

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

Report Nos.: 50-259/92-44, 50-260/92-44, and 50-296/92-44

Licensee:

Tennessee Valley Authority

6N 38A Lookout Place 1101 Market Street

Chattanooga, TN 37402-2801

Docket Nos.:

50-259, 50-260,

License Nos.: DPR-33, DPR-52,

and DPR-68

and 50-296

Facility Name: Browns Ferry Units 1, 2, and 3

Inspection at Browns Ferry Site near Decatur, Alabama

Inspection Conducted: December 17, 1992 - January 15, 1993

Inspector:

Accompanied by:

J. Munday, Resident Inspector

R. Musser, Resident Inspector

Approved by:

Kel/000, Chief

Reactor Projects, Section 4A Division of Reactor Projects

SUMMARY

Scope:

This routine resident inspection included surveillance observation, surveillance procedures and records, maintenance observation, operational safety verification, fire protection, modifications, Unit 3 restart activities, reportable occurrence,

and action on previous inspection findings.

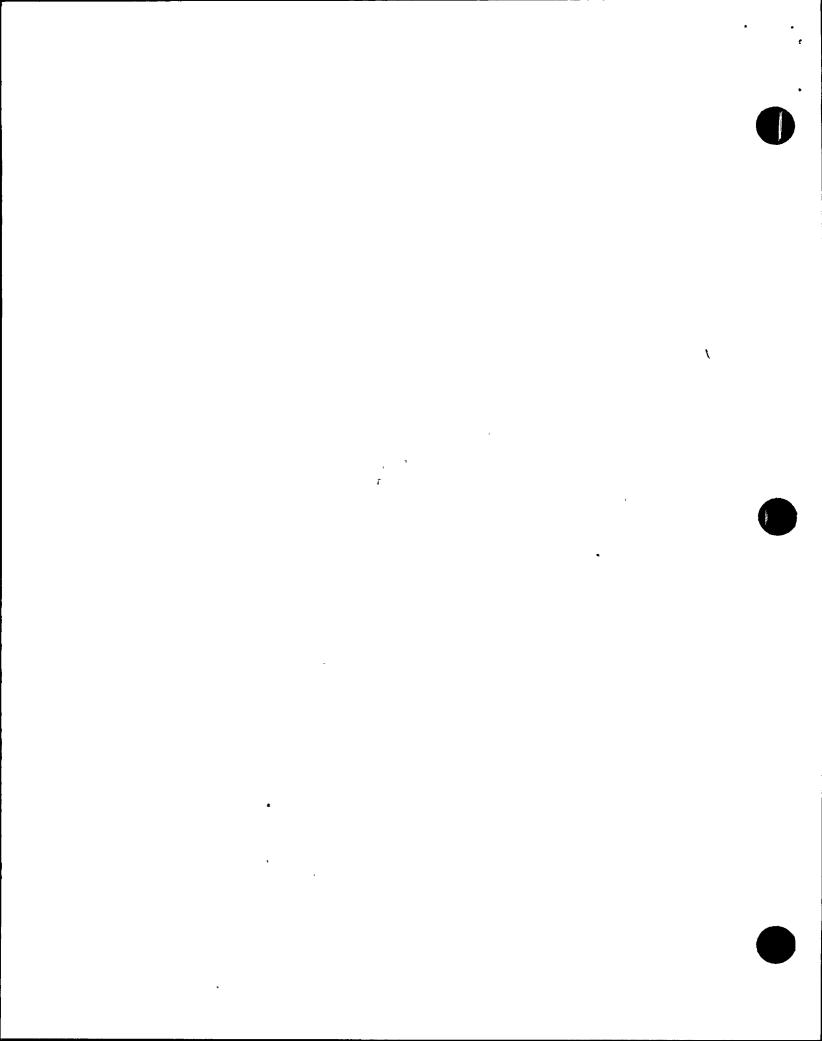
One hour of backshift coverage was routinely worked during the work week. Deep backshift inspections were conducted on

January 10 and 15, 1993.

Results:

Unit 2 operated at power, coasting down in power level and was online for 107 days at 69 percent power at the end of the period, paragraph 5. This was the first 100 days of continuous operation since the unit returned to operations. Major pre-outage work continues in preparation for the January 29, 1993 shutdown.

One noncited violation was identified by the licensee for failure to follow a diesel generator operability surveillance procedure, paragraph 2. A manual turning tool was left engaged and the engine started destroying the tool. The licensee conducted an incident investigation and took several corrective actions to prevent reoccurrence.



REPORT DETAILS

1. Persons Contacted

Licensee Employees:

- *J. Bynum, Vice President, Nuclear Operations
- *O. Zeringue, Vice President *J. Scalice, Plant Manager
- J. Rupert, Engineering and Modifications Manager
- D. Nye, Recovery Manager
- *M. Herrell, Operations Manager
- J. Maddox, Engineering Manager
- *M. Bajestani, Technical Support Manager
- R. Jones, Operations Superintendent
- A. Sorrell, Special Programs Manager
- C. Crane, Maintenance Manager
- G. Pierce, Acting Licensing Manager *R. Baron, Site Quality Manager
- *J. Corey, Site Radiological Control Manager
- A. Brittain, Site Security Manager

Other licensee employees or contractors contacted included licensed reactor operators, auxiliary operators, craftsmen, technicians, and public safety officers; and quality assurance, design, and engineering personnel.

