0330

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed 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. The specific documents reviewed are listed in the attachment.

- Surveillance Instruction (SI) 0-SI-82-17-A, 184 Day Fast Start and Load Test DG 1A-A
- 1-SI-63-10A, ECCS Pumps and Discharge Pipes Venting - Train A
- 0-SI-82-12-B, Monthly Diesel Generator Start and Load Test DG 2B-B

b. Findings

Introduction: An unresolved item (URI) for an inadequate procedure to control ECCS venting was identified by the NRC.

Description: During a review of instruction 1-SI-63-10-A, ECCS Pumps and Discharge Pipes Venting - Train A, the inspectors found that instructions or actions regarding duration time and documentation of venting actions were contained in a ‘note’ as opposed to actual procedure steps. The licensee identified this problem in their corrective action program as PER 02-013111-000. On October 8, 2002, during a meeting with the inspectors regarding ECCS venting issues, the licensee stated that no gas of any significance had been identified within the previous three years. On October 9, 2002, the inspectors observed implementation of 1-SI-63-10-A in which the licensee emphasized the duration requirements involved in the venting evolution.

Subsequently, the licensee identified a significant amount of gas while venting the cold leg #1 RHR injection line per Appendix F of the procedure. A smaller amount of gas was identified while venting the SI pump cold leg injection line per appendix H of the procedure. The identification of gas was entered into their corrective action program as PER 02-014475-000. The licensee has not yet completed an evaluation of any adverse conditions involving water hammer or accident mitigation due to the potential injection of noncondensible gas into the reactor vessel. However, the licensee has determined that the volume of gas could not have accumulated within the TS surveillance period of 31 days, i.e. (since the last time 1-SI-63-10-A was previously performed), indicating that previous venting had not removed all of the gas.

Assessment: The inadequate procedure had a credible impact on safety in that the procedure failed to detect a significant accumulation of gas which could impact the function of RHR system to mitigate the consequences of a design basis accident. While this finding affects the procedure quality attribute of the mitigating system cornerstone, completion of an adequate risk evaluation cannot be completed until the licensee completes their evaluation.

Enforcement: TS Surveillance Requirement (SR) 3.5.2.3 requires the licensee to "verify ECCS piping is full of water" every 31 days. TS 5.7.1 requires that written procedures be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, which includes surveillance tests for ECCS systems. 1-SI-63-10-A implements the requirements to comply with TS SR 3.5.2.3. Contrary to this on October 9, 2002, the licensee found a significant amount of gas greater than that expected over a 31-day surveillance period while venting the cold leg #1 RHR injection line per 1SI-63-10-A, Appendix F. This finding is considered an unresolved item and is identified as URI 50-390/02-04-02, Inadequate Surveillance Instruction Resulting in Gas Accumulation in ECCS Piping. This issue is in the licensee's corrective action program as PER 02-013111-000 and PER 02-014475-000.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed Temporary Alteration Configuration Form (TACF) 1-02-17-259, Restore Transfer Trip Function for Rockwood 161 kV Line, and verified that the modifications did not affect offsite preferred power operability as described by the TS. In addition, the inspectors verified that the configuration of the temporary modification was consistent with the safety evaluation, that adequate configuration control was in place, and that the implementation was consistent with SPP-9.5, Temporary Alterations, and SPP-9.4, 10 CFR 50.59 Evaluation of Changes, Test, and Experiments.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert Notification System Testing

a. Inspection Scope

The inspector reviewed the testing program for the alert and notification system, which comprises 99 pole-mounted sirens within the ten-mile emergency planning zone. The testing program involved biweekly silent tests and a monthly full cycle test. The inspector also reviewed maintenance records to ascertain the effectiveness and timeliness of repairs when siren problems were identified.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing

a. Inspection Scope

The inspector reviewed the documentation supporting the maintenance and testing of the licensee's emergency response organization augmentation system. The results of the October 22, 2002, off-hours staging area drill were reviewed.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed changes to the Emergency Plan and the emergency action levels to determine whether any of the changes decreased the effectiveness of the Emergency Plan. The current Watts Bar Radiological Emergency Plan is Revision 67 with an effective date of October 25, 2002. The review was performed against 10 CFR 50.54q.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector evaluated the efficacy of licensee programs that addressed weaknesses and deficiencies in emergency preparedness. Items reviewed included exercise and drill critique reports, nuclear oversight audit reports, and documentation addressing the loss of AC power event classified as a Notification of Unusual Event on September 27, 2002.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

