UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-327/90-11 and 50-328/90-11

Licensee: Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

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

Facility Name: Sequoyah Units 1 and 2

Inspection Conducted: March 6, 1990 thru April 5, 1990

Inspector: J B Brady for 4/25/90
K. Jenison, Senior Resident Inspector Date Signed

Inspectors: P. Harmon, Senior Resident Inspector
D. Loveless, Resident Inspector

Approved by: L J Watson 4/25/90
L. J. Watson, Chief, Project Section 1 Date Signed
TVA Projects Division,
Office of Nuclear Reactor Regulation

Summary

Scope:

This announced inspection involved inspection effort by the Resident Inspectors in the area of operational safety verification including control room observations, operations performance, system lineups, radiation protection, safeguards, and housekeeping inspections. Other areas inspected included maintenance observations, surveillance testing observations, review of previous inspection findings, follow-up of events, review of licensee identified items, and review of inspector follow-up items.

Results:

No violations, deviations, unresolved items* or inspector follow-up items were identified.

One non-cited violation was identified:

NCV 327, 328/90-11-01, Inadequate Breaker Testing under SI-258.1 (paragraph 3.a).

Three events occurred during the inspection period and were reviewed by the inspectors:

- Containment Vent Isolation on Unit 2 (paragraph 8.b).
- NOUE on a security event (paragraph 8.c).
- NOUE on a contaminated individual transported offsite (paragraph 8.d).

The areas of Operations, Maintenance, and Surveillance were adequate and fully capable to support current plant operations. The observed activities of the control room operators were professional and well executed.

*Unresolved items are matters for which more information is required to determine whether they are acceptable or may involve violations or deviations.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

J. Bynum, Vice President, Nuclear Power Production
W. Byrd, Acting Site Director
*C. Vondra, Plant Manager
T. Arney, Quality Control Manager
*R. Beecken, Maintenance Manager
*L. Bush, Acting Maintenance Manager
*M. Burzynski, Site Licensing Manager
*M. Cooper, Compliance Licensing Manager
D. Craven, Supervisor Instrumentation and Control
*J. Gates, Technical Support Manager
J. Holland, Corrective Action Program Manager
*W. Lagergren, Jr., Operations Superintendent
*M. Lorek, Operations Manager
*R. Lumpkin, Site Quality Assurance Manager
R. Pierce, Mechanical Maintenance Group Supervisor
R. Proffitt, Licensing Engineer
R. Rogers, Supervisor, Engineering Support Section
M. Sullivan, Radiological Controls Manager
S. Spencer, Licensing Engineer
*[illegible] Whittemore, Licensing Engineer

NRC Employees

*L. J. Watson, Chief, Project Section 1

*Attended exit interview

Acronyms and initialisms used in this report are listed in the last paragraph.

2. Operational Safety Verification (71707)

a. Control Room Observations

The inspectors conducted discussions with control room operators, verified that proper control room staffing was maintained, verified that access to the control room was properly controlled, and that operator attentiveness was commensurate with the plant configuration and plant activities in progress, and with on-going control room operations. The operators were observed adhering to appropriate, approved procedures, for the on-going activities.

The inspector also verified that the licensee was operating the plant in a normal plant configuration as required by TS and when abnormal conditions existed, that the operators were complying with the appropriate LCO action statements. The inspector verified that RCS leak rate calculations were performed and that leakage rates were within the TS limits.

The inspectors observed instrumentation and recorder traces for abnormalities and verified the status of selected control room annunciators to ensure that control room operators understood the status of the plant. Panel indications were reviewed for the nuclear instruments, the emergency power sources, the safety parameter display system and the radiation monitors to ensure operability and operation within TS limits.

No violations or deviations were observed.

b. Control Room Logs

The inspectors observed control room operations and reviewed applicable logs including the shift logs, operating orders, night order book, clearance hold order book, and configuration log to obtain information concerning operating trends and activities. The TACF log was reviewed to verify that the use of jumpers and lifted leads causing equipment to be inoperable was clearly noted and understood. The licensee is actively pursuing correction to conditions requiring TACFs. No issues were identified with these specific logs.