NRC Personnel:

- P. Kellogg, Section Chief
- *C. Patterson, Senior Resident Inspector
- *J. Munday, Resident Inspector
- R. Musser, Resident Inspector

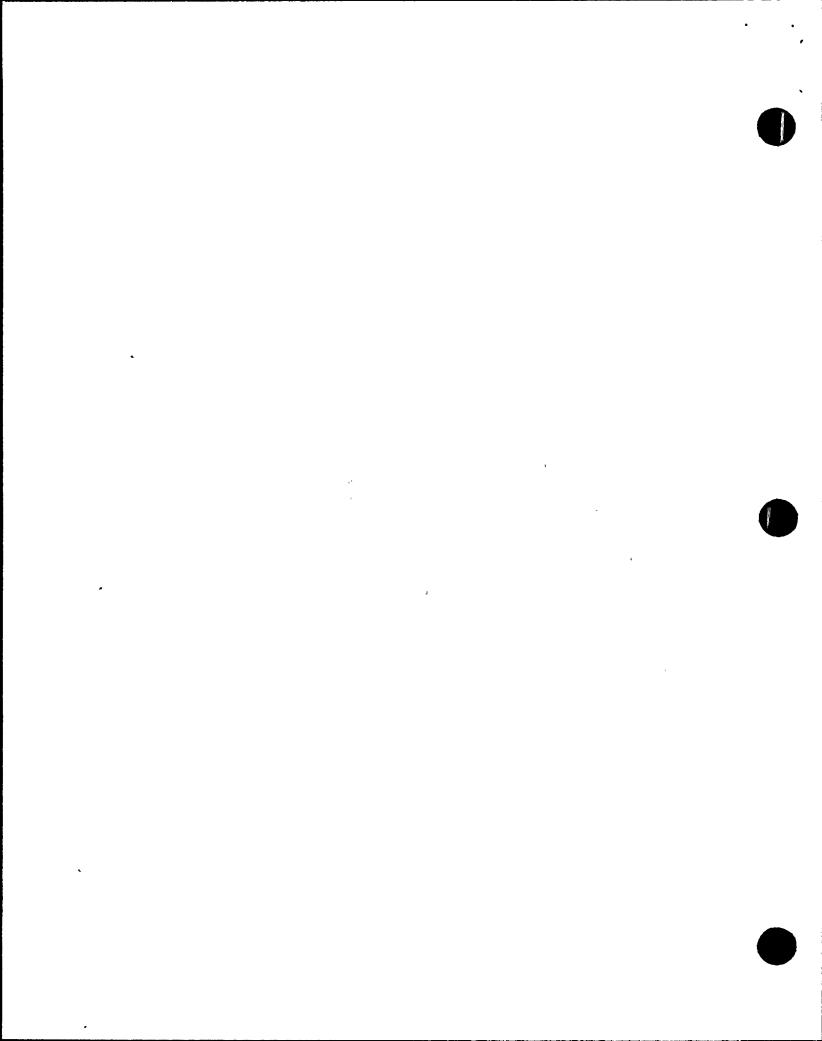
A management meeting was conducted on site on January 8, 1993, to review the project status. NRC attendees were S. Ebneter, Regional Administrator, Region II; J. Johnson, Region II; F. Hebdon, NRR; T. Ross, NRR; J. Williams, NRR; and P. Kellogg, Region II.

*Attended exit interview

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

Surveillance Observation (61726) 2.

The inspectors observed and/or reviewed the performance of required SIs. The inspections included reviews of the SIs for technical adequacy and conformance to TS, verification of test instrument calibration, observations of the conduct of testing, confirmation of proper removal from service and return to service of systems, and reviews of test data. The inspectors also verified that LCOs were met, testing was accomplished by qualified personnel, and the SIs were completed within



the required frequency. The following SIs were reviewed during this reporting period:

a. 2-SI-4.2.E.2, Drywell Leak Detection Radiation Monitor Source Calibration and Functional Test 2-RM-90-256

The inspector observed portions of 2-SI-4.2.E.2, Drywell Leak Detection Radiation Monitor Source Calibration and Functional Test 2-RM-90-256. The test provides the instrument source calibration and functional test of the drywell leak detection air sampling system monitor 2-RM-90-256 and partially satisfies the requirements specified in TS table 4.2.E. The inspector noted the IMs proper use of the procedure and in particular independent verification. Additionally the M&TE calibration and procedure revision were verified current. The inspector reviewed the completed SI and noted no discrepancies.

b. 3-SI-4.9.A.1.a(3A), Diesel Generator 3A Monthly Operability Test

On December 14, 1992, during the performance of surveillance instruction 3-SI-4.9.A.1.a(3A), the 3A EDG was fast started with a manual turning tool engaged to the engines ring (bull) gear. The turning tool is used to manually turn over the engine prior to starting in order to preclude any damage to the engine due to fluid being trapped in the cylinders. Following the manual roll over of the engine and prior to its fast start, step 7.5.10 of procedure 3-SI-4.9.A.1.a(3A) requires removal of the manual turning tool. The unlicensed operator that signed for the performance of this action assumed that the turning tool had been removed (by another AUO who was training on this evolution) when in fact it had not been. His assumption was based on the fact that the engines ring gear cover had been reinstalled and his belief that it was not possible for the cover to be installed with the manual turning tool attached to the engine. Following these assumptions, the AUO continued with the performance of the procedure. Upon the fast starting of the engine, the AUO heard an unusual noise. An inspection of the engine revealed that the manual turning tool "C" clamp was visible. The AUO contacted the control room and informed the unit operator of the situation. The engine was given a stop signal and following an inspection of the engine by the ASOS, the diesel was allowed to continue with its cool down cycle. Inspection of the engine revealed minor damage to the ring gear consisting of raised and rolled metal on the gear teeth. The manual turning tool internal gear teeth were completely sheared. The engines ring gear was repaired by filing as specified by WO 92-66478. The ring gear experienced no permanent damage.

The licensee conducted an incident investigation (B-92-079) on this matter. Numerous corrective actions were initiated. Included in these were disqualifying involved personnel from further evolutions involving the diesel generator until retraining

occurs, briefing all operations personnel on this event and ensuring they understand the expectation for conducting on-the-job training, and taking appropriate personnel action against the involved individuals. In addition, the 3A EDG ring cover will be modified such that it cannot be installed with the manual turning tool in place. Of the eight EDGs on site, only the 3A diesel ring gear cover was constructed such that is could be installed with the turning tool also in place.