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

.1 Initiating Events Cornerstone

a. Inspection Scope

The inspectors reviewed operating logs and monthly operating reports for the period of October 1, 2001, through September 31, 2002, to verify the accuracy and completeness of the Unplanned Scrams Per 7000 Critical Hours and Scrams With Loss of Normal Heat Removal PIs. The inspectors also independently calculated the reported values to verify their accuracy.

b. Findings

No findings of significance were identified.

.2 Emergency Preparedness Cornerstone

a. Inspection Scope

The inspectors sampled licensee submittals for the PIs listed below for the annual period through September 2002. To verify the accuracy of the PI data reported during the period, PI definitions and guidance contained in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 2, were used to verify the basis in reporting for each data element.

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

Licensee records reviewed included ERO drill records, training records for the 54 individuals assigned to key positions in the ERO, and siren test records.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed PER 01-017198-000, Clearance for design change results in an AMSAC actuation and reactor trip. This PER was chosen for review because of the cross-cutting nature of the human performance issues, i.e., the personnel errors which caused this event occurred in multiple organizations, and the errors resulted in a reactor trip.

The PER was reviewed against the following performance attributes: (1) complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem commensurate with its safety significance; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions which are appropriately focused to correct the problem; (7) completion of corrective actions in a timely manner commensurate with the safety significance of the issue; and (8) verification that interim corrective actions and/or compensatory actions have been identified and implemented to minimize the problem and/or mitigate its effects until the permanent action could be implemented. The specific documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

4OA3 Event Followup

.1 Loss of Both Preferred Offsite Power Lines

On September 27, 2002, Watts Bar Nuclear Plant lost both of the preferred offsite power lines due to a fire at the Watts Bar Hydro Electric Plant. The NRC assembled a special inspection team which reviewed the event and followup actions by the licensee to restore the preferred offsite power. The results of the inspection were documented in Inspection Report 50-390/02-07.

.2 (Closed) LER 50-390/2002-004, Partial Loss of Offsite Power

The inspectors reviewed the LER to determine if the cause of the September 21, 2002, partial loss of offsite power event was identified and that corrective actions were reasonable. The inspectors also reviewed the event using IP 71153, Event Followup. No violations of regulatory requirements were identified.

4OA5 Other Activities

.1 Unit 2 Layup Inspection (IP 92050)

a. Inspection Scope

The inspectors observed the condition of Unit 2 equipment in layup, both installed and in storage, inspected preservation and foreign material exclusion practices, and observed the general condition of the steel containment and concrete shield building as well as Unit 2 areas inside the auxiliary building. The inspectors reviewed work control, maintenance, housekeeping and preservation procedures; reviewed identification and status lists of equipment maintained in layup; and reviewed records of maintenance performed on several components. The inspectors reviewed the most recent construction permit activity and Plant LayUp Program audit and also reviewed component deficiency and non-conformance records. The specific documents reviewed are listed in the attachment.

b. Findings

An unresolved item involving apparent noncompliance of the Unit 2 layup process to 10 CFR 50, Appendix B, was identified.