Plant secondary-side chemistry reports were reviewed and the inspector verified that primary plant chemistry was within TS limits.

In addition, the implementation of the licensee's sampling program was observed. Plant specific monitoring systems including seismic, meteorological and fire detection indications were reviewed for operability. A review of surveillance records and tagout logs was performed to confirm the operability of the RPS.

No violations or deviations were observed.

c. ECCS System Alignment

The inspectors walked down accessible portions of the following safety-related system on Units 1 and 2 to verify operability, flow path, heat sink, water supply, power supply, and proper valve and breaker alignment:

Component Cooling Water System - Train C

In addition, the inspectors verified that a selected portion of the containment isolation lineup was correct.

No deviations or violations were identified.

d. Plant Tours

Tours of the diesel generator, auxiliary, control, and turbine buildings, and exterior areas were conducted to observe plant equipment conditions, potential fire hazards, control of ignition sources, fluid leaks, excessive vibrations, missile hazards and plant housekeeping and cleanliness conditions. The plant was observed to be clean and in adequate condition. The inspectors verified that maintenance work orders had been submitted as required and that followup activities and prioritization of work was accomplished by the licensee.

The inspector visually inspected safety-related pumps and valves for leakage, proper lubrication, cooling water supply, and any general condition that might prevent fulfilling their functional requirements. No major discrepancies were identified. The inspector also observed shift turnovers and determined that necessary information concerning the plant systems status was addressed.

No violations or deviations were observed.

e. Radiation Protection

The inspectors observed HP practices and verified the implementation of radiation protection controls. On a regular basis, RWPs were reviewed and specific work activities were monitored to ensure the activities were being conducted in accordance with the applicable RWPs. Workers were observed for proper frisking upon exiting contaminated areas and the radiologically controlled area. Selected radiation protection instruments were verified operable and calibration frequencies were reviewed. The following RWP was reviewed in detail:

RWP 90-2-00001, Unit 2 Ice Condenser Inspection

f. Safeguards Inspection

In the course of the monthly activities, the inspectors included a review of the licensee's physical security program. The performance of various shifts of the security force was observed in the conduct of daily activities including: protected and vital area access controls; searching of personnel and packages; escorting of visitors; badge issuance and retrieval; and patrols and compensatory posts.

In addition, the inspectors observed protected area lighting, and protected and vital area barrier integrity. The inspectors verified

interfaces between the security organization and both operations and maintenance. Specifically, the Resident Inspectors:

(1) interviewed individuals with security concerns
(2) visited central and secondary alarm stations
(3) verified protection of safeguards information

The inspectors reviewed a security related event involving a March 2, 1990 search of a visitor. The inspectors determined that the search was performed in accordance with the site security plan and that no safety significant issue existed. However, the inspector also determined that the site security procedures pertaining to search requirements were not met. This issue was discussed with the site Security Manager, who had implemented a review and adequate corrective action prior to the inspector identifying the issue. This issue was reviewed by an NRC Region II security specialist and will be documented in NRC Inspection Report 327, 328/90-15.

No violations or deviations were identified.

No trends were identified in the operational safety verification area. General material conditions in the plant were adequate. The number of control room maintenance and modification items was decreasing slowly. Radiation protection and security were adequate to continue two unit operations.

3. Surveillance Observations and Review (61726)

Licensee activities were directly observed/reviewed to ascertain that surveillance of safety-related systems and components was being conducted in accordance with TS requirements.

The inspectors verified that: testing was performed in accordance with adequate procedures; test instrumentation was calibrated; LCOs were met; test results met acceptance criteria requirements and were reviewed by personnel other than the individual directing the test; deficiencies were identified, as appropriate, and any deficiencies identified during the testing were properly reviewed and resolved by management personnel; and system restoration was adequate. For completed tests, the inspector verified that testing frequencies were met and tests were performed by qualified individuals.

The following activities were observed/reviewed with no deficiencies identified except as noted:

a. SI-258.1, Testing of Molded Case and Lower Voltage Containment Penetration Circuit Breakers.