TS 6.8.1.1.c requires that written procedures be implemented covering surveillance and test activities of safety-related equipment. The failure to remove the manual turning tool is a violation of procedure 3-SI-4.9.A.1.a(3A), "Diesel Generator 3A Monthly Operability Test." This violation (259, 260, 296/92-44-01) will not be subject to enforcement action because the licensee's efforts in correcting the violation meet the criteria specified in Section VII.B of the Enforcement Policy.

c. 2-SI-4.5.F.1.c, RCIC System MOV Operability

On January 13, 1993 the inspector observed portions of Surveillance Instruction 2-SI-4.5.F.1.c, RCIC System MOV Operability. This surveillance that satisfies the requirements of TS 4.5.F.1.c, by verifying stroke times of various RCIC MOV's to be acceptable. The inspector verified the operator was obtaining the stroke times in accordance with the procedure. Additionally the inspector verified the operator had the current revision of the procedure. No discrepancies were identified.

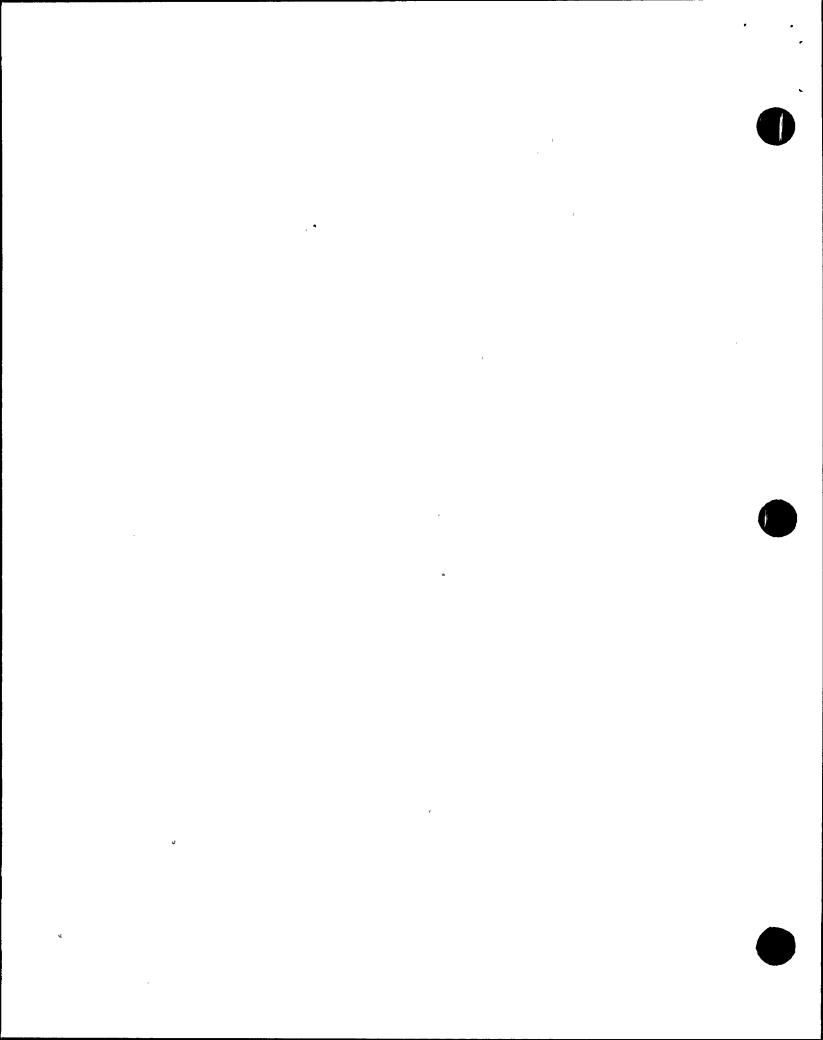
One noncited violation was identified in the surveillance observation section.

3. Surveillance Procedures and Records (61700)

The inspector reviewed the following completed SI's in accordance with Inspection Procedure 61700:

2-SI-4.5.E.1.d	revision	14
2-SI-3.7.A.3.a(B)	revision	7
2-SI-4.2.E.2FT	revision	4
2-SI-4.5.A.1.d(I)	revision	20

The procedures were adequately written to ensure the requirements of TS and the ISI program were complied with. Prerequisites and precautions were clearly stated at the beginning of the procedures. Post-test reviews were performed in accordance with SSP-8.2, Surveillance Test Program. The inspector noted one discrepancy with 2-SI-4.5.A.1.d(I), Core Spray Flow Rate Loop I. Step 7.45.5 verifies a calculation performed in a previous step is correct but incorrectly referenced the wrong step number. This was brought to the attention of the system engineer who stated that it was a typographical error and had been corrected in a subsequent revision. This was verified by the inspector



to be accurate information and is no longer a concern. No other discrepancies were noted.

4. Maintenance Observation (62703)

Plant maintenance activities were observed and/or reviewed for selected safety-related systems and components to ascertain that they were conducted in accordance with requirements. The following items were considered during these reviews: LCOs maintained, use of approved procedures, functional testing and/or calibrations were performed prior to returning components or systems to service, QC records maintained, activities accomplished by qualified personnel, use of properly certified parts and materials, proper use of clearance procedures, and implementation of radiological controls as required.

