



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

Report Nos.: 50-327/89-18 and 50-328/89-18

Licensee: Tennessee Valley Authority
6N38 A 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 1 and 2

Inspection Conducted: June 6 - July 5, 1989

Inspector: *K. Jenison* 8/10/89
K. Jenison, Senior Resident Inspector Date Signed

Accompanying Personnel: P. Harmon, Senior Resident Inspector
D. Loveless, Resident Inspector

Approved by: *L. J. Watson* 8/10/89
L. J. Watson, Chief Date Signed
TVA Projects Section 1
TVA Projects Division
Office of Special Projects

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:

The areas of Operational Safety Verification, Maintenance, and Surveillance Observation appeared to be adequate and the licensee was fully capable of supporting current plant operations. Operators were not aggressive in resolving continuously alarmed indications. Maintenance activities at the craft and first line supervisor level continued to improve. Weaknesses were identified in site security practices. Maintenance Department, Site Licensing, Site Security, and Site Work Control management were quick to respond and correct weaknesses which were identified to them. Operations management was slow to respond to plant conditions in two instances related to ice condenser temperature monitoring and cold leg accumulator level indication and in one of the instances responded in a nonconservative fashion.

Three violations were identified:

The licensee failed to comply with TS 3.6.5.2.a in that with the ice bed temperature monitoring system not available in the main control room, the licensee did not determine, every 12 hours, the ice bed temperature at the local ice condenser temperature monitoring panel as required by the action statement. This is identified as VIO 327,328/89-18-03 (paragraph 3.a).

The licensee failed to comply with 10 CFR 50, Appendix B, Criterion XVI in that management did not take prompt corrective action when the Unit was not in compliance with TS 3.6.5.2. for ice condenser temperature monitoring. This is identified as VIO 327,328/89-18-04 (paragraph 3.c.).

The licensee completed temporary plant changes to the ice condenser temperature monitoring system without performing an adequate review pursuant to the requirements of 10 CFR 50.59 as required by AI-9. This is identified as VIO 327,328/89-18-10 (paragraph 3.b).

Two non-cited violations were identified:

NCV 327,328/89-18-05 for failure to supply licensed operators with updated TS within an appropriate period of time (paragraph 4.b).

NCV 327,328/89-18-06 for an unattended protected area badge and key card left in the Unit 1 control room (paragraph 2.f).

Four Unresolved Items were identified:

URI 327,328/89-18-01, concerning PMT on Unit 1 Cold Leg Accumulator Level Indications (paragraph 4.b).

URI 327,328/89-18-02, concerning Closures of Engineering Change Notices (paragraph 7).

URI 327,328/89-18-07, concerning Pressurizer Safety Valve Temperature High (paragraph 2.a).

URI 327,328/89-18-09, concerning Personnel and Package Monitoring Corrective Action (paragraph 2.f).

One Inspector Followup Item was identified:

IFI 327,328/89-18-08, concerning an individual chewing gum within the RCA (paragraph 2.e).

No deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

J. Bynum, Vice President, Nuclear Power Production
*J. LaPoint, Site Director
*C. Mason, Acting Plant Manager
T. Arney, Quality Control Manager
*R. Beecken, Maintenance Superintendent
*M. Cooper, Compliance Licensing Manager
D. Craven, Plant Support Superintendent
*S. Crowe, Site Quality Manager
R. Fortenberry, Technical Support Supervisor
J. Holland, Corrective Action Program Manager
*W. Lagergrin, Operations Superintendent
R. Pierce, Mechanical Maintenance Supervisor
*M. Burzynski, Site Licensing Staff Manager
*R. Rogers, Plant Support Superintendent
M. Sullivan, Radiological Controls Superintendent
S. Spencer, Licensing Engineer
*C. Whittemore, Licensing Engineer

NRC Employees

*B. Wilson, Assistant Director for TVA Inspection Programs
*J. Brady, Acting Sequoyah Section Chief

*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 and verified that proper control room staffing was maintained. The inspectors also verified that access to the control room was properly controlled, and that operator behavior 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 and approved procedures, including annunciator response procedures for the on-going activities. However, two instances of continuously alarmed indications with less than aggressive licensee response were identified and are addressed in

URI 327,328/89-18-07, (paragraph 2.a) and NCV 327,328/89-18-05 (paragraph 4.b). The frequency of visits to the control room by upper management was observed and determined to be adequate.