The inspectors determined that the Unit 2 emergency gas treatment system (EGTS) was not maintained in the Unit 2 layup process. The licensee's response was that Unit 2 was in a deferred status and that this particular system was not required to be in the layup program. The inspectors reviewed Generic Letter (GL) 87-15 which promulgated a policy statement regarding placement of units under construction in a deferred status. While the licensee was still required to maintain their construction

permit and comply with the associated regulations, some flexibility was allowed due to extended construction delays. Guidelines were provided in the policy statement to allow the licensee to develop a quality assurance (QA) plan that is commensurate with the expected activities and expected (or potential) length of delay. The licensee was expected to discuss with the NRC the expected construction delay period and the QA program to be implemented during the deferral. In addition, the QA program was expected to include a description of the planned activities; organizational responsibilities and procedural controls that apply to the verification of construction status, maintenance, and preservation of equipment and materials; and retention and protection of QA records. Based on these guidelines, the NRC would review and approve the QA program in accordance with 10 CFR 50.54(a)(3), 10 CFR 50, Appendix B, and inspection procedures as appropriate. The inspectors reviewed the current licensee QA program for Watts Bar and found insufficient programmatic information to support the current methodology of the licensee's Unit 2 layup process. For example, a non-QA computer database is used to track SSCs preventative maintenance (PM) requirements. The inspectors determined through discussion with the licensee that in the database more than 20,200 SSCs had been made 'inactive' (i.e., no PM performed due to economic reasons) and only approximately 330 SSCs were 'active'. This appears to conflict with 10 CFR 50, Appendix B, requirements regarding safety-related SSCs. The licensee is currently performing an evaluation of their QA program in regards to compliance of the Unit 2 layup process to the regulations. This evaluation includes review of the licensee's process for using Unit 2 safety-related SSCs on Unit 1.

Assessment: The NRC evaluation of the licensee's activities regarding their Unit 2 layup process is contingent on completion of the licensee's evaluation.

Enforcement: 10 CFR 50, Appendix B, requirements apply to all activities affecting the safety-related functions of those SSCs. Specifically, Criterion XIII, Identification and Control of Materials, Parts, and Components, requires that: "Measures will be established to control the handling, storage, shipping, cleaning and preservation of material and equipment in accordance with work and inspection instructions to prevent damage or deterioration". Additional guidance is provided in Regulatory Guide 1.38, Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants. Criterion V, Instructions, Procedures, and Drawings, requires that: "Activities affecting quality will be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and will be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings will include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Contrary to these requirements, the licensee's Unit 2 layup process has potentially not included all of the safety-related SSCs and also involves an uncontrolled computer database regarding instructions for completing PMs on safety-related SSCs. This finding is considered an unresolved item and is identified as URI 50-391/02-04-03, Potential Noncompliance of the Unit 2 Layup Process to 10 CFR 50, Appendix B. The licensee is continuing their evaluation under their corrective action program as documented in PER 02-016994-000.

.2 Temporary Instruction (TI) 2515/148, Appendix A, Pre-inspection Audit for Interim Compensatory Measures (ICMs) at Nuclear Power Plants

a. Inspection Scope

The inspectors conducted an audit of the licensee's actions in response to an order dated February 25, 2002, which required the licensee to implement certain interim security compensatory measures. The audit consisted of a broad-scope review of the licensee's actions in response to the order in the areas of operations, security, emergency preparedness, and information technology as well as additional elements prescribed by the TI. The inspectors selectively reviewed relevant documentation and procedures; directly observed equipment, personnel, and activities in progress; and discussed licensee actions with personnel responsible for development and implementation of the ICM actions. These activities were reviewed against the requirements of the order; the provisions of TI 2515/148, Appendix A; the licensee's response to the order; and the provisions of the NRC-endorsed NEI Implementation Guidance, dated July 24, 2002. A more in-depth review of the licensee's implementation of the February 25, 2002 Order, utilizing Appendix B and C of TI 2515/148 will be conducted in the near future.

b. Findings

No findings of significance were identified.