Work documentation (MR, WR, and WO) were reviewed to determine the status of outstanding jobs and to assure that priority was assigned to safety-related equipment maintenance which might affect plant safety. The inspectors observed the following maintenance activities during this reporting period:

a. Standby Gas Treatment Maintenance

The inspector observed activities associated with WO 92-59200, which calibrated the charcoal bay temperature switch, 0-TS-65-36, in the B SBGT train. This switch provides annunciation in the main control room upon increased temperature in the charcoal bay. This switch is physically located inside the SBGT unit which required opening the unit and removing a charcoal tray to access the sensing bulb. The inspector observed the activities associated with accessing the bulb, with particular attention given to foreign material exclusion. The calibration was checked in accordance with CCI-O-TS-00-028, by placing the sensing bulb into a calibrated heat source, raising the temperature, and recording the point at which the switch changes state. The required setting was 146 to 154 degrees fahrenheit. The as found setting was 170.4 degrees fahrenheit. The switch was recalibrated to change state at 153.2 degrees fahrenheit. The inspector noted no deficiencies during this activity.

b. Fire Pump Maintenance

On December 7, 1992 WO 92-66301 was written to replace the diesel fuel check valve on the diesel fire pump because it was leaking fuel oil into the lube oil pan. The diesel engine vendor had previously identified fuel in the oil and determined the cause to either be a leaking check valve or a problem with the injector seals. The vendor felt the highest probability was the leaking check valve. Concurrent with this problem was a crack in a surge valve body on the motor driven fire pump header, the repair of which would render all motor driven fire pumps inoperable. The licensee decided to replace the check valve and to monitor the

lube oil level to see if it increased, which would indicate the problem was not corrected. This maintenance was performed and the pump declared operable on December 9, 1992. On December 10, 1992 the electric driven fire pumps were removed from service to repair the cracked surge valve and following repair declared operable on December 11, 1992. On December 17, 1992 the diesel fire pump was again removed from service when fuel oil was found again in the lube oil. The injectors were replaced under WO 92-66588 and the pump returned to service on December 19, 1992. The inspector discussed these activities and the logic of not initially performing maintenance on both the check valve and the injectors with management and engineering. The licensee determined that the fuel in the lube oil reduced the weight of the oil but did not affect the operability of the pump. The inspector reviewed the analysis of the lube oil and concurred with the licensee's determination.

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

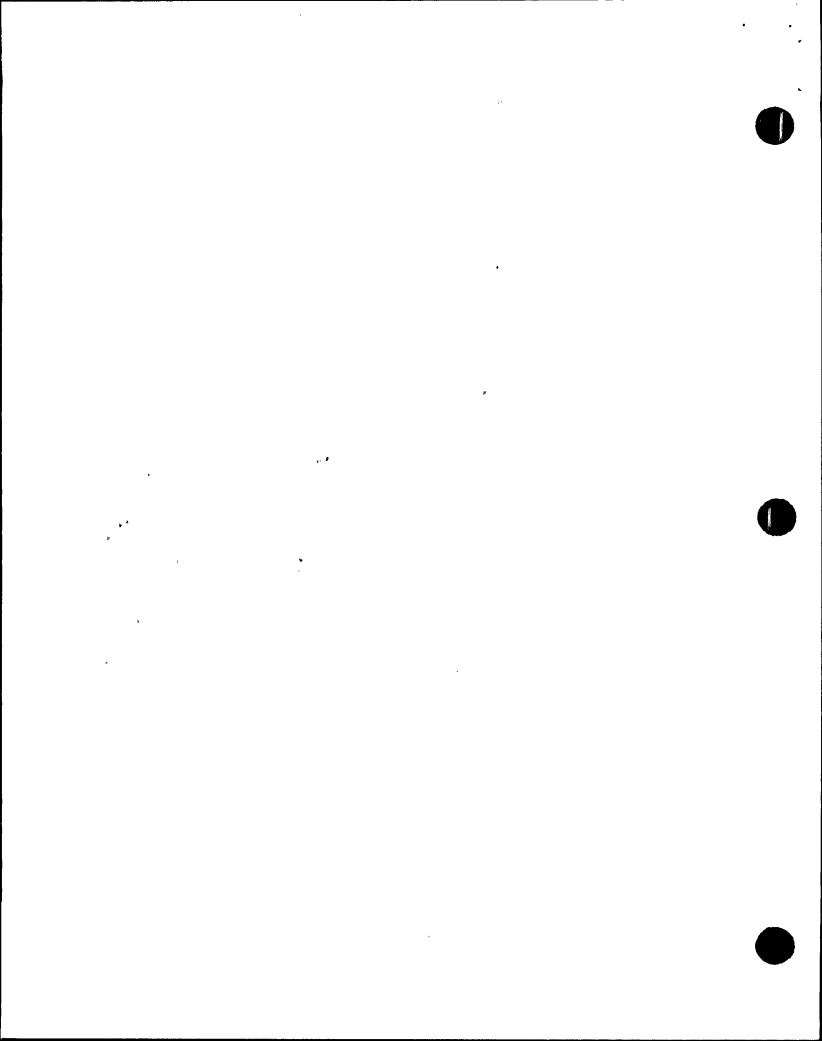
5. Operational Safety Verification (71707)

The NRC inspectors followed the overall plant status and any significant safety matters related to plant operations. Daily discussions were neld with plant management and various members of the plant operating staff. The inspectors made routine visits to the control rooms. Inspection observations included instrument readings, setpoints and recordings, status of operating systems, status and alignments of emergency standby systems, verification of onsite and offsite power supplies, emergency power sources available for automatic operation, the purpose of temporary tags on equipment controls and switches, annunciator alarm status, adherence to procedures, adherence to LCOs, nuclear instruments operability, temporary alterations in effect, daily journals and logs, stack monitor recorder traces, and control room manning. This inspection activity also included numerous informal discussions with operators and supervisors.

General plant tours were conducted. Portions of the turbine buildings, each reactor building, and general plant areas were visited. Observations included valve position and system alignment, snubber and hanger conditions, containment isolation alignments, instrument readings, housekeeping, power supply and breaker alignments, radiation and contaminated area controls, tag controls on equipment, work activities in progress, and radiological protection controls. Informal discussions were held with selected plant personnel in their functional areas during these tours.

a. Unit Status

Unit 2 operated at power coasting down in power level and was online for 107 days at 69 percent power at the end of the period. The licensee continues to impose administrative limits on



recirculation pump speed due to vibration concerns with the small lines on the recirculation system. Major pre-outage modifications continue with significant scaffold installation in the plant.