The purpose of this SI was to perform instantaneous and overload testing of safety related breakers. During the performance of this SI, the inspector noted the following:

(1) The acceptance criteria cited in step 6.4 of the data sheet differed with that cited on page 5 of the SI, with respect to 15

amp breakers. The technicians were aware of this difference, stated that a CAQR existed, and when questioned stated that it was acceptable to perform the test with an outstanding CAQR because the SI was on their work schedule.

(2) The technicians erroneously determined that the SI acceptance criteria were met even though an instantaneous reset was not obtained on a tripped breaker.

(3) The SI did not set the current at which the breakers were to be tested or the method in which to increase the current when a reset was not obtained.

(4) The SI did not direct the technician to re-perform the test at a higher amperage following a failure to obtain a reset. However, the technicians were performing multiple tests to obtain what they thought were acceptable results.

When these issues were brought to the attention of the SOS, he immediately stopped the breaker testing and interviewed the involved technicians and managers. On March 20, 1990, the Electrical Maintenance Supervisor determined that no operability issues existed and that a procedure change was necessary to ensure adequate control over the performance of the SI and the test results. An instruction change form (ICF) to SI-258.1 was issued and the operability of the breaker reset function for previously tested breakers was determined. The inspector determined that these corrective actions were adequate. This violation was not cited because the criteria specified in Section V.A. of the Enforcement Policy were satisfied. This is identified as non-cited violation (NCV) 327, 328/90-11-01, Inadequate Breaker Testing under SI-258.1. Because corrective action complete and no further NRC review is required, NCV 327, 328/90-11-01 is closed.

b. SI-26.1, Loss of Offsite Power with Safety Injection.

The purpose of this SI was to perform a 24 hour endurance run of the selected emergency diesel generators (EDG). During the performance of this SI, the inspector noted that common annunciator, GEN-1A-A High Temperature, was alarmed on common alarm panel 0-M-26. When this was discussed with the AUO responsible for taking EDG shift performance data and the SOS, the inspector determined that each individual was aware of the alarm and that the SOS had directed that local compensatory readings be taken. The alarm was the result of a cylinder temperature reading/recording failure described in WR B781479.

c. SI-108.1, Ice Condenser Intermediate Deck Doors.

d. SI-20, Containment Refueling Canal Drains.

e. TI-18, Radiation Monitoring.

This technical instruction was reviewed to determine if a recent change (ICF 90-0129), which raised the alarm setpoint from 10% to 40% of TS limits, was adequately implemented. The inspector had no further questions.

f. SI-82.2, Functional Test For Radiation Monitoring.

g. SI-83.2.112A, Channel Calibration of Containment Building Upper Compartment Particulate Air Monitor.

h. SI-32, Component Cooling Water Valves.

No trends were identified in the area of surveillance performance during this inspection period. The area of surveillance scheduling and management was observed to be adequate.

4. Monthly Maintenance Observations and Review (62703)

Station maintenance activities on safety-related systems and components were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides, industry codes and standards, and in conformance with TSs.

The following items were considered during this review: LCOs were met while components or systems were removed from service; redundant components were operable; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; procedures used were adequate to control the activity; troubleshooting activities were controlled and the repair records accurately reflected the activities; functional testing and/or calibrations were performed prior to returning components or systems to service; QC records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; QC hold points were established where required and were observed; fire prevention controls were implemented; outside contractor force activities were controlled in accordance with the approved QA program; and housekeeping was actively pursued.

The following work requests and work plans (WP) were reviewed:

WR B258812, Vital Inverter 1-I Transfer Switch.

The purpose of this WP was to repair a transfer switch referenced on TVA drawings 45N709-4 and 45N706-1. The material condition and its impact on safe dual unit operations was described in CAQR SQP 900120. The licensee concluded the risk of a seismic event was sufficiently low as to indicate that it was acceptable for the plant to continue to operate with the switch in the degraded condition. Although not

clearly discussed in the CAQR, subtier documents and activities support the determination that the transfer switch was capable of performing its intended function subject to some seismic limitations. The licensee agreed to revise the CAQR to substantiate their decision.