.3 (Closed) Inspector Follow-up Item (IFI) 50-390/02-05-01 and 50-391/02-05-01, Follow up on licensee's actions with regard to 1977 exposure data being entered into the reconstructed RADPERS database as 1973 data

a. Inspection Scope

During an inspection of the Radiological Exposure Records Reconciliation Project (RERRP), conducted at the licensee's corporate offices February 25 - March 1, 2002, inaccuracies were detected in the 1999 reconstructed Radiological Hygiene Personnel Exposure (RADPERS) database. Those detected inaccuracies involved incorrect entry of 1977 personnel exposure data into the 1999 reconstructed RADPERS database as 1973 exposures and was documented in PER 02-000061-000 to investigate this apparent anomaly. Licensee investigation determined that similar inaccuracies also existed in the RADPERS database for the year 1975. Corrective actions involved recreating the reconstructed RADPERS database for the years 1973 and 1975, and comparing the 2002 recreated RADPERS exposure data to the Exposure Data Repository (EDR), the official dose records system, to determine whether any additional missing exposure data or dose mismatches existed. Five new line items for individuals missing exposure data and 20 line items for apparent dose mismatches were identified by that comparison.

The inspectors reviewed the licensee's final corrective actions during an inspection conducted December 2 - 4, 2002. The inspector reviewed hard copies of the original RADPERS records to evaluate the five instances of individuals with missing exposure records.

The discrepancies, resulting from data transcription errors, were reviewed, and the i nspectors verified that current EDR data was accurate. The inspectors reviewed records for 10 of the 20 dose mismatches and verified that the issues were resolved and documented as necessary. Exposure data for five individuals whose 1977 exposure results had been entered as 1973 exposures in the 1999 reconstructed RADPERS database were reviewed, and the inspectors verified that the problems had been corrected in the 2002 reconstructed RADPERS database. In addition, 10 additional samples of personnel dose records not identified as discrepant by the RERRP were reviewed for evaluated consistency between the EDR and the original RADPERS databases.

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

The inspectors presented the inspection results to Mr. W. Lagergren and other members of licensee management at the conclusion of the inspection on January 7, 2003. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Boone, Radiological Control Manager
L. Bryant, Plant Manager
S. Casteel, Radiological and Chemistry Control Manager
J. Cox, Training Manager
R. Evans, Operations Training Manager
L. Hartley, Maintenance Rule Coordinator
M. King, Chemistry Superintendent
D. Kulisek, Assistant Plant Manager
W. Lagergren, Site Vice President
J. Laughlin, Engineering and Site Support Manager
D. Nelson, Business and Work Performance Manager
P. Pace, Licensing and Industry Affairs Manager
K. Parker, Maintenance and Modifications Manager
J. Roden, Operations Superintendent
T. Wallace, Operations Manager
J. West, Site Nuclear Assurance Manager

NRC

J. Bartley, Senior Resident Inspector
J. Reece, Resident Inspector

ITEMS OPENED AND CLOSED

Opened

50-390/02-04-02	URI	Inadequate surveillance instruction resulting in gas accumulation in ECCS piping (Section1R22)
50-391/02-04-03	URI	Potential Noncompliance of the Unit 2 Layup Process to 10 CFR 50, Appendix B (Section 40A5.1)

Opened and Closed

50-390/02-04-01	NCV	Failure to Meet Conditions of License (Section 1R11.2)

Attachment

Closed

50-390,391/02-05-01	IFI	Follow up on licensee's actions with regard to 1977 exposure data being entered into the reconstructed RADPERS database as 1973 data (Section 4OA5.3)
50-390/2002-004	LER	Partial Loss of Offsite Power (Section 4OA3.2)

LIST OF DOCUMENTS REVIEWED

Section 1R01

- Plant Instruction 1-PI-OPS-1-FP, Freeze Protection
- Technical Instruction 10.17, Freeze Protection Program
- Self-Assessment Freeze Protection Report - Fall 2002 dated 10/10/02
- PERs 01-004598-000, 02-016097-000, 02-016187-000
- 0-HTR 234-0163, Heat Trace Diesel Generator Bldg
- 0-HTR 234-0179, Heat Trace Unit 1&2 Condensate Storage Tank
- 0-HTR 234-0233, Heat Trace Unit 1 Refueling Water Storage Tank

