



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

Report Nos. 50-259/88-05, 50-260/88-05, and 50-296/88-05

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

Docket Nos. 50-259, 50-260, and 50-296

License Nos. DPR-33, DPR-52, and DPR-68

Facility Name: Browns Ferry Nuclear Plant

Inspection Conducted: March 1-31, 1988

Inspectors: A. J. Ignatonis 5/11/88
for G. L. Paulk, Senior Resident Inspector Date Signed

Accompanied by: C. R. Brooks, Resident Inspector
E. F. Christnot, Resident Inspector
W. C. Bearden, Resident Inspector
A. H. Johnson, Project Engineer

Approved by: A. J. Ignatonis 5/11/88
A. J. Ignatonis, Section Chief Date Signed
Inspection Programs,
TVA Projects Division

SUMMARY

Scope: This routine inspection was in the areas of operational safety, maintenance observation, surveillance testing observation, reportable occurrences, Plant Operations Review Committee (PORC), restart testing and Q-List.

Results: Five violations were identified: (1) two examples of failure to follow procedures for Standby Gas Treatment System iodine removal efficiency testing and PMI 15.4, Unique Reporting Requirements involving containment spray header nozzles; (2) failure to control the issuance of documents, including changes thereto; (3) failure to adhere to Technical Specification Administrative controls involving the PORC activities; (4) failure to implement an inspection of activities affecting quality involving the installation of a check valve; (5) failure to provide regulatory compliance and QA/QC retraining to foremen and craft personnel.

REPORT DETAILS

1. Licensee Employees Contacted:

- *J. G. Walker, Plant Manager
- P. J. Speidel, Project Engineer
- *J. D. Martin, Assistant to the Plant Manager
- *R. M. McKeon, Operations Superintendent
- *T. F. Ziegler, Superintendent - Maintenance
- D. C. Mims, Technical Support Superintendent
- J. G. Turner, Manager - Site Quality Assurance
- M. J. May, Manager - Site Licensing
- *J. A. Savage, Compliance Supervisor
- A. W. Sorrell, Site Radiological Control Superintendent
- R. M. Tuttle, Site Security Manager
- L. E. Retzer, Fire Protection Supervisor
- *H. J. Kuhnert, Office of Nuclear Power, Site Representative
- T. C. Valenzano, Director - Restart Operations Center

*Attended exit interview.

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

2. Exit Interview (30703)

The inspection scope and findings were summarized on April 1 and April 8, 1988, with the Plant Manager and/or Superintendents and other members of his staff. A special management meeting was held on April 8, 1988, with OSP and licensee management to discuss technical concerns with the Q-list and PORC implementation programs. The following new items were identified during this inspection:

- a. Violation (259,260,296/88-05-01), Failure to control the issuance of documents and changes thereto. Paragraph 6.a.
- b. Violation (260/88-05-02), Failure to follow a program for inspection of activities affecting quality. Paragraph 7.
- c. Violation (259,250,296/88-05-03), Two examples of a failure to follow procedures and a lack of attention to detail. Paragraphs 8 and 12.
- d. Violation (259,260,296/88-05-04), Technical Specifications (TS), Section 6.0, Administrative controls. Failure to properly designate PORC alternate chairman and alternate members. Paragraph 10.
- e. Unresolved Item* (259,260,296/88-05-09), Designation of proper alternate PORC chairmen per Plant Managers Instruction (PMI) 7.1. Paragraph 10.

- f. Violation (259,260,296/88-05-08), Failure to provide regulatory compliance and QA/QC retraining for foremen and craft personnel. Paragraph 14.
- g. Inspector Followup Item (259,260,296/88-05-05), Closeout of MR's generated by the Restart Test program.
- h. Inspector Followup Item (259,260,296/88-05-06), Two trains of ESFAS actuating two separate sets of two dampers through one relay. Identified as part of restart test program.
- i. Unresolved Item* (260/88-05-07), Unit 2, Phase I, Q-List programmatic deficiencies. Paragraph 13.
- j. Inspector Followup Item (259,260,296/84-38-02), This item was initially opened on Unit 3, involving shutdown board room air handling system and has been expanded to include all three units. Paragraph 4.