b. Spent Fuel Movement

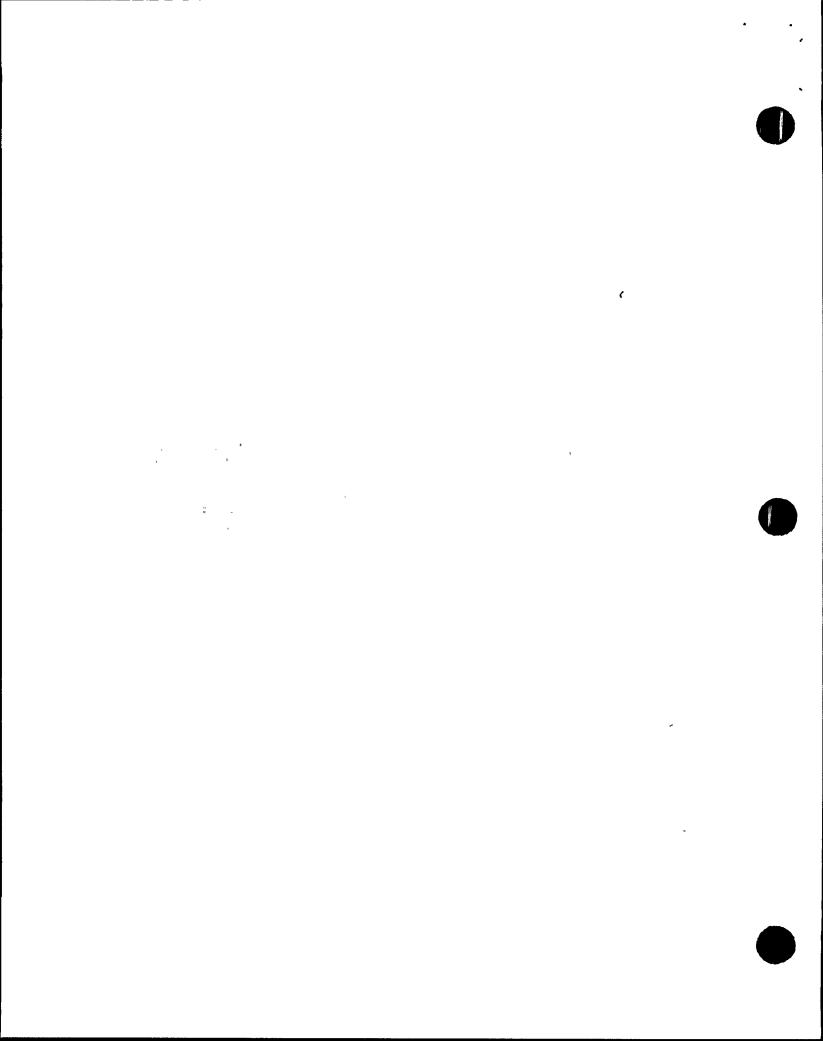
On December 21 and 22, 1992, the inspector observed movement of spent fuel from the unit 2 spent fuel pool to the unit 1 pool. This was being done to make room for the upcoming fuel offload during the refueling outage. AUOs actually moved the fuel under the supervision of an ASOS. Fuel movement was controlled by Fuel Assembly Transfer Forms that stated the location the bundle was in and the location it was being moved to. Fuel bundle location boards, located on the refuelling floor, were updated following each move. New fuel began arriving January, 10, 1993. A General Electric representative qualified TVA personnel to perform new fuel inspections. As a bundle was inspected it had a channel installed. Then the bundle was placed in the spent fuel pool. All new fuel inspections are expected to be completed by January 19, 1993.

c. Air Compressor Selector Switch Evaluation

On December 15, 1992, a dual unit runback occurred at the Sequoyah Nuclear Plant due to a partial loss of control air system pressure. The licensee determined that a loose connection in the compressor selector switch allowed the compressors to not pick up air demand as required. Upon notification of the event, Browns Ferry personnel began an evaluation of their control air compressor selector switches to determine if similar circumstances existed. The licensee determined that due to differences in design and equipment that a comparable situation did not exist. More specifically, Browns Ferry's four reciprocating compressors each have individual selector switches while Sequoyah's four reciprocating compressors are controlled by a single selector switch. Furthermore, if a selector switch were to fail at Browns Ferry, the compressor would fail safe and operate at a fully loaded state. In addition, the selector switches were checked for loose connections and none were found. Based on this evaluation, a similar event does not appear likely to occur at Browns Ferry.

d. Unit 2 Half Scram

On December 13, 1992, Unit 2 experienced a half scram when fuse FU1-1-80CA cleared. At approximately the same time, an instrument technician in the process of performing 2-SI-4.2.B-32(FT) inserted a sound powered head set into the jack for circuit SP10 on panel 9-32. With the head set still installed, the blown fuse was replaced and cleared again. A subsequent attempt to replace the fuse with the head set removed proved successful. A work order was written to investigate the problem. The licensee reviewed the cable routing for the sound powered phone circuit, the RPS cable



downstream of the failed fuse, and performed a voltage check on the phone circuit. No common link was found on the two circuits and no voltage was found on the sound powered phone circuit. To date, the plant has experienced no additional occurrences of this event.

The licensee will continue to investigate this occurrence during the upcoming refueling outage. Plans include checking for grounds on the RPS circuit and meggering involved cabling. The inspectors will monitor the licensee's efforts in this area.

No violations or deviations were identified in the Operational Safety Verification area.