Section 1R04

- SOI-74.01, Residual Heat Removal System
- SOI-82.02, Diesel Generator (DG) 1B-B
- SOI-82.04, Diesel Generator (DG) 2B-B
- SOI-3.02, Auxiliary Feedwater System
- SOI-82.01, Diesel Generator (DG) 1A-A
- SOI-215.01, 480V Diesel Auxiliary Board 1A1-A
- SOI-215.02, 480V Diesel Auxiliary Board 1A2-A
- SOI-211.01, 6.9KV Shutdown Board 1A
- List of open work orders associated with 1A-A diesel generator and support systems
- List of canceled work orders associated with 1A-A diesel generator and support systems
- List of PERs associated with 1A-A diesel generator and support systems
- UFSAR Section 8.3, Onsite (Standby) Power System
- UFSAR Section 9.5, Other Auxiliary Systems
- UFSAR Section 10.4.9, Auxiliary Feedwater System
- UFSAR Section 5.5.7, Residual Heat Removal System
- TS 3.8.1, AC Sources - Operating
- TS 3.7.5, Auxiliary Feedwater (AFW) System
- TS 3.5.2, ECCS - Operating

Section 1R06

- USFAR Section 2.4, Hydrologic Engineering
- USFAR Section 3.4, Water Level (Flood) Design
- USFAR Section 3.8.4, Other Category I Structures
- WO 96-14292-000, Functional Check and Lubrication of Flood Mode Level Switches
- Drawing 1-47W852-1, Mechanical Flow Diagram Floor and Equipment Drains
- WO 01-00484-000, 0-SI-77-1, 18 Month Channel Calibration Auxiliary Building Passive Sump Loop 0-LPL-77-134
- WO 01-01074-000, 0-SI-77-2, 18 Month Channel Calibration Auxiliary Building Passive Sump Loop 0-LPL-77-135
- SSD-0-LPL-77-134, Scaling and Setpoint Document for Auxiliary Building Passive Sump Level Loop 0-LPL-77-134

- SSD-0-LPL-77-135, Scaling and Setpoint Document for Auxiliary Building Passive Sump Level Loop 0-LPL-77-135
- Drawing 48N1248-1, Miscellaneous Steel Frames and Covers
- Calculation WCG-2-19, Aux Building - Blowout Panels, Cable Tray Frames, Hatch Frames and Covers
- PER 02-016375-000, NRC identified problem involving sheet metal cover installed over passive sump grating
- PER 02-016375-000, Reportability Determination

Section 1R07

- SOI-67.01, Essential Raw Cooling Water, Section 8.12, Fill CS Hx B with Demin Water, performed on July 4, 2002
- SOI-67.01, Essential Raw Cooling Water, Section 8.13, Add Layup Solution to CS Hx B, performed on July 3, 2002
- SOI-67.01, Essential Raw Cooling Water, Section 8.14, CS Hx B Recirc of Layup Solution with Portable Demin, performed on July 5, 2002
- WO 02-001875-000, Perform Pre- and Post-cleaning Flow and dP Measurements on CCS Heat Exchanger C
- WO 02-000520-000, Disassemble, Clean, and ECT CCS Heat Exchanger C
- WO 02-00312-000, Perform TI-79.701
- TI-79.701, Component Cooling System Heat Exchanger A Performance Test

Section 1R11.2

- TRN-11.10 Rev. 6, Annual Requalification Examination Development and Implementation
- SA-TRN-02-001, Self-Assessment Report LOR Areas for Improvement
- SA-TRN-02-001, Response to Self-Assessment Report LOR Areas for Improvement
- TRN-11.4, Continuing Training For Licensed Personnel
- Annual Operating Examination Scenarios and Job Performance Measures for all crews - 2002
- Biennial written examination for all crews - 2001

