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

October 25, 2006

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

SUBJECT: SEQUOYAH NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000327/2006004 AND 05000328/2006004

Dear Mr. Singer:

On September 30, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Sequoyah Nuclear Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection results, which were discussed on October 12, 2006, with Mr. R. Douet and other members of your staff.

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

Based on the results of this inspection, no findings of significance were identified. However, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy due to the very low safety significance of the violation and because it is entered into your corrective action program. If you contest this violation, 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 Sequoyah Nuclear Plant.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publically Available Records (PARS) component of NRC's document system (ADAMS).

ADAMS is accessible from the NRC Website at http://www.nrc.gov/reading-rm/adams/html (the Public Electronic Reading Room).

Sincerely,

/RA/

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

Docket Nos.: 50-327, 50-328
License Nos.: DPR-77, DPR-79

Enclosure: Inspection Report 05000327/2006004 and 05000328/2006004
w/Attachment: Supplemental Information

cc: w/encl: (See page 3)

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Letter to Karl W. Singer from Malcolm T. Widmann dated October 25, 2006

SUBJECT: SEQUOYAH NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000327/2006004 AND 05000328/2006004

Distribution w/encl:
Bob Pascarelli, NRR
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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-327, 50-328
License Nos:	DPR-77, DPR-79
Report No:	05000327/2006004 and 05000328/2006004
Licensee:	Tennessee Valley Authority (TVA)
Facility:	Sequoyah Nuclear Plant
Location:	Sequoyah Access Road Soddy-Daisy, TN 37379
Dates:	July 1, 2006 - September 30, 2006
Inspectors:	S. Freeman, Senior Resident Inspector M. Speck, Resident Inspector M. Scott, Senior Reactor Inspector (Section 1R12)
Approved by:	M. Widmann, Chief Reactor Projects Branch 6 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000327/2006004, IR 05000328/2006004; 07/1/2006 - 09/30/2006; Sequoyah Nuclear Plant, Units 1 & 2; resident inspector integrated inspection report.

The report covered a three-month period of inspection by resident inspectors and an announced inspection by one regional inspector. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status:

Unit 1 began the period at 100% rated thermal power (RTP) and remained there for the entire inspection period.

Unit 2 began the period at 100% RTP and remained there for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed the licensee's efforts to protect the ultimate heat sink from the effects of high temperatures during the occurrence of the hottest part of the summer. Specifically, in July 2006, the inspectors reviewed licensee procedures for monitoring essential raw cooling water (ERCW) supply header temperature, reviewed instrument calibrations records for the ERCW supply header temperature instruments, and independently verified the temperature did not exceed the Technical Specifications (TS) limit for the ultimate heat sink. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walkdowns. The inspectors performed a partial walkdown of the following four systems to verify the operability of redundant or diverse trains and components when safety equipment was inoperable. The inspectors attempted to identify any discrepancies that could impact the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, walked down control system components, and verified that selected breakers, valves, and support equipment were in the correct position to support system operation. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program (CAP). Documents reviewed are listed in the Attachment.

- Emergency Diesel Generators (EDGs) 1A, 1B, and 2B during maintenance on EDG 2A
- Auxiliary Control Air Train A during maintenance on Train B
- Emergency Core Cooling System (ECCS) Train 1B during maintenance on Residual Heat Removal (RHR) Pump 1A room cooler ERCW flow control valve
- Containment Spray (CS) Train 2B during CS Train 2A Outage

Complete System Walkdown. The inspectors performed a complete system walkdown of the Unit 1 RHR system to verify proper equipment alignment, to identify any discrepancies that could impact the function of the system and increase risk, and to verify that the licensee properly identified and resolved equipment alignment problems that could cause events or impact the functional capability of the system.

The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), system procedures, system drawings, and system design documents to determine the correct lineup and then examined system components and their configuration to identify any discrepancies between the existing system equipment lineup and the correct lineup. In addition, the inspectors reviewed outstanding maintenance work requests and design issues on the system to determine whether any conditions described in those work requests could adversely impact current system operability. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors conducted a tour of the nine areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that combustibles and ignition sources were controlled in accordance with the licensee's administrative procedures, fire detection and suppression equipment was available for use; that passive fire barriers were maintained in good material condition; and that compensatory measures for out-of-service, degraded, or inoperable fire protection equipment were implemented in accordance with the licensee's fire plan. Documents reviewed are listed in the Attachment.