6. Fire Protection (64704)

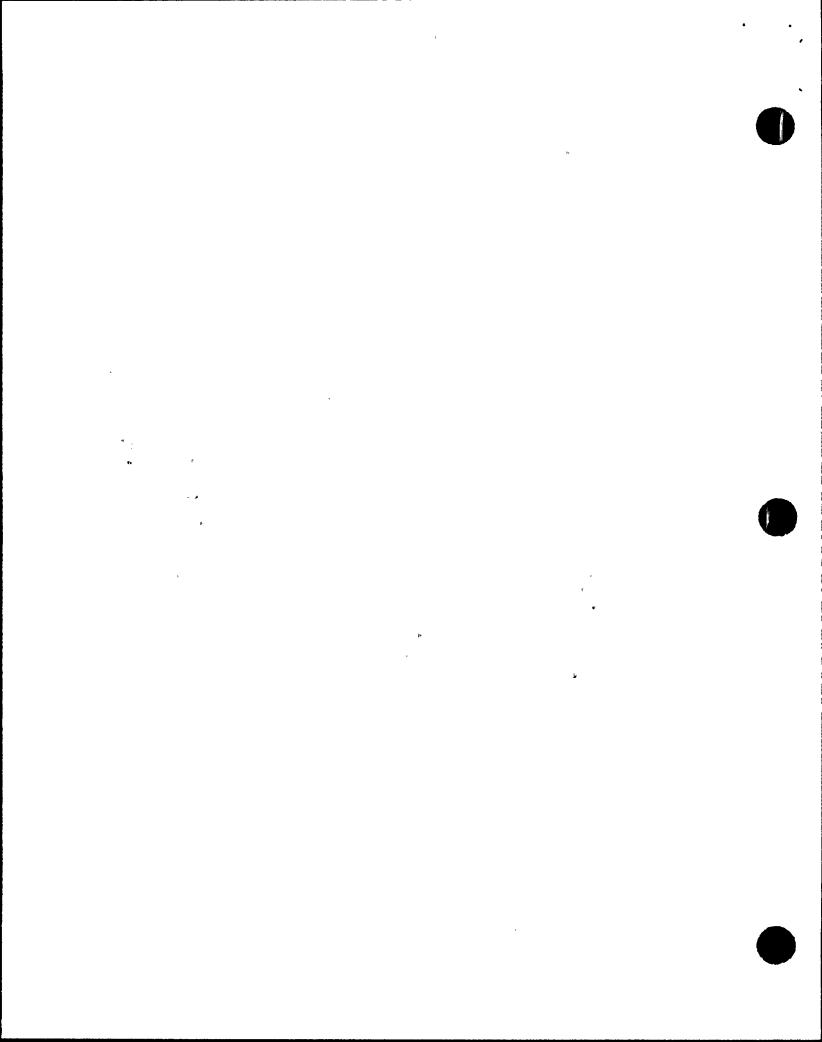
The inspector reviewed the qualifications and training records for all the fire brigade members and leaders. All were fully qualified and had all training up to date. In addition the inspector noted that all but two of the fire brigade members and leaders were certified emergency medical technicians. The two who are not certified are new employees and have not yet completed the course. Twenty-five fire drills were performed in 1992 and all were fully successful. The inspector reviewed four of these drill scenarios and post-drill evaluations/critiques and verified the objectives were met. Fire brigade training and performance of drills met or exceeded the requirements of the licensees Fire Protection Program.

7. Modifications (37700, 37828)

The inspectors maintained cognizance of modification activities to support the Unit 2, cycle 6 refueling outage. This included reviews of scheduling and work control, routine meetings, and observations of field activities.

a. Control Room Design Review

The inspector monitored activities associated with the Unit 2 CRDR modifications. A special team was assigned by the licensee to monitor these activities as it will be the critical path work during the refueling outage. Activities on Unit 3 CRDR stopped with only an estimated 15% of the modifications completed. The original plan, to use Unit 3 as a pilot program, was abandoned due to time restraints. Modification of the simulator has started. Completion is expected in March to provide time to train plant operators on the new control room prior to restart. Some limited painting, cable runs underneath the control room, and switch handle replacements have occurred. No problems were noted except that the abandonment of the Unit 3 pilot program will preclude lessons learned being implemented on Unit 2.



b. Hardened Wetwell Vent

The hardened wetwell vent modification began under DCN W 17337, Hardened Vent Common Header and DCN W 17491, Hardened Vent Torus to Common Header. Field activities consisted of trench preparation for the piping connections to the reactor building and common header. No problems were identified.

8. Unit 3 Restart Activities (30702)

The inspector reviewed and observed the licensee's activities involved with the Unit 3 restart. This included reviews of procedures, post-job activities, and completed field work; observation of pre-job field work, in-progress field work, and QA/QC activities; attendance at restart craft level, progress meetings, restart program meetings, and management meetings; and periodic discussions with both TVA and contractor personnel, skilled craftsmen, supervisors, managers and executives.

a. Design Activities

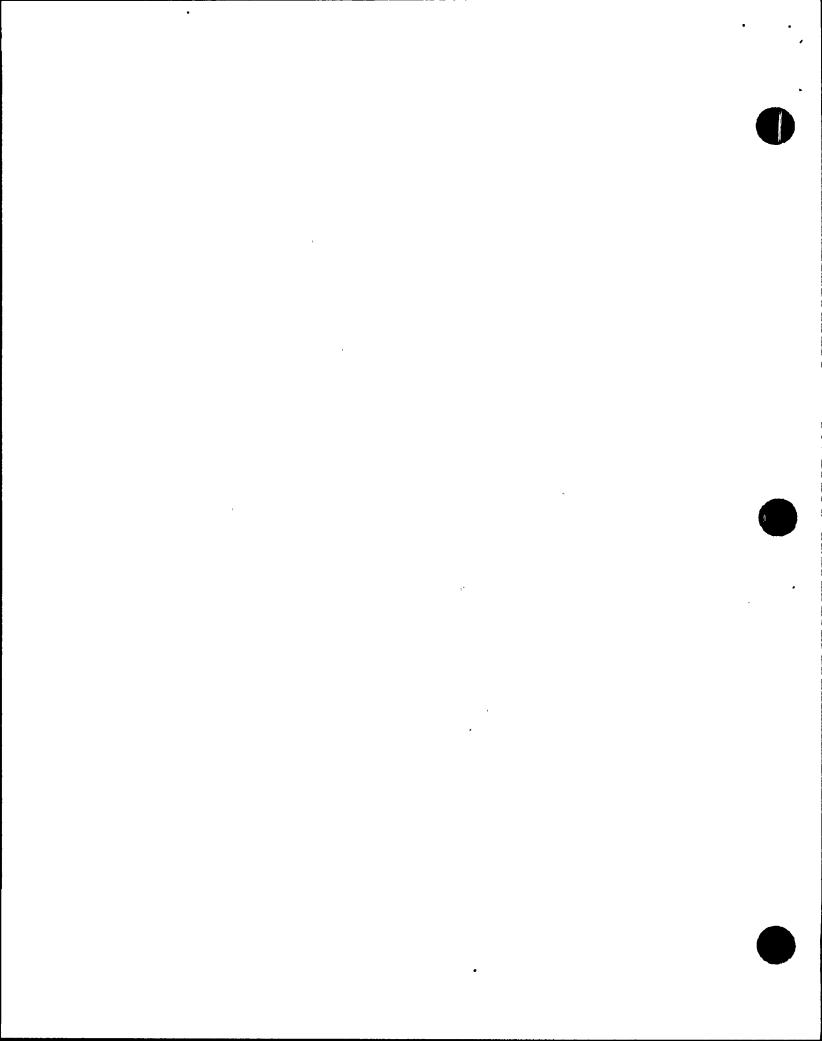
The inspector reviewed the progress of the engineering activities for Unit 3 restart by attending the Unit 3 POD meeting on site and Bechtel POD meeting in Athens, Alabama. An estimated 65 percent of the engineering work is complete with 214 DCNs issued and 226 remaining. The remainder of the engineering is targeted to be complete by the end of the Unit 2 cycle 6 refueling outage. The majority of the civil and mechanical engineering work has been completed with several large electrical DCNs to be issued in February and March. Effective monitoring of the DCN output is being provided by senior licensee and contractor management oversight at the POD meetings.