The licensee acknowledged the findings and took exception with one of three examples in Violation A, regarding PORC composition. The licensee maintained that TS 6.5.1.2.b allowed the PORC Chairman to designate anyone as an alternate PORC Chairman. The inspector stated to the licensee this specification was not intended to authorize any additional alternate chairman other than those clearly stated in TS 6.5.1.2.a, but instead was intended to require that those individuals be clearly designated, by name, in a written document. This contention is subject to further evaluation by the NRC management. The NRC will determine whether or not the licensee is meeting the intent of TS 6.5.1.2.b by designating alternate PORC chairmen in the PMI 7.1, which are other than those specified in TS 6.5.1.2.a. Thus, this example of the violation is being reclassified as an Unresolved Item* (259,260,296/88-05-09).

The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Enforcement Matters (92702)

(CLOSED) Deviation (259,260,296/87-02-09), Neutron Dosimetry Around New Fuel Vault. During a review of criticality margin for storage of new fuel, the inspector identified that the licensee had not provided neutron dosimeters for the new fuel storage vault contrary to FSAR paragraph 10.2.4. The licensee had not utilized the new fuel storage vault for fuel storage during the period around the time this item was identified.

As a result of this item the licensee has revised the FSAR, Technical Instruction (TI)-14, Special Nuclear Material Control, and General Operating Instruction (GOI)-100-2, New Fuel Operations, to reflect the

*An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

decision to eliminate the use of the new fuel storage vault as a fuel storage facility. The FSAR was revised in Amendment 5 to require that each vault would be provided with neutron dosimeters whenever new fuel is stored. TI-14, Rev.4, Section 3.3, contains the current list of authorized Item Control Areas where SNM is stored. The list does not include the new fuel storage vault. GOI-100-2, Rev. 2, states that Radcon personnel must be contacted to install Neutron Detection Dosimetry in the new fuel storage vault, prior to placing any fuel bundles into the vault.

(CLOSED) Violation (259,260,296/85-57-05), Failure to Perform 10 CFR 50.59 on Damper Timing. During review, regarding stroke times on Secondary Containment Isolation Dampers, the inspectors identified that the Secondary Containment isolation damper function had been altered through acceptance of longer damper closure times. This condition resulted in a change by default to a system as described in the FSAR. Although the Commission eventually agreed that the change in damper closure time did not constitute an unreviewed safety question, timely action by the licensee was not initiated to make the evaluation required by 10 CFR 50.59.

The inspector reviewed TVA's supplemental response dated April 7, 1987, which stated the reasons for the violation and outlined the proposed corrective actions. The licensee identified two separate causes for the violation. The first cause was specific to this case while the second cause was related to more general principles associated with applications of 10 CFR 50.59.

The inspector determined that the licensee has revised Program Manual Procedure, PMP 060.04, Evaluation of Changes, Tests, and Experiments, to add the requirement that a discrepancy between the as-built facility or procedures and the description in the FSAR reported in a Condition Adverse to Quality Report (CAQR) shall be reviewed or a safety evaluation performed to evaluate the existing condition in accordance with this procedure and to support the proposed corrective actions. Additionally The Nuclear Quality Assurance Manual (NQAM), Part 1, Section 2.16, Quality Notice-Corrective Action was revised to add the requirement to require 10 CFR 50.59 screening and/or USQ determination for a CAQR that documents discrepancy between the plant and the FSAR.

The completed corrective actions should be adequate to preclude recurrence of the original violation. This item is closed.