- Control Building Elevation 706 (Cable Spreading Room)
- Auxiliary Building Elevation 669 (Unit 1 Turbine-Driven Auxiliary Feedwater [TDAFW] Room)
- Control Building Elevation 669 (Mechanical Equipment Room, 250-VDC Battery and Battery Board Rooms)
- Control Building Elevation 685 (Auxiliary Instrument Rooms)
- Auxiliary Building Elevation 690 (Corridor)
- Auxiliary Building Elevation 714 (Corridor)

- Control Building Elevation 732 (Mechanical Equipment Room and Relay Room)
- Auxiliary Building Elevation 749 (480V Board Rooms and Battery Rooms)
- Auxiliary Building Elevation 734 (Shutdown Board and Battery Board Rooms)

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

External Flooding

a. Inspection Scope

The inspectors reviewed the design, material condition, and procedures for coping with the design basis probable maximum flood. First, the inspectors reviewed the flooding sections of the UFSAR and the individual plant examination for external events (IPEEE) to determine the barriers required to mitigate the flood. The inspectors then reviewed site drawings for the ERCW intake structure and Units 1 & 2 shield buildings and walked down portions of those structures to ensure that any penetrations below the flood level were sufficiently maintained to prevent flood waters from entering the buildings. The inspectors also reviewed the abnormal operating procedure for mitigating the design basis flood to ensure that actions needed to seal off the ERCW intake structure and shield buildings were specified. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

The inspectors observed as-found simulator training on September 5, 2006. The training consisted of two scenarios. The first scenario involved a steam generator tube leak degrading to a tube rupture. A loss of off-site power occurred when the unit tripped necessitating plant cooldown and depressurization on natural circulation. Additional equipment malfunctions included a reactor coolant system (RCS) temperature instrument failure, failure of a component cooling system pump to auto-start, and a ruptured steam generator TDAFW pump steam supply valve failing to close. The second scenario involved plant operators performing a rapid downpower due to grid instability issues and a subsequent main feedwater controller failure requiring a manual plant trip. A loss of off-site power and loss of both EDGs occurred with the trip. Additional equipment malfunctions included failure of the main turbine to trip automatically, failure of the TDAFW pump to start, and a pressurizer power-operated relief valve failed partially open. The inspectors observed crew performance in terms of communications; ability to take timely and proper actions; prioritizing, interpreting and

verifying alarms; correct use and implementation of procedures, including the alarm response procedures; timely control board operation and manipulation, including high risk operator actions; oversight and direction provided by shift manager, including the ability to identify and implement appropriate TS actions; and group dynamics involved in crew performance. The inspectors also observed the evaluators' critique and reviewed simulator fidelity to verify that it matched actual plant response. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

.1 Triennial Periodic Evaluation Inspection

a. Inspection Scope

The inspectors reviewed the licensee's Maintenance Rule (MR) periodic assessment, "Sequoyah Maintenance Rule Sixth Periodic Assessment Report Unit 1, 2, & Common, August 1, 2004 through February 28, 2006," while on-site the week of August 28, 2006. This report was issued to satisfy paragraph (a)(3) of 10 CFR 50.65, and covered the 18 month period ending March, 2006. The inspection was to determine the effectiveness of the assessment and ensure it was issued in accordance with time requirements of the MR and included an evaluation of: balancing reliability and unavailability, (a)(1) activities, (a)(2) activities, and use of industry operating experience. The inspectors reviewed selected MR activities covered by the assessment period for the following maintenance rule component and attendant systems to verify compliance with 10 CFR 50.65, Heating and Ventilation, Safety Injection, 125 VDC Vital Power, ERCW, and Plant Structures. Specific procedures and documents reviewed are listed in the Attachment.