b. Construction Activities

Minimal construction activities continue on Unit 3. Overall an estimated 9% is complete. Major activities nearing completion are cooling tower refurbishment, condenser re-tube, and RWCU piping replacement. Drywell steel structural modifications continued in the drywell. The reactor vessel floodup was completed and the dryer and steam separator removed. A temporary cleanup demineralizer skid was placed in service on December 20, 1992, to maintain water clarity while work continues on the RWCU system.

c. Pre-Operational Testing/Return to Service Activities

On January 7, 1993, the inspector observed portions of post modification testing of the Cooling Towers and Lift Pumps. The procedure aligned the condenser cooling water to the "helper" mode. This mode routes the cooling water exiting the condenser through the cooling towers and then to the river. The test was controlled using Restart Test Procedure, 3-RTP-027C, and Operating Instruction OI-27C. These procedures verified the proper



operation of various components including, lift pumps, bearing lube water pumps for the lift pumps, forebay and warm water channel level indication, vacuum breakers, channel gates, and radwaste blowdown instrumentation. Prior to performing the test, a briefing was held with the appropriate people involved. A handout was distributed describing the test, its purpose, the sequence to be followed, precautions and contingency plans. test was performed satisfactorily with minor exceptions. These items will be tracked as test exceptions and deficiencies until repair and retest is completed. One observation noted was the five cooling towers and ten lift pumps will not be able to support operation of two reactors at rated power. It was found that with five lift pumps in service, the condenser outlet valves had to be throttled to maintain the warm water channel and prevent overflow. A method to control warm water channel level will have to be developed prior to two unit operation with the cooling towers in service.

9. Reportable Occurrences (92700)

The LERs listed below were reviewed to determine if the information provided met NRC requirements. The determinations included the verification of compliance with TS and regulatory requirements, and addressed the adequacy of the event description, the corrective actions taken, the existence of potential generic problems, compliance with reporting requirements, and the relative safety significance of each event. Additional in-plant reviews and discussions with plant personnel, as appropriate, were conducted.

(CLOSED) LER 259/92-04, Unplanned ESF Actuation Due to a High Radiation Spike on the Control Room Ventilation Radiation Monitor.

On September 14, 1992, a control room ventilation isolation and initiation of both CREV trains occurred due to a spike above the upscale. setpoint on the Unit 1 control room ventilation radiation monitor. At the time of the event, Units 1 and 3 were defueled and Unit 2 was operating at approximately 100 percent power. The root cause of the spike could not be determined. Following the initiation, control room personnel performed a walkdown in the area of the monitor and determined that no personnel were working in the direct area of the monitor and no radios were present. Attempts to recreate the spiking were unsuccessful. Following the event, the licensee suspected that faulty cabling may have caused the initiation. However, subsequent testing of the cabling determined that its condition was satisfactory. Additionally, TVA has evaluated the possibility of performing a design change to add a time delay for CREV high radiation trips. The licensee has initiated the processing of a design change to include a time delay in the CREV initiation circuitry for high radiation. The initial proposed time period for the initiation delay was 30 seconds. The inspector expressed a concern to the site technical support manager with this period of time as possibly being excessive. The inspector was informed that the time delay actually implemented would be fully

evaluated to ensure that control room radiation levels would not exceed regulatory limits during a valid actuation. Based on this review, this LER is closed.