(CLOSED) Violation (259,260,296/87-33-07), This violation resulted from inspection review of Special Test (ST) 8723 which was performed to obtain data on diesel generator excitation system. The violation stated that the Plant Operations Review Committee's (PORC's) approved results of the test could not be located.

Plant Managers Instruction (PMI) 17.1 Conduct of Testing was revised to place special tests under the administrative control of the plant procedures staff. Condition Adverse to Quality Report (CAQR) number BFP 87

0844 was written and dispositioned to indicate that the tracking and filing of Special Tests will be turned over to document control following a review by Technical Services. A review of Special Test Records indicated that ST-8723 results have been approved by PORC turned over to document control and microfilmed.

The licensee has addressed the inspectors concern as stated in the original inspection report and corrective action should be adequate to preclude recurrence. This violation is closed.

(CLOSED) Violation (259,260,296/87-27-01), Accountability of byproduct material. An intensive records search of power store and radioactive material areas was conducted. A complete physical search of all byproduct material storage locations and work areas was completed. A complete inventory was developed. A formal critique involving designated management and key personnel was held on October 26, 1987, to discuss programmatic problems followed by a discussion of program improvements instituted since the NRC inspection. The critique was held to assure all problems had been identified and addressed in the program improvement plan. BFN procedures SDSP 23.2 and Surveillance Instruction 4.8.E was revised to clarify responsibilities, define sealed source, and revise the byproduct inventory control form. Administrative control of non-exempt byproduct and source material was transferred to the RADCON section (RCI-21 applies), TVA central program guidance for byproduct and source material control was issued under ONP Standard 5.7.11 (Controlling Byproduct and Source Material). A Technical Specification 6.6.B change is listed on the Corporate Commitment Tracking System to clarify radioactive material inventory requirements. The T.S. change is scheduled for submission in December 1988.

(CLOSED) Violation (259/84-34-02), Core Spray Check Valve FCV-75-26 inoperable during core spray overpressurization event due to inadequate maintenance. The testable check valve was held open by its test actuator during power operation and may not have closed if a line break outside containment had occurred. The root cause of the event was attributed to inadequate maintenance activities during the air solenoid rebuild activities and incorrect methodology used to verify valve operability on return to service. Mechanical Maintenance Instruction 51 (Maintenance of CSSC/NON-CSSC Valves and Flanges) was upgraded to address the concerns of this violation.

4. Followup of Open Inspection Items (92701)

(CLOSED) Inspector Followup Item (250,260,296/87-02-08), New fuel criticality precautions (SIL No. 152). During a review of criticality margin for storage of new fuel, the inspector identified inconsistencies with caution signs associated with the new fuel storage vault. The licensee had not been utilizing the new fuel storage vault for fuel storage during the period this was identified.

As the result of this item the licensee has revised Technical Instruction (TI)-14, Special Nuclear Material Control to reflect the decision to eliminate the use of the new fuel storage vault as a fuel storage facility. TI-14, Rev. 4, Section 3.3, contains the current list of authorized Item Control Areas where SNM is stored. The list does not include the new fuel storage vault. The licensee has adequately addressed the inspector's concerns on this item. This item is closed.

(CLOSED) Inspector Followup Item (259,260,296/86-22-03), This item concerned three inspector identified cable pulling instruction deficiencies concerning General Specification 38. The licensee addressed and incorporated these concerns into Modification/Addition Instruction 44, Cable Pulling For Insulated Cables Rated Up to 15,000 Volts. This item is closed.

(CLOSED) Inspector Followup Item (259,260,296/86-40-06), This item concerned the standby gas treatment system (SBGT) surveillance instruction (SI) acceptance criteria not meeting the technical specification (TS) trip setting requirements. The licensee's review of the FSAR showed that the SI acceptance criteria met the design bases. The licensee's TS change was approved by the NRC on January 19, 1988. This item is closed.