The licensee later determined that two supply wires were incorrectly connected to the transfer switch and that the incorrect positioning of these wires could have caused the degradation of the switch. The licensee swapped the wires to correct this problem. The inspector had no further questions.

WR B792480, Repair RM-90-99.

WR B258824, Repair RM-90-112.

WR B258862, Repair RPI E-3.

WR B260699, Repair RPI D-14.

WP 1516, Containment Isolation Valve Indication.

WP 1443, SSPS EPS Median Signal and Functional Test.

No violations or deviations were identified in the area of Maintenance.

5. Site Quality Assurance Activities in Support of Operations (71707)

The following QA surveillances were reviewed by the inspector:

QSQ-M-90-0247, Preventive Maintenance

QSQ-M-90-0243, Eagle 21

QSQ-M-90-0225, Vital Batteries

QSQ-M-90-0222, Balance of Plant Welds

This surveillance identified a condition that was previously identified by the NRC on safety related welds in 1988. The condition identified was that no interpass weld temperatures were being taken or recorded. The welds were being performed by contract welders and the contractor had failed to measure any interpass weld temperatures on work performed since March 4, 1990. The licensee issued CAQR SQQ 900150 to resolve this issue. The inspector had no further questions.

QSQ-M-90-2019, ERCW TACF

This surveillance identified a temporary alteration that was not controlled in accordance with AI-9, Temporary Alterations. CAQR SQQ

900137 was issued to resolve this issue. The inspector had no further questions.

QSQ-M-90-0200, Sequoyah Procedure Upgrade Program

Based on the QA areas of concentration, the comments and COTS discussions in the reports, and the two technical findings identified above, it appeared that the quality of the QA surveillances continued to improve and provided technically valid support to the efforts of line management during this outage.

6. NRC Inspector Follow-up Items, Unresolved Items, Violations (92701, 92702)

(Closed) IFI 327, 328/89-29-09, ASOS Relief.

The inspector reviewed a Sequoyah Final Event Report II-90-003, concerning the relief of the Unit 2 ASOS by the SOS on December 21, 1989. The report was prepared by the Sequoyah Operations Manager and Operations Superintendent. The report was clear, identified several contributing root causes for the event, and implemented adequate corrective actions.

IFI 327, 328/89-29-09 is closed.

(Closed) IFI 327, 328/89-12-03, RCS Identified Leakage.

This IFI identified problems the licensee experienced during a search for an RCS leak into the PRT. At the time of the leak, the licensee did not have a drawing or listing of all potential leak sources to the PRT, and was consequently unable to determine if the leakage assumed as Identified was in fact from a known, analyzed RCS leakage path. Since the incident described in IR 327, 328/89-12, both an engineering drawing and a listing of leak sources to the PRT have been generated by DNE.

This item is closed.

(Closed) URI 327, 328/89-29-05, Waived QC Hold Points.

This URI addressed QC inspection activities that were waived to support non-emergency schedule driven requests. This was discussed with the Site QA Manager on December 29, 1989, who implemented immediate corrective action. The inspector determined that the graded QA approach was not prematurely employed, that there were no other waived inspections of this type and that there was no safety significance associated with waiving this specific QC inspection.

URI 327, 328/89-29-05 is closed.

(Closed) URI 327, 328/89-12-04, AFW Pump Packing.

This URI addressed two WR activities related to the replacement of AFW pump packing. The inspector reviewed WRs B762254 and B780979 and

determined that the post maintenance tests and maintenance activities were adequate. The inspector had no further questions.

URI 327, 328/89-12-04 is closed.

(Closed) IFI 327, 328/88-54-04, Fire Brigade Portable Communications Problems.

This item identified problems with the portable radios used by fire brigade members during an observed drill. The licensee initiated a Design Change Request, DCR 3019, to replace the present radios and repeaters with upgraded models and applied to the FCC for a dedicated frequency.

This item is closed.

(Closed) IFI 327, 328/88-54-06, Procedure Revision for SI-233.4 for Appendix R Raceway Fire Barriers.