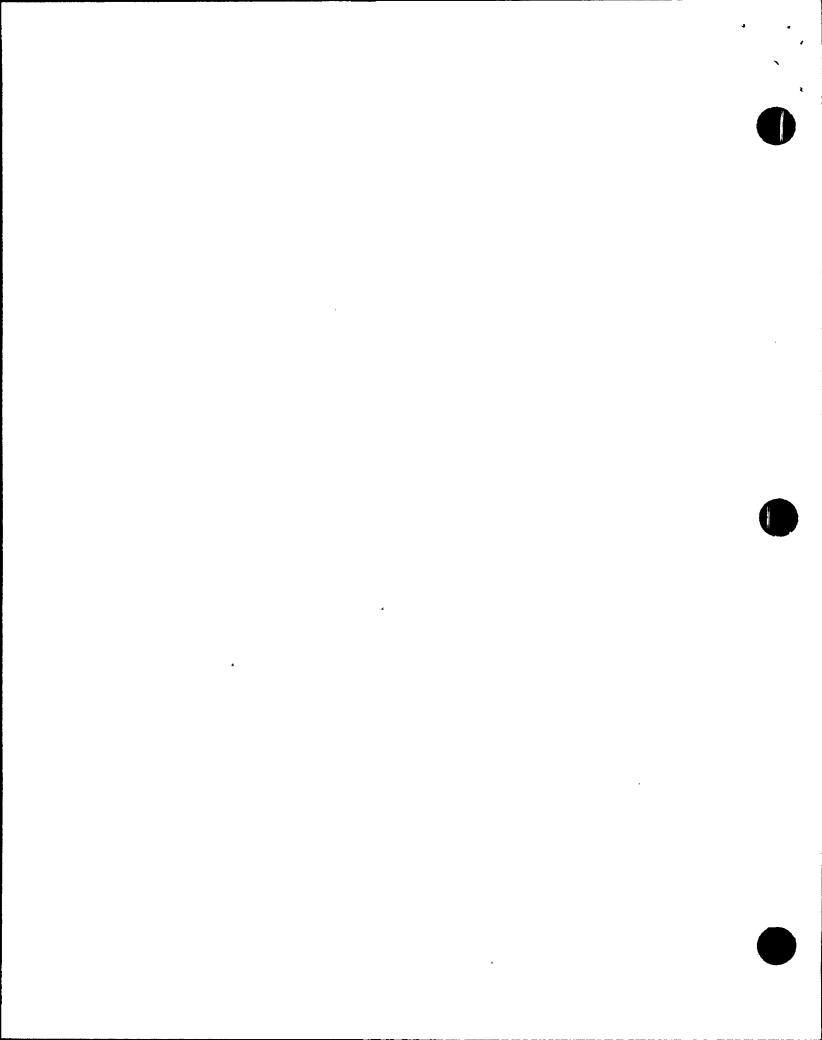
- 10. Action on Previous Inspection Findings (92701, 92702)
 - a. (CLOSED) IFI 259, 260, 296/91-38-05, Foreign Material and Indications Observed in the Reactor Vessel.

During in-vessel visual inspection activities of Unit 3, the licensee identified eight objects in the jet pump area, crack indication on the number five jet pump riser support, and additional indications on the in-vessel core spray piping. On October 18, 1991, the licensee notified the NRC in accordance with IE Bulletin 80-13, Cracking in Core Spray Spargers and provided a 30 day report on November 15, 1991. The inspector reviewed the closure package for this item. The foreign material in the jet pump area was removed. The licensee committed in their 30 day report to the resolution of the indications and installation of reinforcement brackets prior to Unit 3 restart. These actions addressed the reporting requirements and resolution of the problems in the bulletin.

b. (CLOSED) VIO 259, 260, 296/92-21-03, Failure to Adequately Disposition Nonconforming Measuring & Test Equipment.

This violation identified three examples of failure to properly disposition nonconforming M&TE. The first example identified seven nonconformance packages which did not investigate all the previous uses of the M&TE. This investigation was performed to verify that use of the nonconforming instrument did not adversely impact the system. The second example identified six nonconformance packages that were not completed within the required 30 day time limit. The third example identified a nonconformance package that investigated the uses of the M&TE for a two week period rather than the entire period since it was last calibrated which covered a seven month period. Additionally, other weaknesses were identified that were not part of the violation but did contribute to an overall ineffective program. To improve the program and prevent recurrence of this violation the licensee identified and completed seven corrective actions, as follows:

- 1.) TVA assigned the responsibility of maintaining the overall M&TE program to a manager in the Instrument Maintenance section. This person is responsible for ensuring the M&TE is maintained and for the disposition of the M&TE when it is found in nonconformance.
- 2.) A status report of the out of tolerance M&TE is provided to the Plant Manager monthly.



- 3.) TVA reviewed the out of tolerance investigations completed since January 22, 1992 to ensure that any additional problems would be identified and resolved.
- 4.) The various site organizations identified a single point of contact to coordinate the investigations of out of tolerance M&TE used by personnel from that organization. This person is responsible to ensure that each use is properly dispositioned in a timely manner and to return this information to the M&TE group.
- 5.) The out of tolerance investigations are now tracked on the plant tracking system to ensure they are completed in a timely manner.
- 6.) Start dates and statements are documented on each checkout log to ensure accountability is maintained.
- 7.) The checkout logs have been paginated to ensure that all pages are accounted for and reviewed.

The inspector reviewed the status report sent to the plant manager for the months of October, November, and December, 1992 and determined they contained sufficient and appropriate information to identify a declining trend in the program. Five out-of-tolerance investigations were reviewed. One contained a minor typographical error. Package 92-00272 identified the period to be investigated as 08/11/92 - 08/21/92 when in fact it should have been 06/11/92. The uses were investigated appropriately back to 06/11/92. The other four packages reviewed were 92-00268, 92-00277, 92-00289, and 92-00337. The inspector verified the instrument checkout log was correct and accurate with one exception. The checkout log for digital caliper, E14152 was incorrectly paginated. This item was resolved. No further discrepancies were identified.

11. Exit Interview (30703)

The inspection scope and findings were summarized on January 15, 1993, with those persons indicated in paragraph 1 above. The inspectors described the areas inspected and discussed in detail the inspection findings listed below. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection. Dissenting comments were not received from the licensee.

<u> Item Number</u>

Description and Reference

259, 260, 296/92-44-01

NCV, Failure to Remove Manual Turning Tool From 3A EDG, paragraph 2.

Licensee management was informed that 1 LER, 1 IFI, and 1 VIO were closed.

12. Acronyms and Initialisms

RCIC RM RPS RTP RWCU SBGT SI SSP TS	Operating Instruction Plan of the Day Quality Assurance Quality Control Reactor Core Isolation Cooling Radiation Monitor Reactor Protection System Restart Test Program Reactor Water Cleanup Standby Gas Treatment Surveillance Instruction Site Standard Practice Technical Instruction
TVA	Tennessee Valley Authority
VIO	Violation
WO WR	Work Order Work Request
иL	not v Nedaese