(OPEN) Unresolved Item (259,260,296/87-02-07), This item concerned inspector identified issues during the licensee's performance of Surveillance Instruction 4.7.C, Secondary Containment Integrity; all issues were addressed except for the following:

- a. The licensee did not address the standby gas treatment system relative humidity heaters where train B did not energize during the performance of the instruction.
- b. The licensee did not address the lowering of flow calculation acceptance criteria by an immediate temporary change which was subsequently approved by the Plant Operations Review Committee.

This item remains open.

(CLOSED) Inspector Followup Item (259,260,296/87-46-01), This item was opened to track review by the inspector of a materials substitution evaluation performed by the licensee in response to the inspector concerns. The Reactor Building Equipment Access Lock inflatable seals were replaced with Presray Corporation EPDM compound E-603 as opposed to the originally installed neoprene elastomer. An acceptable analysis was performed (TVA document B44 '880106 001) which evaluated the hardness, tensile strength, elongation, tear strength, radiation resistance and aging properties of the new material. This item is closed.

(CLOSED) Inspector Followup Item (259,260,296/87-12-01), This item concerned the incorporating into plant procedures of the Restart Test Program (RTP) plan requirements for system status punchlist and outage system turnover packages.

- a. Provide the documentation and bases that will be used for declaring systems operable which will not be included in the Restart Test Program Plan, will not have a system test specification developed and receive minimal or no testing.

A review of Site Directors Standard Practice (SDSP)-12.1, Restart Test Program, indicated that the plant systems are divided in groups as follows:

- Group 1: Systems critical to safe operation or shutdown of plant will be included in this group. Testing requirements are determined primarily by Design Baseline Evaluation Program.
- Group 2: Systems which provide support to plant operation are categorized as Group 2. Few test requirements specified by Design Baseline Evaluation Program; the majority of test requirements are determined by the RTP system review.
- Group 3: Systems not directly supporting plant operation and not important to safety. Generally, no testing will be required.

Attachment 1 of the SDSP-12.1 and Attachments 1 and 2 of RTP submittal, dated July 13, 1987, lists each system by group.

- b. Section II A lists plant systems for which tests' specifications will be written but do not include ECCS initiation signals or automatic depressurization system.

The RTP Tests include various logic functional tests and initiation using jumpers, etc. as well as a common accident test for all diesel generators and various surveillance instructions. The RTP includes not only the loss of power/loss of coolant accident (LOP/LOCA) test, but also the backup control test and an integrated cold functional test. It is a very comprehensive testing program which provides initiation signals with emphasis on surveillance instructions.

- c. The establishment of those administrative controls which will be used to conduct the test program and document test results are not defined in the RTP plan. Examples of these are:

(1) Test Organization

The RTP submittal of July 13, 1987, contains Figure 1 which indicates the Restart Test Program Organization chart.

(2) Program for reviewing and approving tests documents and tests results.

A review of SDSP 12.1, Section 6.2, RTP Test Instruction Review and Approval, and Section 6.7, RTP Test Results Package

Preparation and Review, as well as Figure 2 of the submittal dated July 13, 1987, indicated that adequate controls were established, which involved the Joint Test Group (JTG) and Plant Managers reviews and approvals.

(3) Interface between Licensee Organizations

A review of SDSP 12.1, Section 6.1, RTP Test Instruction Format and Section 6.3, Test Conduct, as well as Figure 2 of the submittal dated July 13, 1987, indicated that various licensee organizations such as operations, maintenance, modifications and nuclear engineering must coordinate their activities with the RTP group in order to support testing.

(4) Controls for handling test interruptions, test discrepancies, corrective actions and test requirements are addressed in SDSP 12.1, Sections 6.1, 6.3 and 6.6, Test Exceptions and SDSP 12.2 Development of System Test Specifications. The inspector's review of these documents and direct observation of tests being written and conducted indicated that adequate procedural controls are in place and are being utilized. This includes: the periodic activities of the JTG; the use of Condition Adverse to Quality Reports (CAQRs); adequately documenting equipment malfunctions, i.e. pump motor fails to start or pump motor grounds out; critiques conducted after malfunctions; and the use of test exceptions.

