UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report Nos.: 50-327/84-20 and 50-328/84-21

Licensee: Tennessee Valley Authority
500A Chestnut Street
Chattanooga, TN 37401

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

Facility Name: Sequoyah Nuclear Plant

Inspection Conducted: July 6 - August 5, 1984

Inspectors: SWeise for 9/18/84
E. J. Ford Date Signed

Approved by: SWeise 9/18/84
S. P. Weise, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine, announced inspection involved 170 inspector-hours onsite in the areas of operational safety verification, auxiliary control system, residual heat removal system, followup on events, ESF system operability, IE Bulletin followup, LER followup, independent inspection effort and in-office review.

Results: Of the nine areas inspected, no violations were identified in six areas; four violations were found in three areas (Failure to have an adequate maintenance procedure, para. 6; failure to have an adequate surveillance procedure on RHR, para. 7; failure to make required 10CFR 50.72 notification para.7, and failure to implement procedures, para 8).

REPORT DETAILS

1. Licensee Employees Contacted

   P. R. Wallace, Plant Manager
   L. M. Nobles, Operations and Engineering Superintendent
   J. B. Krell, Maintenance Superintendent
   M. R. Harding, Engineering Group Supervisor
   J. M. Anthony, Operations Group Supervisor
   D. C. Craven, Maintenance Supervisor (E)
   D. H. Tullis, Maintenance Supervisor (W)
   B. M. Paterson, Maintenance Supervisor (I)
   R. W. Fortenberry, Engineering Section Supervisor
   D. E. Crawley, Health Physics Supervisor
   J. T. Crittenden, Public Safety Service Supervisor
   J. L. Hamilton, Quality Engineering Supervisor
   R. E. Alsop, Compliance Supervisor

   Other licensee employees contacted included field services craftsmen, technicians, operators, shift engineers, security force members, engineers, maintenance personnel, contractor personnel and corporate office personnel.

2. Exit Interview

   The inspection scope and findings were discussed with plant management throughout the inspection period by S. D. Butler and were summarized by E. J. Ford with the Plant Superintendent and/or members of his staff on July 18, August 2, and August 30, 1984. The violations were discussed and the licensee acknowledged the inspection findings. During the reporting period, frequent discussions are held with the Plant Superintendent and his assistants concerning inspection findings.

3. Licensee Action on Previous Enforcement Matters

   Not inspected.

4. Unresolved Items

   Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraph 7.

5. Operational Safety Verification (71707)

   The inspector toured various areas of the plant on a routine basis throughout the reporting period. The following activities were reviewed/verified:

   a. Adherence to limiting conditions for operation which were directly observable from the control room panels

b. Control board instrumentation and recorder traces

c. Proper control room and shift manning

d. The use of approved operating procedures

e. Unit operator and shift engineer logs

f. General shift operating practices

g. Housekeeping practices

h. Posting of hold tags, caution tags and temporary alteration tags

i. Personnel, package, and vehicle access control for the plant protected area

j. General shift security practices on post manning, vital areas access control and security force response to alarms

k. Surveillance testing in progress

l. Maintenance activities in progress

m. Health physics practices.

6. Auxiliary Control Air System (71707, 62703)

During a plant tour on July 9, the inspector observed both auxiliary control air system air compressors (ACC - auxiliary air compressor) tagged out for maintenance. Compressor A-A had been out of service previously and was awaiting parts. Compressor B-B began to operate improperly early on July 9 and was removed from service by operations for trouble shooting and repair. Personnel from mechanical maintenance were present and disassembling B-B with only a maintenance request (MR#A121262).

The inspector discussed the lack of a maintenance procedure with the crew foreman and he indicated they had always used only an MR and MI-6.20 "Config. Control" for disassembly of the air compressors and also that they referred to the tech manual if necessary. The MR was properly designated CSSC and had been reviewed and approved by QA prior to the beginning of work.

The inspector went to the control room and questioned the Shift Engineer on his plans and limitations for operating the units with both AAC'S inoperable. He indicated that because of the guidance from their TS interpretation committee and the lack of TS requirements for AAC'S he didn't consider himself into any action item. The inspector discussed the issue further with members of plant management who later informed the inspector that they had concluded that with both AAC'S inoperable, the units were in TS 3.0.3 and that both units would commence shutdown if unable to restore at least

one ACC before the end of the action time. TVA subsequently declared an unusual event, started shutting both units down and notified the NRC in accordance with 10CFR 50.72. Later in the day (July 9) the B-B AAC was repaired, tested and returned to service, and the shutdown of both units ceased. The inspector reviewed log entries regarding the above action and physically verified the compressor was in service.

The following day the inspector was informed that the SNP Technical Specification (TS) committee had reevaluated the question of AAC operability and its effect on plant operations. The committee had concluded that with both AAC's inoperable, both units would be governed by TS 3.0.3. The inoperability of one AAC would follow the same guidelines as TS 3.0.5. TVA will set an action time of 72 hours to fix an AAC. Systems that are serviced by that AAC would be operable as long as normal control air was available and the opposite train was operable.