This item was identified as a procedure discrepancy during NRC inspection 327, 328/88-54. The licensee responded by placing an Administrative Hold on the procedure, which requires correction of the discrepancy prior to the next use. The next use of SI-233.4 is scheduled during the present refueling outage, prior to entering Mode 4.

This item is closed.

7. Licensee Event Report Followup (92700)

The following LERs were reviewed and closed. The inspector verified that: reporting requirements had been met; causes had been identified; corrective actions appeared appropriate; generic applicability had been considered; the LER forms were completed; no unreviewed safety questions were involved; and violations of regulations or Technical Specifications had been identified.

UNIT 1

327/89-28, Missing Access Cover On An ABGTS Duct.

327/89-32, Failure to Perform a Surveillance Requirement Within The Specified Time Interval Because of Inadequate Deletion of Procedural Step During Procedure Revision.

327/89-36, Diesel Generator Inoperable Because of a Surveillance Run Time Less Than the Required 60 Minutes.

327/90-01, Essential Raw Cooling Water Valves Servicing Safety-related Equipment Not Verified to be in the Correct Position at the Required Frequency Because of Personnel Error.

UNIT 2

328/89-01, Reactor Trip Signals From Electromagnetic Interference.

328/89-07, Failure to Maintain Redundant Control Power Supplies to the Unit 2 Reactor Coolant Pump Number 4 Breaker and the Unit Board Normal Supply Breaker Penetration Protection Device.

328/89-09, Failure To Determine Ice Bed Temperatures Every Twelve Hours.

328/89-14, CVI During Head Vent Valve Replacement.

8. Event Follow-up (93702)

a. On March 15, 1990, Sequoyah Unit 1 commenced a reactor shutdown from approximately 83% power to start the Unit 1 Cycle 4 refueling outage. The outage was expected to be approximately 64 days. The inspector verified that NRC commitments for the Unit 1 Cycle 4 outage were included in the schedule. In addition the outage includes the removal of the BIT and UHI, and installation of an updated feedwater control/reactor protection system modification (Eagle 21).

b. On March 26, 1990, Sequoyah Unit 2 experienced a containment ventilation isolation (CVI). Several other similar events have recently occurred and are identified below:

- March 17, 1990, CVI, Unit 2, PRO 2-90-031
- March 16, 1990, CVI, Unit 2, PRO 2-90-027
- March 13, 1990, CVI, Unit 2, PRO 2-90-025
- March 7, 1990, CVI, Unit 2, PRO 2-90-024
- March 4, 1990, CVI, Unit 2, PRO 2-90-021
- February 11, 1990, CVI, Unit 1, PRO 2-90-014

ESF actuations, in the form of ventilation isolations, have been a long standing issue at Sequoyah (approximately 50 since 1984). Each of the recent CVIs were described in an AI-12, Corrective Action, accepted administrative program (i.e. PRO). In addition, LERs 2-90-005, 006, and 007 were written to address generic considerations. Finally, the licensee initiated an action plan which included the LERs and PROs.

c. On March 22, 1990, at 7:20 p.m., the licensee declared a Notification of Unusual Event. The NOUE was declared based upon a potential for a security threat and is described in a licensee event investigation report. The licensee terminated the NOUE at 9:25 p.m., having identified no safety impact on either unit. The inspector reviewed the licensee's immediate actions which appeared to be adequate. This event will be reviewed by an NRC Region II security specialist and documented NRC Inspection Report 327, 328/90-15.

d. On March 23, 1990, at 2:40 a.m., the licensee declared a Notification of Unusual Event. The NOUE was declared based upon 50.72.a.1.i and

50.72.b.2.v, because a medical condition required the transportation of an individual to an offsite medical facility. A craftsman got an irradiated sliver lodged in one finger. He was transported, with an accompanying HP technician, to North Park Hospital, where the sliver was removed and retained. The count rate on the sliver was approximately 120 cpm. The individual was released, sent home and will receive a whole body count upon return to the site. The licensee terminated the Unusual Event at 3:40 a.m.

e. On March 27, 1990, at approximately 12:10 p.m., Unit 1 entered Mode 6.