During the inspection, the inspectors reviewed selected plant work order data, assessments, modifications, and site guidance implementing procedures. They discussed and reviewed relevant corrective action issues (PERs), reviewed generic operations event data, Maintenance Rule Implementation Monthly Status Reports, system health reports, and discussed issues with system engineers. Operational event information was evaluated by the inspectors for its use in MR functions. The inspectors selected corrective action documents on systems recently removed from 10 CFR 50.65 a(1) status and those in a(2) status to assess the justification for their status. The inspectors inspected repaired components and reviewed the major structural details. The documents were compared to the site's MR program criteria, and the MR a(1) evaluations and rule related data bases.

b. Findings

No findings of significance were identified.

.2 Routine Maintenance Effectiveness Inspection

a. Inspection Scope

The inspectors reviewed the following two maintenance activities to verify the effectiveness of the activities in terms of: 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 for performance; 5) trending key parameters for condition monitoring; 6) charging unavailability for performance; 7) classification in accordance with 10 CFR 50.65(a)(1) or (a)(2); 8) appropriateness of performance criteria for structures, systems, and components (SSCs) and functions classified as (a)(2); and 9) appropriateness of goals and corrective actions for SSCs and functions classified as (a)(1). Documents reviewed are listed in the Attachment.

- Methods for identifying gas in ECCS pipes
- 125-VDC Vital Battery Power System

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the following seven activities to verify that the appropriate risk assessments were performed prior to removing equipment from service for maintenance. The inspectors verified that risk assessments were performed as required by 10 CFR 50.65 (a)(4), and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors verified the appropriate use of the licensee's risk assessment tool and risk categories in accordance with Procedure SPP-7.1, On-Line Work Management, Revision 8, and Instruction 0-TI-DSM-000-007.1, Risk Assessment Guidelines, Revision 8. Documents reviewed are listed in the Attachment.

- Work for week of July 10, 2006, including common station service transformer tap changer maintenance and Motor-driven Auxiliary Feedwater (MDAFW) pump maintenance
- Auxiliary Control Air B-Train removed from service for maintenance
- Work for week of August 14, 2006, including 24-hour run on EDG 2A and Watts Bar hydro plant 161kV line outage
- Train week swap to inspect RHR pump 1A room cooler inlet valve
- MDAFW Pump 2A removed from service for maintenance
- Maintenance on common station service transformer-A tap changer relay and Moccasin 161kV line outage
- Unit 2 TDAFW pump planned unavailability

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

For the six operability evaluations described in the problem evaluation reports (PERs) listed below, the inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available, such that no unrecognized increase in risk occurred. The inspectors reviewed the UFSAR to verify that the system or component remained available to perform its intended function. In addition, the inspectors reviewed compensatory measures implemented to verify that the compensatory measures worked as stated and the measures were adequately controlled. The inspectors also reviewed a sampling of PERs to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment.

- PER 101708, Crack Indication on Unit 1 Low Pressure Turbine Disc Number 2
- PER 106582, Speed Droop Setting on EDG 1B2 Engine Not Set According to Procedure
- PER 107149, EDG 2A Inoperable Due to No Operable Exhaust Fan - Unplanned LCO Entry
- PER 108164, Main Control Room Chiller A-A Refrigerant Suction Check Valve Bolted Connection Does Not Have Full Thread Engagement
- PER 101404, Pressurizer Heater Sleeves Cracked and Broken
- PER 97396, 1A2 Diesel Engine As-Left Lead Wire Data

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the five post-maintenance tests listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the licensee's test procedure to verify that the procedure adequately tested the safety function(s) that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed the test data to verify that test results adequately demonstrated restoration of the affected safety function(s). Documents reviewed are listed in the Attachment.