The inspector also verified that the licensee was operating the plant in a normal plant configuration as required by TS. When abnormal conditions existed, operators were generally complying with the appropriate LCO action statements except as discussed in this report under URI 327,328/89-18-01 (paragraph 4.b) and VIO 327,328/89-18-03 (paragraph 3.c).

The inspector verified that leak-rate calculations were performed and that leakage rates were within the TS limits. Indications regarding safety limits were reviewed and found to be satisfactory. 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. The Unit 1 annunciator, Pressurizer Safety Valve Temperature High, was in continuous alarm for the entire inspection period. The licensee stated that this condition is the result of normally high ambient temperatures near the sensor and not an indication of pressurizer safety valve leakage. This is one of the alarms that is included in the licensee's control room design review. The inspector discussed the operability of an alarm that is in constant alarm status with Sequoyah plant management. The licensee agreed to pursue the issue with DNE in order to ascertain whether the setpoint could be changed. Licensee personnel did not believe that the operability of the alarm was questionable. The inspector will review this potential high temperature condition and/or alarm operability issue under URI 327,328/89-18-07, Pressurizer Safety Valve Temperature High.

Control room panel indications for nuclear instruments, emergency power source, safety parameter display system and radiation monitors were reviewed to ensure operability and operation within TS limits and were found to be adequate. Control rod insertion limits were observed as specified in the TS.

b. Control Room Logs

The inspectors observed control room operations and reviewed applicable logs including shift logs, operating orders, night order book, clearance hold order book, and configuration log to obtain information concerning operating trends and activities. The night order book has steadily increased in size over the last two months. The night order book is not well organized and the sheer number of issues contained in it may become an administrative burden to the operators. This was discussed with the plant management and operations management during the course of this inspection. The TACF log was also reviewed to verify that the use of jumpers and lifted leads causing inoperabilities are clearly noted and understood. The

clearance hold order book was updated at the beginning of 1989 and new numbers were assigned to existing old hold orders. Though this renumbering resulted in better validation, it did not contribute to the reduction of older hold orders. No other issues were identified with these specific logs.

Plant chemistry reports and daily Operations Department surveillances were reviewed. The chemistry data was reviewed to confirm that the licensee's steam generator tube integrity program was being implemented through the control of secondary chemistry. For a selected sample, primary plant chemistry was observed to be within TS limits. 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. Performance of daily surveillances was observed/reviewed to ensure compliance with TS. A review of surveillance records and the hold order log was performed to confirm 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 systems on Unit 1 and Unit 2 to verify operability, flow path, heat sink, water supply, power supply, and proper valve and breaker alignment:

Intermediate Head Safety Injection (Units 1 & 2)
Non-Essential Control Air (Unit 1)

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 house-keeping and cleanliness conditions. The plant was observed to be in an adequate condition with respect to cleanliness. Several floor areas in the auxiliary building were being chipped and resurfaced, which resulted in large amounts of dust and debris. In addition, several lay-down areas were established for radiological waste. The inspectors verified that maintenance work orders had been submitted as required and that followup activities and prioritization of work

was generally accomplished by the licensee. One instance in which work prioritization was questioned by the inspectors is discussed in URI 327,328/89-18-01 (paragraph 4.b).

The inspector visually inspected the major components for leakage, proper lubrication, cooling water supply, and any general condition that might prevent fulfillment of their functional requirements. All discrepancies noted were already being tracked by the licensee.

The inspector observed shift turnovers and control room activities and determined that all necessary information concerning the plant systems status was addressed. One instance where plant information was addressed but may not have been complete is discussed in URI 327,328/89-18-01 (paragraph 4.b).

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 that 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 RWPs were reviewed in detail:

RWP 89-20-431, U2 Upper Containment. Perform SI-28 on dampers 2-30-543 and 2-30-550.