9. 10 CFR 21 and Other Technical Issues

a. Review of VT-4, Nondestructive Visual Examination

VT-4 addresses, in part, the inspection of snubbers, as was intended to satisfy the ASME, Section XI, requirement assuring the free movement of snubbers. VT-4 does not call for stroking the snubber which was discussed with the licensee and PRD SQP-90-0159P was initiated to resolve the adequacy of the snubber inspections. The current snubber testing program was inspected by an NRC Region II mechanical specialist as documented in Inspection Report 327, 328/89-04. The program was determined to be "conservative and exceed the Technical Specification requirements in several areas." The licensee's corrective actions under the above PRD appeared to be adequate and the inspector had no further questions.

b. Non-Code Repairs on ERCW Piping

In January 1988, TVA submitted a corrective action plan by letter to the NRC, in which they proposed the use of temporary scab plates on certain ERCW piping in an attempt to stop through wall leakage from the ERCW system. The NRC accepted this code relief proposal and determined that the MIC program was acceptable based on a long term commitment to replace the piping as documented in a letter (Kingsley/Black) dated August 3, 1989, RIMS A02 890807 013. By the close of this inspection period, the licensee had replaced all but one scab plate with new ERCW piping. The inspector had no further questions.

c. Cotter Pin From a Clevis Type Support

The licensee did not treat a broken cotter pin as a service induced flaw and did not inspect other pumps with the same arrangement to determine if similar failures had occurred. This issue was discussed with the licensee by the inspector and the licensee initiated PRD SQP-90-0159P to evaluate this previous TVA interpretation of what constitutes a service induced flaw. The inspector had no further questions.

d. 10 CFR 21 P21-89-19, Dresser Pump Pressure Reducing Sleeve

This report addressed the catastrophic failure of surface hardened pressure reducing sleeves. The failure would be in the form of a brittle crack failure that may result in excessive vibration and/or pump seizure. Failures would occur within the first hour of pump operation.

This issue was received by the TVA NER process and resolved within two days. TVA determined that all applicable pumps had run in excess of the one hour and did not have the subject surface hardened pressure reducing sleeve. Some of the suspect sleeves were found in power stores and removed. The inspector had no further questions.

P21-89-19 is closed.

e. 10 CFR 21 P21-90-04, Rosemont Model 710 Trip/Calibration Units and 414 E/F Resistance Bridges

This report addressed the possibility of premature long term degradation of certain components. The degradation was based on test data and no actual failures were identified by the manufacturer.

This issue was received by the TVA NER process and was resolved within 17 days. TVA determined that this model of Rosemount transmitter was not used at the Sequoyah site. The inspector had no further questions.

P21-90-04 is closed.

10. Exit Interview (30703)

The inspection scope and findings were summarized on April 5, 1990, with those persons indicated in paragraph 1. The Senior Resident Inspector described the areas inspected and discussed in detail the inspection findings listed below. The licensee acknowledged the inspection findings and did not identify as proprietary any of the material reviewed by the inspectors during the inspection.

Inspection Findings:

No violations, deviations, unresolved items or inspector follow-up items were identified.

One non-cited violation was identified:

NCV 327, 328/90-11-01, Inadequate Breaker Testing under SI-258.1 (paragraph 3.a).

Three events occurred during the inspection period and were reviewed by the inspectors:

- Containment Vent Isolations on Unit 2 (paragraph 8.b).
- NOUE on a Security event (paragraph 8.c).
- NOUE on a contaminated individual transported offsite (paragraph 8.d).

During the reporting period, frequent discussions were held with the Acting Site Director, Plant Manager and other managers concerning inspection findings.