Section 1R12

- PER 02-002593-000, During the performance of 1-SI-63-907 the suction to the running RHR pump was inappropriately isolated.
- 3-OT-SRD0024, Loss of RHR Event Simulator Demonstration
- 3-OT-MSC122C, NAUO General Issues and Policies Cycle 3
- 3-OT-MSC121B, 2002 Cycle 2 Licensed Operator Requal Issues - Policy and Procedure Changes, PERs, and Industry Events
- Outage and Site Scheduling Directive (OSSD) 1.1, Outage and Site Scheduling Safety Plan
- Outage and Site Scheduling Directive Manual (O&SSDM) 4.5, Pre-Outage Milestone Management
- Site Maintenance and Modifications Management Directive (SMMMD) 022, Planner's Guide

- General Operating Instruction (GO) - 10, Reactor Coolant System Drain and Fill Operations
- Annunciator Response Instruction (ARI)-109-115, CVCS & RHR - RPS & ESF
- Attachments for PER 02-011727-000
- Watts Bar System Status, 4th Quarter, 2002
- SPP-6.6, Maintenance Rule Performance Indicator Monitoring, Trending and Reporting - 10CFR50.65
- TI-119, Maintenance Rule Performance Indicator Monitoring, Trending and Reporting

Section 1R19

- 1-SI-31-701, Containment Isolation Valve Local Leak Rate Test Chilled Water System
- 1-SI-31-901-B, Quarterly Valve Full Stroke Exercising During Plant Operation Chilled Water - Train B
- PER 02-014424-000, NRC identified problem with sealing the top of 6.9 kV switchgear housings at the diesel generator building using RTV sealant without properly addressing PMT requirements.
- PERs 02-016810-000 & 02-016812-000: NRC identified multiple problems associated with PMTs on 'A' SDBR chiller that involved mainly date and data entries.

Section 1R22

- Drawing, 1-47W811-1, flow diagram, safety injection system
- Drawing, 47W435-200, system-N3-63-1A, isometric-static, thermal and seismic analysis for SIS pump suction
- Drawing, 1-47W435-200A, problem N3-63-01A, analysis isometric of SIS piping
- Drawing, 1-47W435-200B, analysis isometric of SIS piping
- Drawing, 47W435-205, system N3-63-3A, isometric static thermal & dynamic analysis for SIS pump discharge
- Drawing, 1-47W435-205A, problem N3-63-03A analysis isometric of SIS piping
- Drawing, 1-47W435-205B, problem N3-63-03A analysis isometric of SIS piping
- Drawing, 47W435-206, system N3-63-7A isometric-SIS,. RHR, & CTS piping for static, thermal, & dynamic analysis and support locations
- Drawing, 1-47W435-206A, problem N3-63-07A analysis isometric of SIS piping
- Drawing, 1-47W435-206B, problem N3-63-07A analysis isometric of SIS piping
- Drawing, 1-47W435-206C, problem N3-63-07A analysis isometric of SIS piping
- Drawing, 47W435-211, system N3-63-7A isometric-SIS,. RHR, & CTS piping for static, thermal, & dynamic analysis and support locations
- Drawing, 47435-216, isometric: static & dynamic analysis of born injection piping to reactor coolant loop # 2 & 3 cold leg. Problem no. 0600200-09-06
- Drawing, 1-47W435-216A, problem 0600200-09-06 analysis isometric of SIS piping
- Drawing, 47W435-217, problem 0600200-09–05 penet. X-22 isometric-static, thermal & dynamic anal. Of SIS, Boron injection from pen. To RCL cold legs 1 & 4.
- Drawing, 1-47W435-217A, problem 0600200-09-05 analysis isometric of SIS piping
- Drawing, 1-47W435-217B, problem 0600200-09-05 analysis isometric of SIS piping
- Drawing, 1-47W435-217C, problem 0600200-09-05 analysis isometric of SIS piping
- Drawing, 1-47W435-217D, problem 0600200-09-05 analysis isometric of SIS piping
- Drawing, 1-47W435-217E, problem 0600200-09-05 analysis isometric of SIS piping