The inspectors reviewed and resolved an incident involving an NRC visitor who performed an excluded practice (chewing gum) within the RCA on June 26, 1989. The licensee properly identified to the visitor that this was a prohibited practice. This item will be tracked as IFI 327,328/89-18-08, HP Practices. This issue was discussed with NRC ADSP management, NRC Region II HP specialists and the individual involved. No additional initial corrective actions are necessary and this item remains open for NRC HP specialist review.

No violations or deviations were identified.

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) observed emergency drills
- (2) reviewed licensee security degradations
- (3) visited secondary and central alarm stations
- (4) verified protection of Safeguards Information

On June 13, 1989 the inspector found an unattended protected area badge and key card in the Unit 1 control room. The ASOS paged the individual and returned the badge within approximately two minutes. The individual had been working behind the panels of Unit 2 and had not left the control room complex. The inspector reported this event to the Nuclear Safety Services Shift Supervisor. They investigated the incident and wrote security degradation report 89-69-06 because the individual had lost control of his badge. The event was in violation of the security plan, but will not be cited because the criteria specified in Section V.G. of the Enforcement Policy were satisfied. Treatment of this issue as a non-cited violation is appropriate because: the licensee took immediate corrective action, the safety significance was low, and this issue appears to be a single occurrence without programmatic implications. This item will be tracked as NCV 327,328/89-18-06 and is closed.

During the inspection period the inspector observed personnel and package monitoring going through the protected area entrance. Several times the inspector noted questionable search practices. The inspector discussed the specific problems with the site security manager. He agreed that the issues should be addressed and ensured that corrective actions to improve these security practices were performed. The corrective actions were documented in TVA memo Kelly/List SB1, dated June 30, 1989 and discussed with NRC Region II security specialists who agreed with the proposed corrective actions. URI 327,328/89-18-09, Personnel and Package Monitoring Corrective Actions, will be reviewed during a future security inspection.

No violations or deviations were identified.

g. Conditions Adverse to Quality

The inspectors reviewed selected items to determine that the licensee's problem identification system as defined in AI-12, Corrective Action, was functioning. CAQR's were routinely reviewed for adequacy in addressing a problem or event. Additionally, a sample of the following documents was reviewed for adequate handling:

- (1) Work Requests
- (2) Potential Reportable Occurrences
- (3) Radiological Incident Reports
- (4) Test Deficiencies
- (5) Problem Reporting Documents
- (6) Licensee Event Reports
- (7) Security Degradation/Incident Reports

For the items reviewed, the inspectors determined that the issues were identified and corrected in the appropriate manner.

No violations or deviations were observed.

h. Bimonthly Inspections

The licensee's use of overtime was reviewed to verify that it is consistent with the licensee's commitments to the NRC. Overtime use in the Operations Department averaged approximately 10%, with no indication of overtime abuse. In addition the inspectors determined that required notices to workers were appropriately and conspicuously posted in accordance with 10 CFR 19.11.

No violations or deviations were observed.

No trends were identified in the operational safety verification area. Two instances occurred that were resolved in nonconservative manners as discussed in paragraph 3 and 4. General conditions in the plant were adequate. 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 in general: 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. However, one instance of an incorrectly completed SI is discussed in VIO 327,328/89-18-03 below. For completed tests, the inspector verified that testing frequencies were met and tests were performed by qualified individuals.

The inspector observed the performance of SI-28, Containment Air Return Fans, on June 15, 1989. The performance was well planned and was performed in accordance with an approved procedure. No deficiencies were

noted and the equipment was returned to service in an expeditious manner. The inspector had no further questions.

The inspector reviewed the performance of SI-477, Backup Ice Condenser Monitoring and the following documents were reviewed to gather information pertaining to ice bed temperature monitoring.