- WO 05-795530-000, Preventive Maintenance Auxiliary Control Air Compressor B-B
- WO 06-707840-000, Calibrate MDAFW Pump Time Delay Relay Calibration
- WO 06-777441-000, Rework/Replace SSPS Slave Relay Test Pushbutton A
- WO 06-778262-000, Adjust Impeller Clearance of ERCW Traveling Screen Wash Pump B-B
- WO 06-772631-000, Setpoint Verification and Calibration for Time Delay Relays Associated With Load Shedding Logic - Centrifugal Charging Pump 2A-A TDR-CPAX

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the five surveillance tests identified below, by witnessing testing and/or reviewing the test data, the inspectors verified that the SSCs involved in these tests satisfied the requirements described in the TS surveillance requirements, the UFSAR, applicable licensee procedures, and that the tests demonstrated that the SSCs were capable of performing their intended safety functions. Documents reviewed are listed in the Attachment.

- 0-SI-OPS-092-078.0, Power Range Neutron Flux Channel Calibration by Heat Balance Comparison
- 2-SI-SXV-000-201.1, Full Stroking of Category A and B Valves Required in All Modes, Revision 4*
- 0-SI-SLT-030-258.1, Containment Isolation Valve Local Leak Rate Test Purge Air -Unit 2, Revision 5**
- 0-SI-OPS-068-137.0, Reactor Coolant System Water Inventory, Revision 19***
- 2-SI-OPS-082-024.A, 2A-A DG 24 Hour Run and Load Rejection Testing, Revision 11

*This procedure included inservice testing requirements.
**This procedure included testing of a large containment isolation valve.
***This procedure included an RCS leakage detection surveillance.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed two temporary modifications described in Temporary Alteration Control Form (TACF) 1-06-017-099, Unit 1 A Train SSPS - Jumper Across Master/Slave Relay Test Switch S603, Revision 1, and TACF 1-06-012-085, U1 Rod Position Indication (Control Rod F2) Wetting Current Circuit, Revision 1. Inspectors also reviewed associated 10 CFR 50.59 screenings, and compared them against the UFSAR and TS to verify that the modifications did not affect the operability or availability of any safety system. The inspectors walked down the TACFs to ensure they were installed in accordance with the modification documents and reviewed post installation and removal testing to verify the actual impact on permanent systems were adequately verified by the tests. The inspectors also verified that permanent plant documents were updated to reflect the TACFs to ensure that plant configuration control was maintained. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

Resident inspectors evaluated the conduct of a routine licensee emergency drill on August 2, 2006, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation (PARs) development activities. The inspectors observed emergency response operations in the simulated control room to verify that event classification and notifications were done in accordance with licensee procedure EPIP-1, Emergency Plan Classification Matrix, Revision 37. The inspectors also attended the licensee critique of the drill to compare any inspector-observed weaknesses with those identified by the licensee in order to verify whether the licensee was properly identifying failures.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee submittals for the PI listed below for the period from January 1, 2005 through June 30, 2006. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline", Revision 3, were used to verify the basis in reporting for each data element.

Cornerstone: Mitigating Systems

- Safety System Functional Failures

LERs issued during the referenced timeframe were reviewed and are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Review

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

.2 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 appropriate and timely. Specifically, the inspectors reviewed the licensee's workaround list and repair schedules, performed CAP word searches, conducted tours and interviewed operators about required compensatory actions. Additionally, they looked for undocumented workarounds, reviewed operator deficiency lists, attended plant health meetings, reviewed appropriate system health documents, reviewed PERs related to items on the workaround list and discussed the items with engineering personnel. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings of significance were identified. However, inspectors noted that the licensee had two workarounds requiring compensatory actions during accidents or transients. The first was associated with the potential for air to accumulate in ERCW discharge headers such that MDAFW pumps could lose suction under certain conditions. Procedures were revised to alert operators to maintain sufficiently high system flow to preclude air accumulation until a system design change incorporating a continuous vent could be installed. The second is associated with a drifting controller for the Unit 2 B Train Reactor Head Vent valve. The head vent was taken out of service as allowed by TS and could have been placed back in service if needed. This is scheduled to be corrected at the next outage. The licensee also had a workaround requiring significant compensatory actions during normal operations associated with maintaining desired hydrogen purity on the Unit 2 main generator. This workaround was first identified on May 20, 2004, and is also scheduled to be corrected during the next outage.