- Drawing, 47W435-219, problem 0600200-09-03 penet X-33 isometric-static, thermal & dynamic analysis of SIS system, 4" & 2" cold leg injection from pen X-33 to break pt. ANC on 09-01+09-04
- Drawing, 1-47W435-219A, problem 0600200-09-03 analysis isometric of SIS piping
- Drawing, 47W435-220, problem 0600200-09-02 pen X-20B isometric-static, thermal & dynamic analysis of LH SI from pen X-20B & accumulators to RCL cold legs 2 & 3
- Drawing, 1-47W435-220C, problem 0600200-09-02 analysis isometric of SIS piping
- Drawing, 47W435-223, 6" x 2" safety inj from hot leg #2 to 09-09 BK PT prob. 0600200-09-10
- Drawing, 1-47W435-223A, problem 0600200-09-10 analysis isometric of SIS piping
- Drawing, 47W435-228, problem 0600200-09-11 pen X-17 isometric-static, thermal & dynamic analysis of hot legs 1 & 3 recirculation lines from containment pen X-17
- Drawing, 1-47W435-228A, problem 0600200-09-11 analysis isometric of SIS piping
- Drawing, 1-47W435-228B, problem 0600200-09-11 analysis isometric of SIS piping
- Drawing, 1-47W435-228C, problem 0600200-09-11 analysis isometric of SIS piping
- Drawing, 1-47W435-228D, problem 0600200-09-11 analysis isometric of SIS piping
- Drawing, 47W435-260, problem 0600200-09-01 isometric-static, thermal & dynamic analysis for 10" 8" & 6" safety injec. lines from accum. 1 & 4 to RCL cold legs 1 & 4
- Drawing, 1-47W435-260C, problem 0600200-09-01 analysis isometric of SIS piping
- Drawing, 1-47W435-280, problem 0600200-09-04 analysis isometric of SIS piping
- Drawing, 47W435-281, prob 0600200-09-05 isometric static, thermal & dynamic anal. Of SIS, boron injection
- Drawing, 1-47W435-282, problem N3-63-07R analysis isometric of SIS piping
- Drawing, 1-47W435-283, problem 0600200-09-07 analysis isometric of SIS piping
- Drawing, 1-47W435-284, problem 0600200-09-09 analysis isometric of SIS piping
- Drawing, 1-47W435-284A, problem 200-09-09 analysis isometric of SIS piping
- Drawing, 47W432-200, system N3-74-1A isometric-static, thermal, & dynamic analysis of RHR piping system
- Drawing, 1-47W432-200A, problem N3-74-01A analysis isometric of RHR piping
- Drawing, 1-47W432-200B, problem N3-74-01A analysis isometric of RHR piping
- Drawing, 1-47W432-200C, problem N3-74-01A analysis isometric of RHR piping
- Drawing, 1-47W432-200D, problem N3-74-01A analysis isometric of RHR piping
- Drawing, 47W406-207, system N3-62-30A isometric static, thermal, and seismic analysis of CVCS pump discharge piping
- Drawing, 47W406-333, sys N3-62-29A isometric-static, thrm, & seismic anal of CVCS pump disch piping
- Drawing, 1-47W406-318A, problem N3-62-27A analysis isometric of CVCS piping
- Drawing, 1-47W406-203B, problem N3-62-01A analysis isometric of CVCS piping
- Drawing, 47W555-202, system N3-62-10A static thermal & dynamic analysis of CVCS boric acid filter toward charging pump suction Units 1 & 2
- DCN39382-A, modify Safety Injection piping high point vents to permit better access for venting and reduce manpower requirements and personnel exposure
- PER 02-013111-000, NRC identified problem with 1-SI-63-10-A, Section 6.0, NOTE 4 that contains actions to time a venting evolution and record results in the test log. However, no mechanism is specified for timing, and actions should be procedural steps. The amount of gas should also be addressed for evaluation of previous impact on system function.
- PER 02-014475-000, Summary (status) of the engineering evaluation of gas in the ECCS headers