PRO 2-89-87, Ice Condenser Monitor
 SI-2, Shift Log
 WR B265910 Ice Bed Temperature Recorder 2-TR61-138
 IMI 134, Configuration Control
 FSAR section 6.2.1.5
 Drawing TVA 45N2618-3
 Drawing Westronics D37075
 Vendor Manual SQM-VTM-W130-0010
 AI-47, Conduct of Testing
 AI-9, Control of Temporary Alterations

On June 24, 1989, the inspector noted that the Unit 2 ice condenser monitoring system temperature recorder (2-TR-61-138) failed to read or record points 25 through 27, that WR B265910 had been written to address this problem, and that TS LCO 3.6.5.2 had been entered. The WR addressed acceptable methods of repair for the recorder and stated that the technician was to verify the recorder calibration, if required, per calibration cards; update calibration cards; and, perform SI-477 if necessary. As a result of this maintenance activity it was determined that the recorder was inoperable because of a failed relay - APP 277W - C205 A16. A replacement relay was not immediately available and the WR was placed into a material availability hold status.

In addition to the maintenance activity that identified the failed relay, SI-477 was partially performed. The partial performance of SI-477 by using a portable measuring and test equipment (M and TE) Fluke digital monitor indicated that the ice bed temperatures were all less than the TS required 27°F. The AI-47 chronological test log stated that SI-477 was stopped based on a request from operations to use the Fluke digital monitor as a replacement for recorder 2-TR-61-138. After interruption of SI-477, the SOS/ASOS utilized the Fluke digital indicator as a substitute for the ice bed monitor recorder 2-TR-61-138, and TS LCO 3.6.5.2 was incorrectly exited.

The inspector reviewed the following aspects of this plant condition:

- a. Ice Bed Temperature Monitoring System Operability in the Control Room/TS LCO 3.6.5.2.a Action Statement Requirements

FSAR Section 6.2.1.5 describes temperature monitoring and states that temperature sensors are distributed throughout the ice bed of the ice condenser. These temperatures are monitored and recorded in the instrument room inside containment. Selected channels are displayed on a recorder in the main control room and provide actuation signals

for the annunciation at preset deviations from the prescribed limits of the ice bed equilibrium temperatures.

On June 24, 1989 the inspector determined that the Fluke digital indicator which was temporarily installed was incorrectly taken as an acceptable temporary substitute for the ice bed monitor recorder. The inspector brought this information to the attention of the licensee. At this point the plant had operated outside the monitoring requirements of LCO action statement 3.6.5.2.a for approximately 49 days.

Action statement 3.6.5.2.a requires that with the ice bed temperature indication not available in the main control room, the ice bed temperature must be determined at the local ice condenser temperature monitoring panel every 12 hours. Failure to comply with the action statement of TS 3.6.5.2.a is a violation and is designated as VIO 327,328/89-19-03.

b. 10 CFR 50.59 Safety Evaluation

The FSAR section referenced above, describes the Ice Condenser Monitoring system and the ice bed temperature indication available in the control room. 10 CFR 50.59 states that the licensee may make changes in the facility as described in the safety analysis report without prior Commission approval unless the proposed change involves an unreviewed safety question or a change in the technical specifications incorporated in the license.

AI-9 is the site approved process that controls temporary changes to plant equipment. AI-9 is required to be used for safety related systems and provides requirements for installing, controlling, returning to normal, and documenting temporary alterations. It further states that temporary alterations that are positively identified and controlled in other plant approved instructions are excluded from the requirements of AI-9 provided the instructions meet certain criteria.

In the case of the control room ice bed temperature monitor/recorder the licensee determined that the installation of the Fluke digital indicator using SI-477 was an acceptable method to temporarily modify the plant. However, SI-477 does not meet the timeliness or safety criteria of AI-9. No safety review as required by SQA-119 was performed to determine if the replacement of the control room ice bed monitor with the Fluke digital indicator constituted an unreviewed safety question. AI-9 also states that for temporary alterations that are installed on equipment that is out of service and normally excluded from the requirements of AI-9; if the instruction is complete or cannot be completed and the temporary alteration must remain installed, the temporary change shall be documented and controlled by AI-9. SI-477 was not intended to be a vehicle for

controlling a temporary or permanent plant modification and states in section 1.2 that the procedure shall be performed when the primary Ice Bed Temperature Monitor, 2-TR-61-138, is inoperable or to verify operability. In addition SI-477 acknowledges the need to perform local temperature indications in accordance with TS LCO action 3.6.5.2.a.