For information purposes, the Auxiliary Air System was in the original FSAR Chapter 16 TS but was not submitted as part of Standard Technical Specifications (STS) submittal because there was no provisions for the control air system in STS.

Maintenance and reliability of the AACs was discussed on July 11 with the Maintenance Superintendent and the Maintenance Supervisor. The inspectors asserted that the disassembly and repair of the AAC was not within the skill of the craft and thus the lack of detailed maintenance procedures was unacceptable since it did not meet OQAM and TS requirements for doing maintenance in accordance with written instructions. This failure to have adequate maintenance procedures for work on the AACs is a violation of TS 6.8.1 (327/84-20-01, 328/84-21-01). The licensee agreed to write detailed procedures and evaluate their threshold for procedure usage in other areas and upgrade as necessary. Review of this effort is identified as an inspector followup item (327/84-20-02).

7. Residual Heat Removal (RHR) System (71707, 61726)

During a control room tour and operating log review the inspector noted Unit 2 log entries which indicated that on July 10, a surveillance test was run which possibly made the RHR system inoperable. The problem was realized on July 11, and a Potential Reportable Occurrence (PRO) was written.

Discussions with licensee personnel indicated that SI 267.74.2 "Inservice Pressure Testing of RHR System - Outside Containment" was commenced on Unit 2 on July 10. The test was secured prematurely due to valve leakage. When test personnel requested to recommence the test on July 11, an Assistant Shift Engineer (ASE) recognized that the test valve alignment (i.e. valve 74-34 open) would make both trains of RHR inoperable because discharge flow would be diverted back to pump suctions. He did not allow the valve to be opened. A temporary change to the SI was written and a PRO was written.

The inspectors discussed the matter with Compliance Group personnel on July 13, concerning Unit 2 RHR inoperability, SI-267.74.2 inadequacy, and reportability.

The licensee planned to have their engineering staff evaluate the effect of opening valve 74-34 on system operability. The licensee did not believe that TS 3.0.3 was exceeded in the event both trains of RHR were inoperable because valve 74-34 was only open approximately three hours. This time period was later verified by the inspectors by reviews of operating and configuration logs which indicated valve 74-34 was opened at 0858 and closed at 1145 when the test was secured due to valve 62-83 leakage.

The adequacy of the procedure was discussed with plant management and it was generally agreed that the SI was in technical error in that it caused both trains of RHR to be degraded for two hours, forty-seven minutes. The licensee is reviewing all similar instructions pertaining to ASME section XI external leakage inspections to ensure improper valve lineups are not present. This failure to have an adequate procedure to perform inservice testing of the RHR system is a violation (328/84-21-02).

Reportability of the degraded operability of the RHR system was also discussed. The licensee had determined that the event was reportable in accordance with 10 CFR 50.73 (Licensee Event Report) but not with respect to 10 CFR 50.72 (Immediate Notification Requirements). The inspector asserted that it was a 50.72 reportable occurrence in that the condition produced by the faulty valve lineup could have prevented the fulfillment of the safety function of the RHR system by providing a major flow diversion path thus reducing normal flow path water volume. This failure to report as required by 10 CFR 50.72 is a violation (328/84-21-03).

The inspectors noted that the test commenced at 0223 on July 10, and that subsequently at 0858 it was noted that the correct valve line-up was not in effect. It has not been determined whether personnel failed to follow procedure and establish the correct valve line-up before starting the pump or whether it was recognized that the procedure was inadequate to maintain system operability. Pending further regulatory information from the licensee this item is unresolved (328/84-21-04).

8. Followup of Event (93702)

On July 9th the inspector followed up on a reported failure of the 2A-A Centrifugal Charging Pump (CCP) on July 8th. A review of the event revealed that failure of the pump and entry into a limiting condition of operation was properly logged by operators, pump was tagged out and maintenance had been initiated. A review of logs and discussions with operators revealed that earlier problems with the 2A-A CCP began on July 3, when smoke in the pump room set off the fire alarm.

The pump and adjacent equipment was inspected and subsequently run without evidence of a problem. The smoke was attributed to the room cooler fan belt. The scheduled SI-40 (ASME Sect. XI) test was run on July 5 with results normal. The pump was put in service early on July 8 to investigate a temperature discrepancy on the 2B-B CCP and a fire alarm at 1837 caused the operator to restart the 2B-B pump and shut down 2A-A. Inspection revealed probable motor bearing damage and maintenance was initiated.

The inspector reviewed Hold Order #934 for the 2A-A CCP and determined that second person verification had not been accomplished for tagging out the pump. The Shift Engineer was informed of the problem and had the hold order verified by another ASE. The inspector verified that the tagout had been properly hung and that the 2B-B, 1A-A, and 1B-B CCPs were properly aligned. The compliance supervisor was informed. This item constitutes a violation of licensee procedures for independent verification of clearances on safety-related equipment (328/84-21-05).

9. ESF System Operability Verification (71710)

During the reporting period the inspector performed an operability review of the Unit 1 and Unit 2 common Auxiliary Control Air System. This inspection included FSAR research, surveillance instruction review and system drawings comparison to the as-built configuration. This detailed review was reactive to plant tour findings described in section 6 and 7 of this report.