4OA6 Meetings, Including Exit

.1 Exit Meeting Summary

On October 12, 2006, the resident inspectors presented the inspection results to Mr. R. Douet and other members of his staff, who acknowledged the findings. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low significance (green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV. Documents reviewed are listed in the Attachment.

- TS 6.8.1 requires that procedures be established, implemented, and maintained covering the activities specified in Appendix A of Regulatory Guide 1.33, Revision 2. Paragraph 3s of the appendix requires procedures for operating emergency power sources (e.g., diesel generators). Procedure 0-SO-82-2, Diesel Generator 1B-B, Revision 26, specified the prestart rolling requirement for the diesel. Contrary to this procedure, on August 8, 2006, operators failed to reopen two of the air start valves that had earlier been closed. It was also annotated on the procedure that the valves were open. This was documented in PERs 108308 and 108309. This violation is of very low significance because the inappropriate actions did not affect EDG start capability.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

J. Bajraszewski, Licensing Engineer
D. Bodine, Chemistry/Environmental Manager
R. Douet, Site Vice President
Z. Kitts, Licensing Engineer
D. Kulisek, Plant Manager
G. Morris, Licensing and Industry Affairs Manager
M. A. Palmer, Radiation Protection Manager
M. H. Palmer, Operations Manager
K. Parker, Maintenance and Modifications Manager
J. Proffitt, (Acting) Site Licensing Supervisor
R. Reynolds, Site Security Manager
R. Rogers, Engineering Manager
K. Wilkes, Emergency Preparedness Manager
K. Jones, Engineering Manager
G. Morris, Site Licensing Manager
J. Barker, Site Chemistry
B. Dungan, Outage and Site Scheduling Manager

NRC personnel:

R. Bernhard, Region II, Senior Reactor Analyst
D. Pickett, Project Manager, Office of Nuclear Reactor Regulation

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Opened and Closed

None.

Closed

None.

Discussed

None.

LIST OF DOCUMENTS REVIEWED

Section R01: Adverse Weather Protection

License Amendment No. 79 and No. 70 to Operating Licenses for Sequoyah Units 1 & 2, Respectively, dated August 14, 1988
1-SI-OPS-000-002.0, Shift Log, Revision 80
2-SI-OPS-000-002.0, Shift Log, Revision 72
2-T-67-425, Instrument Data Package for ERCW Supply Header 2A Temperature, Performances dated August 31, 2000; January 24, 2002; August 18, 2003; September 2, 2004; January 19, 2006
1-T-67-426, Instrument Data Package for ERCW Supply Header 1B Temperature, Performances dated August 31, 2000; January 24, 2002; September 3, 2003; October 5, 2004; December 27, 2005
PER 94634, 1-TM-67-426 Outside As-Found Tolerance
PER 95625, 2-TM-67-425 Outside As-Found Tolerance

Section R04: Equipment Alignment

1,2-47W839-1, Flow Diagram Diesel Starting Air System, Revision 51
2-TO-2006-0015 Tagout for Diesel Generator Room 2A-A Exhaust Fan 2
0-SI-OPS-082-007.W, AC Electrical Power Source Operability Verification, Revision 13
0-SO-32-2, Attachment 1, Auxiliary Compressed Air System Power Checklist, Revision 2
0-SO-32-2, Attachment 3, Auxiliary Compressed Air System Valve Checklist, Change 4
FSAR 9.3.1, Compressed Air System
1,2-47W848-1, Flow Diagram Compressed Air System, Revision 47
1-SO-63-5, Attachment 1, Emergency Core Cooling System Power Checklist, Change 18
1-SO-63-5, Attachment 2, Emergency Core Cooling System Valve Checklist, Change 30
1-SO-63-5, Emergency Core Cooling System, Revision 47
0-TI-OPS-000-012.64, Locked Valve List, Revision 18
1,2-47W810-1, Flow Diagram Residual Heat Removal System, Revision 48
PER 18616, Wrong Type Wiring Between 1-TIS-74-007 and Panel 1-L-12
PER 86331, No Local Position Indicator on Valve 2-FCV-74-32