Failure to control a temporary alteration resulting in failure to perform an adequate review pursuant to the requirements of 10 CFR 50.59 for changes to the Ice Condenser Temperature Monitoring system is a violation and is designated as VIO 327, 328/89-18-10.

c. Adequate Corrective Action and Line Management Activities

Although the ice bed temperatures were not being monitored locally, temperature readings were taken every eight hours using the Fluke digital indicator. These readings were consistent with plant conditions and appeared to be within TS 3.6.5.2.a requirements. The inspector discussed the issue with the on-shift SOS/ASOS on June 24, 1989. The SOS determined that he should be in the LCO and stated that he would enter it.

On June 25, 1989 the ice bed temperature monitoring system operability issue was discussed with the Operations Superintendent and the acting Plant Manager. The plant had still not entered the LCO. The Operations Superintendent stated that he believed that the LCO should be entered.

On June 26, 1989 the issue was again discussed with the Operations Superintendent, the acting Plant Manager, and the Vice President, Nuclear Power Production. Each of the managers acknowledged that the LCO had not been entered and took the position that the condition of the plant was acceptable without entering the LCO.

On June 29, 1989 the issue was discussed with the Site Director, who had not been present at the site during the previous 5 days. The Site Director and the on-shift SOS took quick corrective action and the LCO was entered.

On June 30, 1989, a conversation was held with the Site Director, acting Plant Manager, and Operations Superintendent. During this conversation it was confirmed that the licensee had still not performed a safety and/or technical evaluation in accordance with 10 CFR 50.59 nor had the licensee determined if the affected plant system was technically reliable with the temporarily installed equipment. The resident inspector had discussed the need for such an evaluation with the acting Plant Manager and the Operations Superintendent on several occasions throughout the previous week.

10 CFR 50, Appendix B Criterion XVI, states that measures shall be established to assure that conditions adverse to quality such as failures, malfunctions and defective equipment, and nonconformances

are promptly identified and corrected. Licensee management failed to take prompt corrective action from June 25 to 29, when presented with the information that the unit was not in compliance with TS 3.6.5.2 and failed to promptly perform a 50.59 evaluation as of June 30, 1989. This is a violation and is designated as VIO 327,328/89-18-04, Failure to Take Prompt Corrective Action.

Additional weaknesses associated with the above event were:

While using the digital Fluke monitor to take the place of the installed ice bed temperature monitor 2-TR-61-138, the data sheets for several performances of SI-2 indicated that temperature readings were taken from 2-TR-61-138, when in fact the temperature readings were taken from the digital Fluke monitor. Corrective action for the above violations should include resolution of the incorrect entries in these QA records.

After review of the appropriate electrical drawings, the inspector determined that the digital Fluke differed from the installed control room ice bed temperature monitor in that no alarm or annunciation function was provided by the digital Fluke, no permanent record was produced by the digital Fluke and the process of point selection was a manual process on the Fluke as compared to automatic circuit selection on the installed ice bed temperature monitor. The temporary monitor was electrically similar to the permanent monitor with the above exceptions.

During the period May 4, 1989 to June 29, 1989, there is no documentation that a local indication was taken at the local ice condenser temperature monitoring panel in accordance with TS 6.5.2.1 action a. The electrical indications received by the digital Fluke were not electrically the same as those that would be measured at the local panel. The local panel reads directly from the RTDs and the digital Fluke reads through a feedback point selection circuit that includes switching diodes, a card selecting resistance network and a reed switch. The indications taken through the use of the digital Fluke meter appeared to have been reliable and indicate that there were no concerns about the operability of the ice condenser itself, with respect to temperature.

There is no indication on the IMI-134 configuration control sheet or the AI-47 chronological log of what trouble shooting or maintenance activities occurred other than the partial performance of SI-477. This procedural consideration should be included in the response to violation 327,328/89-18-03.