- Procedure, 1-SI-63-10-A, ECCS pumps and discharge pipes venting - train A
- Summary Chart from engineering: Results of Venting Emergency Core Cooling System (ECCS) Piping per 1-SI-63-10-A
- WO 000049500, completed procedure 1-SI-63-10-A, dated 10/2/00
- WO 010583700, completed procedure 1-SI-63-10-A, dated 3/17/02
- WO 020661700, completed procedure 1-SI-63-10-A, dated 8/14/02
- WO 020899800, completed procedure 1-SI-63-10-A, dated 10/9/02
- TS 3.5.2 ECCS - Operating
- TS Bases 3.5.2 ECCS - Operating
- UFSAR 6.3, Emergency Core Cooling System
- UFSAR 5.5.7, Residual Heat Removal System

Section 4OA2

- PER 01-017198-000, Clearance for design change results in an AMSAC actuation and reactor trip
- PER 01-017198-000, Root Cause Analysis
- PER 01-017198-000 Root Cause Analysis Grading Checklist
- Control Room Operator Logs for December 19, 2002
- 10 CFR 50.72 Report for Event 38586
- SPP-10.2, Clearance Program
- O&SSDM-4.8, Critical Evolution Meeting
- 3-OT-MSC121B, 2002 Cycle 2 Licensed Operator Requal Issues - Policy and Procedure Changes, PERs, and Industry Events
- 3-OT-SPP1002, Clearance Control Lesson Plan
- Operations Department Procedure (OPDP)-1, Conduct of Operations, Standing Order 02-001
- Operations Directive Manual (ODM)-8.0, Expectations for Independence of Review, Document Review and Low Voltage Breaker Operations
- ODM-7.0, Emergent Work Assessment
-

Section 4OA5.1

- TVA-NQA-PLN89-A, Nuclear Quality Assurance Plan
- Site-Specific Engineering Specification, N3M-935, Plant Layup/Equipment Preservation
- Construction Administrative Instruction (CAI)-1.01, Work Control for Non-Transferred Features (Unit 2)
- CAI-1.02, Preventive Maintenance for Non-Transferred Features
- CAI-1.03, Non-Transferred Temporary Features (Unit 2)
- Technical Instruction (TI)-216, Preservation and Maintenance of Plant Equipment
- TI-12.12, Temporary Tagging of Plant Equipment
- Maintenance Requirements Code Book, Unit 2
- Most Recent PM records per CAI-1.02 for the following components: 2-PMP-003-118 (8/13/02), 2MTR-003-128-B (8/27/02), 2-MTR-003-118-A (8/27/02), 2-PMP-062-108 (8/27/02), 2-PMP-063-010-A (8/27/02), 2-MTR-063-010-A (9/4/02)

- Letter dated 7/14/2000 from M. J. Burzynski (TVA) to S. J. Collins (NRC) on subject: Bellefonte Nuclear Plant (BLN) Units 1 & 2 and Watts Bar Nuclear Plant (WBN) Unit 2 - Confirmation of Construction Deferral Status
- Letter dated 10/24/2000 from R. E. Martin (NRC) to J. A. Scalice (TVA) on subject: Watts Bar Nuclear Plant, Unit 2 - Order Extending Construction Completion Date (TAC No. MA6947)
- PER 02-016377-000: NRC identified problem with pipe/equipment openings that are not covered as per PM requirements
- PER 02-016378-000: NRC identified problem with completed PM for 2-PMP-003-118 had a PM code not signed off
- PER 02-016391-000: NRC identified problem with completed PM for 2-MTR-003-0118A that had a code requiring tags on ext. cords used for heat lamps, and tag was missing
- PER 02-016994-000: NRC identified problem: Evaluate 1) The dedication process for reinstalling a U2 component (which has been inactivated in the U2 Lay-up Program) into an operational system. 2) The process that controls including and/or inactivating U2 components from the U2 Lay-up Program. 3) The use of a non-QA tracking system (Microsoft Access application) to identify, schedule and track the completion of U2 Lay-up components and activities.
- TI 2515/148, Appendix A, Pre-inspection Audit for Interim Compensatory Measures at Nuclear Power Plants
- IP 71121.02