Section R05: Fire Protection

Sequoyah Fire Protection Report, Revision 20
SQN Drawing 1,2-47W494-2 Fire Protection Compartmentation-Fire Cells Plan El. 685 and 690, Revision 10
SQN-26-D054/EPM-ABB-IMPFHA, SQN Fire Hazards Analysis Calculation, Revision 36

Section R06: Flood Protection Measures

Sequoyah Individual Plant Examination, Revision 1
1,2-44N285, Watertight Doors Arrangement & Details Sheet 1, Revision 2
1,2-44N286, Watertight Doors Arrangement & Details Sheet 2, Revision 0

1-47W470-11, Mechanical Restrictor Plate - Shield Bldg, Revision 0
AOP-N.03, Flooding, Revision 27
SQN-DC-V-36.0, Design Criteria for Mechanical Penetration Seal Assemblies for Category 1 Structures

Section R11: Licensed Operator Requalification

E-0, Reactor Trip or Safety Injection, Revision 27
E-3, Steam Generator Tube Rupture, Revision 16
ECA-0.0, Loss of All AC Power, Revision 21

Section R12: Maintenance Rule Implementation (Triennial)

Maintenance Rule Sixth Periodic Assessment Report Units 1, 2, & Common, August 1, 2004 through February 28, 2006, Revision 0

Procedures

0-PI-OPS-000-606, Appendix A, Unit Operator Rounds, BOP Temperature, Rev. 29
MI-1.2-10, Installation and Level Setting of Trico Oilers, Rev. 21
TI-4, Maintenance Rule Performance Indicator Monitoring, trending, and Reportoing - 10 CFR 50.65, Rev. 19
0-TI-SBR-000-001.0, Breaker Testing and Maintenance Program, Rev. 4

PERs

100525, EBR chillers temperature control connectors
29333, information deficiency on new parts for the Durham Bush Chillers
65735, Westinghouse Bulletin TB-04-13, Replacement Solutions for Obsolete Classic Molded Case Circuit Breakers
014811, defect No. ABO-017, transfer canal leak
109922, Trico Oiler Positions

Miscellaneous

Technical Requirement Manual 3/4.7/14 Heat, Ventilating, and Air Conditioning (HVAC) Maintenance Rule Equipment, Rev. 32
SPP-6.2, Preventive Maintenance Appendix A, 125 V vital battery board, 7/10/6
Work Order (WO) 04778264000, Capacitor Replacement on Vital battery Charger 2-S
System Status Report Systems :
- 250, Vital Instrument & Control Power, 6/1/6
- Essential Raw Cooling Water, 6/12/6
- HVAC Chillers, 6/5/6
- Safety Injection, 6/2/6

Maintenance Rule Expert Panel Meeting Minutes (sampled past two years)
WO for past several years (samples for Vital Instrument & Control Power, Safety Injection, HVAC Chillers)

Calculation B87000619001, Maintenance Rule Structures Inspection, Rev. 2
Tag-out 0-TO-2006-0013, Shutdown Board Room A & B Water Chiller Package B-B
UFSAR Section 2.5.5, ERCW Support Slab and Pump Station

Drawings

17W304-2, ERCW Supply Piping, Rev. 9
17W304-3, ERCW Supply Piping, Rev. 5
31W211-1, Concrete ERCW Pumping Station Outline, Rev. 5
10W314-18, Concrete Manholes & Miscellaneous Fooundation - Outline & Reinforcement, Rev. 10
10SN38. Excavation and Backfill Category I Structures, Sheet 1, Rev. 4

Section R12: Maintenance Rule Implementation (Routine)

0-PI-ISO-000-001.A, Periodic Check for Presence of Water in Various A Train ECCS Piping Locations, Revision 0
Regulatory Guide 1.160, Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 2
TI-4, Maintenance Ruke Performance Indicator Monitoring, Trending, and Reporting - 10CFR50.65, Revision 19
SPP 6.6, Maintenance Rule Performance Indicator Monitoring, Trending, and Reporting, Revision 8