SI-477, contains inaccurate instructions in that it refers to a TS LCO action that does not exist (i.e., 3.6.5.2.c). In addition, the licensee failed to follow SI-477 instructions when Appendix A was performed vice Appendix B. SI-477 requires

Appendix B be performed when the Ice Bed Monitor system is inoperable. These procedural considerations should be included in the response to violations 327,328/89-18-03 and 327, 328/89-18-10.

No trends were identified in the area of surveillance performance during this inspection period. However, the practice of using SIs, which are intended to support a temporary testing activity, to perform plant modifications was identified as a weakness in the licensee's temporary modification/alteration process implementation. The area of surveillance scheduling and management was observed to be adequate and the completion of TS surveillance requirements was accomplished in an acceptable manner.

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 TS.

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.

a. Temporary Alterations (TACFs)

The following TACF was reviewed:

1-88-23-30, Unit 1 Upper Containment Space Heater Thermostats.

No violations or deviations were identified.

b. Work Requests

The following work requests were reviewed:

WR B790747, 1-FS62-11, #3 RCP Seal Flow.

The inspector reviewed and observed portions of site action plan 6-23 designed to reduce the seal flow on the #3 RCP seal. The

licensee adjusted bearing pressure, seal injection flow and seal injection temperature in an attempt to reduce excess seal flow. Lower bearing temperature, standpipe level, and RCDT level were monitored. The licensee worked closely with the pump manufacturer who had two technical representatives on site during these activities. Seal flow was reduced to acceptable limits and no pump damage is indicated. These activities were well planned, managed and implemented.

WR B283529 Reactor Head Vents

This WR was written to repair an indication of high temperature on the vent line. This plant indication was in continuous alarm. However, no other plant indications support this alarm as a true plant condition and support the licensee's determination that there is an indication problem. The inspector discussed the operability of the indication with the ASOS in consideration that it was in continuous alarm. The licensee did not concur with the inspector that there was a question on the operability of the alarm and annunciator.

On June 25, 1989, while reviewing this alarm, the inspector attempted to review TS 4.11 for the head vent system. TS amendment 116 had not been entered into either copy of the Technical Specifications located in the control room or the area. The amendment was issued by the NRC on June 1, 1989; received by TVA on June 8, 1989, received on site on June 13, 1989; and was in the STA's in-box for review on June 25, 1989. The inspector determined that the TS amendments were still outstanding on June 27, 1989, after discussions with the Operations Superintendent on June 26, 1989, and the SOS and STA on June 25, 1989. In response to the inspector's questions, the site licensing manager issued PRD SQP 890391P to resolve both the individual problem with TS amendment 116 and the programmatic aspects of the licensee's TS amendment process (SQA-30, Responsibility for Technical Specification Amendments and Operating License Changes). Failure to supply the licensed operators with updated TS within an appropriate period of time is a violation of Appendix B, Criterion VI, Document Control. This will be tracked as Noncited-violation 327,328/89-18-05 and will remain open until licensee SQA-30 programmatic reviews are complete. This violation is not being cited because the criteria specified in Section V.G. of the Enforcement Policy were satisfied. It is appropriate to categorize this issue as an NCV because of the immediate low safety significance and the long term programmatic corrective action being pursued by the site licensing staff. This item remains open.

WR B265348, DG 2A1 Immersion Heaters

During the review/observation of the immersion heater relay maintenance, the following documents were reviewed:

- M and AI 9, Tightening, Inspection and Documentation of Bolted Connections
- M and AI 7, Cable Terminations
- MI 6.20, Configuration Control During Maintenance Activities
- SQM 2.2, Maintenance Management System Troubleshooting Form 575 - 5889020989

These activities were well planned and implemented. The documents indicated good communication between the maintenance technicians and the planners when questions arose about what was an appropriate post maintenance test. The inspector had no questions.

WR B252551, 1-FCV38-110, Auxiliary Control Air to Unit 1 Isolated Due to Faulty Solenoid.