10. IE Bulletin Followup (92703)

(Closed) IE Bulletin 82-02: Degradation of Threaded Fasteners in the Reactor Coolant Pressure Boundary of PWR Plants, has been closed based on regional review of licensee responses dated August 1982, February 1983, and November 1983.

11. Licensee Event Report (LER) Followup

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, and the LER forms were complete. Additionally, for those reports identified by an asterisk, a more detailed review was performed to verify that the licensee had reviewed the event, corrective action had been taken, no unreviewed safety questions were involved, and violations of regulations or Technical Specification conditions had been identified.

328/84001	327/84002	327/84010	*327/84027
328/84002	327/84003	327/34020	*327/84045
*328/84006	327/84004	327/84022	*328/84012
327/84001			

12. Independent Inspection Effort

The inspector routinely attended the morning staff meetings during the reporting period. These meetings provide a daily status report on operational and maintenance activities in progress as well as a discussion of significant problems or incidents associated with the plant.

13. In-Office Review

The following items were evaluated by the Reactor Safety, Radiation Safety and Safeguards, and Reactor Projects regional staff. Based on this review and the results of the latest Resident and Region based inspection activities in the affected functional areas, the following items were determined to require no additional specific followup and are closed.

a. Docket 50-327

1) Construction Deficiency Reports (CDRs) and Licensee Identified Items (LII's)

80012
79-12-10
79-36-08
79-63-01
80-04-05

2) Licensee Event Reports (LERs)

81001	81035	81072	82075
81005	81036	81076	82078
81006	81037	81077	82079
81007	81038	81079	82082
81009	81039	81080	82086
81010	81040	81085	82089
81011	81041	81090	82100
81012	81042	81108	82111
81013	81043	81114	82116
81014	81044	81117	82121
81016	81045	81119	82123
81017	81046	81142	82124
81018	81047	81148	82128
81019	81048	81150	82139
81021	81049	81151	
81022	81050	81159	
81023	81051	82003	
81024	81052	82006	
81025	81053	82029	
81026	82054	82036	
81027	81055	82043	
81028	81058	82048	
81029	81059	82051	
81030	81062	82056	
81031	81063	82066	
81032	81064	82068	
81033	81065	82071	
81034	81068	82074	

3) Violations

80-39-01

4) Unresolved Items

80-10-03
76-21-02
80-44-08

5) IFIs, Bulletins and Circulars

79-45-02	P2181-01
79-45-03	P2181-02
79-70-05	80-BU-05
80-SB-02	81-23-01
80-20-02	82-22-01
80-20-03	78-SB-05
80-29-01	78-SB-13
80-31-02	79-BU-26
80-31-03	79-SB-09
80-36-07	79-SB-10
80-39-02	79-SB-11
80-39-04	79-SB-12
80-39-05	79-SB-15
80-44-05	79-SB-17
81-19-01	79-SB-18
82-14-01	79-SB-19
	79-SB-20
	79-SB-21
	79-39-01
	79-45-01

b. Docket 50-328

1) CDRs and LII's

80012	81-20-16
81020	81-20-18
81040	81-20-21
81041	81-20-22
81043	82-02-01
81-CD-02	82-02-02
81-CD-03	82-02-03
81-CD-05	82-02-04
81-CD-08	82-02-05
81-CD-09	82-02-06
81-CD-12	82-02-07

	81030		82-02-08
	80-09-12		82-02-09
	81-CD-10		82-02-10
	81-CD-11		82-02-11
	81-02-12		82-02-14
	81-02-29		82-02-15
	81-02-31		82-02-16
	81-02-35		82-02-17
	81-27-02		82-02-18
	81-28-01		
	81-35-01	LII	81-02-19
	79-07-10		81-35-03
	80-09-01		81-02-17
	80-09-02		81-20-07
			81-20-08
			81-20-11
			81-20-12
			81-20-13
			81-20-14

2) LER's and NRE's

LER	81005	NRE	81-01
	81034		81-06
	81106		81-07
	81122		81-08
	81141		81-09
	81144		82-01
	81158		
	82002		
	82026		
	82038		
	82042		
	82044		
	82061		
	82064		
	82081		
	82084		
	82090		
	82118		
	82138		

3) Violations

VIO	80-08-03
	81-03-02

4) Unresolved Items

81-35-02
81-38-06
81-38-07
82-22-01
80-21-06
80-23-11
81-42-04
82-03-01
82-10-01

5) IFIs, Bulletins and Circulars

78-SB-05	80-27-09
79-SB-06	80-27-10
79-SB-09	81-20-02
79-SB-10	81-20-04
79-SB-11	81-20-24
79-SB-12	82-14-01
79-SB-15	
79-SB-17	
79-SB-18	
79-SB-19	
79-SB-20	
80-SB-02	
80-12-01	
80-23-06	
80-27-01	
80-27-02	
80-27-03	
80-27-04	
80-27-05	
80-27-07	
80-27-08	