Section R13: Maintenance Risk Assessments and Emergent Work Evaluation

Sentinal Run for the Period July 4, 2006 to July 25, 2006
0-0XF-241-VM, CSST C Tap Changer Relay Calibration, Revision 19
Sentinel Run for the Period July 17, 2006 to August 6, 2006
PER 94909, Elevated Vibration Levels on Auxiliary Air Compressor A
Tagout 0-TO-2006-0013, Aux Air Compressor B-B
Sentinel Run for the Period August 7, 2006 to August 27, 2006
Sentinel Run for the Period August 14, 2006 to September 3, 2006
PER 108624, Rescheduled Activities Due to Grid Reliability Yellow
SPP-7.1, On-Line Work Management, Revision 8
Sentinel Run for the Period August 21, 2006 to September 10, 2006
Sentinel Run for the Period September 11, 2006 to October 1, 2006
IGA-6, Transmission/Power Supply Intergroup Agreement, Revision 10
E14-060914-001, SQN Grid Operating Guide, Revision 0
0-AR-DG-2B-LCL, Alarm Response-Diesel Generator 2B-B Local Panel, Revision 12

Section R15: Operability Evaluations

0-SO-82-3, Diesel Generator 2A-A, Revision 28
0-SI-OPS-082-007.0, Diesel Generator Operability Verification, Revision 9
WO 05-780656-000, Troubleshoot Emergency Diesel Generator 2A-A Exhaust Fan 1-A Overloads Tripped

Section R19: Post Maintenance Testing

0-PI-SFT-032-001.B, Auxiliary Control Air Operability Test, Revision 12, Performances dated January 24, 2006 and July 25, 2006
0-SI-SXV-032-200.B, Train B Auxiliary Air Compressor Cooling Water Inlet Valve Operability Test, Performances dated January 24, 2006, Revision 0, and July 25, 2006, Revision 1
0-SO-32-2, Auxiliary Compressed Air System, Revision 16
SPP-6.3, Pre/Post-Maintenance Testing, Revision 2
2-SI-SXP-003-201.A, Motor Driven Auxiliary Feedwater Pump 2A-A Performance Test, Revision 14
2-SI-SXP-003-201.A, Motor Driven Auxiliary Feedwater Pump 2A-A Performance Test, performed May 9, 2006, Revision 13
2-SI-SXP-003-201.A, Motor Driven Auxiliary Feedwater Pump 2A-A Performance Test, performed December 3, 2003, Revision 9
1-SI-IFT-099-90.8A, Reactor Trip Instrumentation Monthly Functional Test (SSPS) Train A, Revision 9 with one-time-only change

Section R22: Surveillance Testing

0-SI-SXV-074-266.0, ASME Code Valve Testing, Revision 18
0-SI-SXV-062-266.0, ASME Section XI Valve Testing, Revision 14
0-SI-SXV-067-266.0, ASME Code Valve Testing, Revision 20
0-SI-SXV-068-266.0, ASME Code Valve Testing, Revision 9
2-SI-OPS-082-024.A, 2A-A DG 24 Hour Run and Load Rejection Test, Revision 11 with one-time-only-change

Section R23: Temporary Plant Modifications

WO 06-775010-000, Install DC Wetting Current TACF for Unit 1 Rod F2, Revision 6

Section 4OA1: Performance Indicator Verification

NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 4
LER 50-328/2006-001, Automatic Turbine and Reactor Trip
LER 50-327/2006-001, Potential Loss of Component Cooling Water During Appendix R Fire

Section 4OA2: Identification and Resolution of Problems

NEDP-12, System and Component Health, Equipment Failure Trending, Revision 7
OPDP-1, Conduct of Operations, Revision 5
FY2006 System Status and Health Report Cards for Generator Cooling, Main Generator, and Reactor Coolant Systems
PER 96236, ERCW Air Accumulation

Section 4OA7: Licensee-Identified Violations

0-SO-82-2, Diesel Generator 1B-B, Revision 26
0-PI-SXV-082-202.A, Diesel Starting Air Valve for Diesel Generator Set 1B-B, Time Frame A, Revision 7
1,2-47W839-1, Flow Diagram Diesel Starting Air System, Revision 51