11. List of Acronyms and Initialisms

ABGTS - Auxiliary Building Gas Treatment System
ABI - Auxiliary Building Isolation
ABSCE - Auxiliary Building Secondary Containment Enclosure
AFW - Auxiliary Feedwater
AI - Administrative Instruction
AOI - Abnormal Operating Instruction
AUO - Auxiliary Unit Operator
ASOS - Assistant Shift Operating Supervisor
ASTM - American Society of Testing and Materials
BIT - Boron Injection Tank
BFN - Browns Ferry Nuclear Plant
C&A - Control and Auxiliary Buildings
CAQR - Conditions Adverse to Quality Report
CCS - Component Cooling Water System
CCP - Centrifugal Charging Pump
CCTS - Corporate Commitment Tracking System
CFR - Code of Federal Regulations
COPS - Cold Overpressure Protection System
COTS - Correct On the Spot
CS - Containment Spray
CSSC - Critical Structures, Systems and Components
CVCS - Chemical and Volume Control System
CVI - Containment Ventilation Isolation
DC - Direct Current
DCN - Design Change Notice
DNE - Division of Nuclear Engineering
ECN - Engineering Change Notice
ECCS - Emergency Core Cooling System
EDG - Emergency Diesel Generator
EI - Emergency Instructions
ENS - Emergency Notification System
EOP - Emergency Operating Procedure
EO - Emergency Operating Instruction
ERCW - Essential Raw Cooling Water
ESF - Engineered Safety Feature
FCV - Flow Control Valve
FSAR - Final Safety Analysis Report

GDC - General Design Criteria
GOI - General Operating Instruction
GL - Generic Letter
HVAC - Heating Ventilation and Air Conditioning
HIC - Hand-operated Indicating Controller
HO - Hold Order
HP - Health Physics
ICF - Instruction Change Form
IDI - Independent Design Inspection
IN - NRC Information Notice
IFI - Inspector Followup Item
IM - Instrument Maintenance
IMI - Instrument Maintenance Instruction
IR - Inspection Report
KVA - Kilovolt-Amp
KW - Kilowatt
KV - Kilovolt
LER - Licensee Event Report
LCO - Limiting Condition for Operation
LIV - Licensee Identified Violation
LOCA - Loss of Coolant Accident
MCR - Main Control Room
MI - Maintenance Instruction
MR - Maintenance Report
MSIV - Main Steam Isolation Valve
NB - NRC Bulletin
NOV - Notice of Violation
NQAM - Nuclear Quality Assurance Manual
NRC - Nuclear Regulatory Commission
OSLA - Operations Section Letter - Administrative
OSLT - Operations Section Letter - Training
OSP - Office of Special Projects
PLS Precautions, Limitations, and Setpoints
PM - Preventive Maintenance
PPM - Parts Per Million
PMT - Post Modification Test
PORC - Plant Operations Review Committee
PORS - Plant Operation Review Staff
PRD - Problem Reporting Document
PRO - Potentially Reportable Occurrence
QA - Quality Assurance
QC - Quality Control
RCA - Radiation Control Area
RCDT - Reactor Coolant Drain Tank
RCP - Reactor Coolant Pump
RCS - Reactor Coolant System
RG - Regulatory Guide
RHR - Residual Heat Removal
RM - Radiation Monitor
RO - Reactor Operator

RPI - Rod Position Indication
RPM - Revolutions Per Minute
RTD - Resistivity Temperature Device Detector
RWP - Radiation Work Permit
RWST - Refueling Water Storage Tank
SER - Safety Evaluation Report
SG - Steam Generator
SI - Surveillance Instruction
SMI - Special Maintenance Instruction
SOI - System Operating Instructions
SOS - Shift Operating Supervisor
SQM - Sequoyah Standard Practice Maintenance
SQRT - Seismic Qualification Review Team
SR - Surveillance Requirements
SRO - Senior Reactor Operator
SSOMI - Safety Systems Outage Modification Inspection
SSQE - Safety System Quality Evaluation
SSPS - Solid State Protection System
STA - Shift Technical Advisor
STI - Special Test Instruction
TACF - Temporary Alteration Control Form
TAVE - Average Reactor Coolant Temperature
TDAFW - Turbine Driven Auxiliary Feedwater
TI - Technical Instruction
TREF - Reference Temperature
TROI - Tracking Open Items
TS - Technical Specifications
TVA - Tennessee Valley Authority
UHI - Upper Head Injection
UO - Unit Operator
URI - Unresolved Item
USQD - Unreviewed Safety Question Determination
VDC - Volts Direct Current
VAC - Volts Alternating Current
WCG - Work Control Group
WP - Work Plan
WR - Work Request