On June 15, 1989, WR B252551 was written to correct a perceived problem with the 1-FCV-38-110 valve drifting closed and causing loss of air to inside containment. During this event, which required entry into TS LCO 3.6.4.1 and 3.6.1.1, several additional problems arose.

On June 16, 1989 at approximately 9:50 a.m., Unit 1 lost portions of non-essential control air as evidenced by six radiation monitor isolation valves going closed and the other two drifting closed. A containment ventilation isolation signal was not generated.

The licensee determined after several hours that the 1-FCV-38-110 valve was actually operating properly in response to low air pressure in the system. This was caused by an isolation valve being only 1/9 open and a heavy demand on the system at the time. Throughout the event the operators and licensee management responded in an adequate and professional manner. The licensee is still investigating the cause of the throttled isolation valve. With respect to this maintenance activity, the inspector had no further questions. The inspector will review the root cause evaluation when the licensee's investigation is complete.

WR 790932 Unit 1 Cold Leg Accumulator Level Indication

The inspector commenced his review of the work activities concerning Unit 1 CLA level indication 1-LT-63-82 on June 19, 1989. On June 22, 1989, the information requested by the

inspector concerning a PMT was supplied by a Work Control supervisor. The PMT had been completed and the results were unacceptable. The completed PMT indicated that there was a high probability that the remaining CLA level indicator, 1-LT-63-60, was not accurately indicating CLA level. Indicator 1-LT-63-60 was being used as the sole level indication and means to comply with TS 3.5.1.1. The inspector discussed this concern with the Site Director and the Operations Superintendent. The inspector determined that the below listed sequence of events occurred:

Date Time Discussion

- 5/7 ---- WR 790932 was written because of the disparity between channels 1-LT-63-82 and 1-LT-63-60. The operators had filled the #4 CLA several times during previous shifts. Because of plant conditions and the best professional judgement available to the SUS/ASOS at the time, 1-LT-63-82 was declared inoperable.
- 6/22 0000 Work was commenced on 1-LT-63-82. Despite the fact that this was a control room WR and the licensee announced its intention to reduce the number of control room WRs, the inspector discovered that this particular WR had been downgraded from a priority 3 (work within three days), rescheduled and replanned. These activities had resulted in a delay of approximately 44 days.
- 6/22 1300 IM technicians completed transmitter maintenance and PMT activities for 1-LT-63-82. These activities indicated that channel 1-LT-63-82 was accurately indicating CLA level and that it differed from channel 1-LT-63-60 by 11%. This difference between the channel indicated levels (functional test) resulted in a failed PMT.
- 6/22 1530 The auxiliary instrument room rack portion of the loop calibration was completed by the IM technicians to ensure that 1-LT-63-82 was accurate. The discrepant channel information was communicated to the oncoming SOS.
- 6/22 1600 The SOS discussed with the acting Plant Manager plant conditions and the possibility that entry into the TS LCD for CLA #4 operability may be required. At the time of this discussion it was believed by the SOS that if 1-LT-63-82 was determined to be operable, a high level condition

(in excess of TS) in the CLA would be indicated and entry into LCO 3.5.1.1 would be required.

6/22 1749 The SOS, maintenance personnel and the work group reviewed the work package in the control room. Level indicator 1-LT-63-82 was determined to be reading correctly based on a channel calibration completed at 1530, but was still considered inoperable because the PMT requirements for the channel check could not be met. Level transmitter 1-LT-63-60 was then declared inoperable based on the channel check and confidence in the loop calibration for level transmitter 1-LT-63-82. Because neither transmitter could be determined to be operable, LCO 3.5.1.1. was entered for CLA inoperability due to a lack of all level indication.

This issue will remain open to determine at a minimum the following:

- The acceptability of not performing the required maintenance activities for approximately 44 days.
- Whether or not there is a reticence on the part of plant management to take conservative technically based actions when plant conditions indicated potential entry into TS action statements.
- Whether the requirements of AI-47, and AI-12, were met during the performance of these activities. In addition, the difference between the information that was available to the SOS at 1:00 p.m., 3:30 p.m., and 5:49 p.m., and when 1-LT-63-60 was declared inoperable will be reviewed.
- Whether the PMT was adequate.
- What process allowed and provided for the loop calibration of the rack and the transmitter portions of the level instruments.
- Whether the CLA exceeded level requirements between May 7 and June 22.

This will be tracked as URI 327,328/89-18-01.

5. Management Activities in Support of Plant Operations

TVA management activities were reviewed on a daily basis by the NRC inspectors. Resident Inspectors observed that planning, scheduling, work control and other management meetings were effective in controlling plant activities. First line supervisors appeared to be knowledgeable and involved in the day to day activities of the plant. First line supervisor involvement in the field was observed. Operations management and plant management response to two plant events that occurred during this inspection period was slow and in one instance was nonconservative. These events are discussed in paragraphs 3 and 4 of this report. Finally, the Site Director's response to the two plant events was quick and effective.

6. Site Quality Assurance Activities in Support of Operations

During the inspection period, the site QA staff performed audits, inspections, and reviews. These issues were reviewed by the inspector and found to be adequately resolved by the licensee. The following audits were performed:

QSQ-M-89-606	Radioactive Waste Solidification Process Control Program
QSQ-M-89-682	Plant Material Condition
QSQ-M-89-620	Operator Aids
QSQ-M-89-612	Special Monitoring - NER 890156
QSQ-M-89-688	Maintenance Performance
QSQ-M-89-656	CCTS Verification

In addition to the above audits, the inspector discussed several recent issues with the Site QA Manager and the QA Surveillance Group Manager. The inspector determined that QA involvement in these issues was adequate.

7. ECN Backlog Closure (92701)

The inspector reviewed licensee corrective actions intended to reduce a backlog of ECN closure packages. By letter dated February 3, 1987, the licensee committed to close an ECN backlog of "work complete" ECNs numbering approximately 1150. This work was to be completed on October 15, 1988. The inspector reviewed this closure effort and determined the following:

- ° Neither the licensee nor the NRC considers the commitment complete as of July 5, 1989.
- ° Series 2000 ECNs were closed by DNE under a previous design process. Verification did not require that plant actions were complete.

- ° Approximately 52 ECNs were substituted for ECNs on the original list of 1150 that were difficult to close.
- ° The licensee had not accounted for approximately 200 additional ECNs from the original 1150 ECNs.
- ° At least 17 ECNs were cancelled or voided and were not completed or closed.

These issues will be reviewed as URI 327,328/89-18-02, Completion of Old ECN Closures.

6. Exit Interview (30703)

The inspection scope and findings were summarized on July 6, 1989, with those persons indicated in paragraph 1. The Senior Resident Inspector described the areas inspected and discussed in detail the inspection findings listed below. In addition the strengths and weaknesses identified at the end of each report section were discussed. 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:

- (Open) URI 327,328/89-18-07, "Pressurizer Safety Valve Temperature High"
- (Open) IFI 327,328/89-18-08, "HP Practices"
- (Closed) NCV 327,328/89-18-06, "Unattended Badge and Key Card"
- (Open) URI 327,328/89-18-09, "Personnel and Package Monitoring Corrective Actions"
- (Open) VIO 327,328/89-18-03, "Failure to Comply with TS 3.6.5.2 Action a, Ice Condenser Temperature Monitoring System Operability"
- (Open) VIO 327,328/89-18-10, "Failure to Perform a Plant Change in Accordance with 10 CFR 50.59"
- (Open) VIO 327,328/89-18-04, "Failure to Take Prompt Corrective Action"
- (Open) NCV 327,328/89-18-05, "Document Control for TS Changes"
- (Open) URI 327,328/89-18-01, "Cold Leg Accumulator Level Indication"
- (Open) URI 327,328/89-18-02, "Completion of Old ECN Closures"

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

13. 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
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
NCV	-	Non-cited Violation
NOV	-	Notice of Violation
NQAM	-	Nuclear Quality Assurance Manual
NRC	-	Nuclear Regulatory Commission
OSLA	-	Operations Section Letter - Administrative
OSLT	-	Operations Section Letter - Training
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