(5) Existing plant administrative controls that will be applicable to the restart test program

A review of SDSP 12.1 indicated that various reference, source and implementing documents such as the Nuclear Quality Assurance Manual, FSAR, Technical Specifications, Nuclear Performance Plan, Volume III and numerous SDSPs, Browns Ferry Standard Practices, etc. as well as in field observation of testing activities, and the day to day monitoring of the program also indicated that the existing plant administrative controls applicable to the RTP are adequately listed and implemented.

(6) Controls for scheduling test activities

The daily RTP status meeting, use of the punchlist, the Restart Operations Committee (War Room) meetings and use of the P2 scheduling program demonstrate adequate controls for scheduling test activities.

- d. Existing plant implementing procedures for the RTP do not provide methods for handling system status punch list and system turnover packages.

A review of SDSP 12.1, Section 6.7, RTP Test Results Package Preparation and Review and RTP-SIL-005, System Punch List Program, and periodic attendance at JTG and RTP Punch List meeting indicated that implementing procedures exist and are being utilized for system status punch list and system turnover packages (results packages).

The licensee has adequately addressed the inspectors concerns on this item. This item is closed.

(CLOSED) Inspector Followup Item (259,260,296/87-12-02), This item concerned the deficiencies in Site Directors Standard Practice (SDSP) 12.2, Restart Test Program. The deficiencies and remedial actions are listed below:

- a. Provide restart test organizational chart.

TVA letter from Director, Nuclear Safety and Licensing to US NRC, dated July 13, 1987, contains figure 1 which indicated an organizational chart titled Restart Test Program Organization.

- b. Document qualifications of test engineers and test directors.

SDSP 12.1, Section 6.9 and RTP Section Instruction Letter (SIL)-002, Training and Qualification of Restart Test Personnel outline the qualifications of test personnel and which in turn reference ANSI N45.2.6 Qualifications of Inspection, Examination and Testing Personnel for Nuclear Plants and Regulatory Guide 1.58 Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel.

- c. Establish on-going training for the restart test group.

RTP-SIL-002 assigns the ongoing training of restart test personnel responsibility to the RTP Manager. A review of group records indicated that ongoing training is in progress, including the RTP manager.

- d. Establish methods to ensure that the latest test procedure revision and changes are being used.

A review of SDSP 12.1 and periodic attendance of the Joint Test Group (JTG) meetings indicated that no intent changes or test revisions are allowed without JTG approval.

- e. Establish controls which require RTP group approval prior to conducting work on a system under test and remain in effect throughout test until system is turned over to operations.

A review of SDSP 12.1, SIL-005 and SIL-006, System Checklist preparations as well as continuous attendance at the RTP status meeting indicated that sufficient controls are in place to ensure

that the RTP Engineers are adequately apprised of the status of their assigned systems throughout the pre-testing, testing and post testing phases.

The licensee has adequately addressed the inspectors concerns on this item. This item is closed.

(CLOSED) Inspector Followup Item (259/86-32-12), Deficiencies noted during annual emergency drill of September 24, 1986. Several meetings were held with licensee representatives to address the concerns identified by this item. Licensee action is summarized below in regards to each of the 28 concerns.

- a. Phone communications: Call override on the Technical Support Center (TSC) dimension phones was added to assure priority calling was available. The concern on the ENS phone ringing in the TSC when being used by another station would require circuit re-engineering when requested by the NRC. When the TSC is staffed there is no need for a ring in the TSC, since the plant emergency procedures require continuous manning of ENS. The inspector conducted operability checks on selected communications equipment in the TSC satisfactorily.
- b. Communication of Reactor Water Level: This item was addressed and discussed in inspection report 87-39.
- c. TSC assessment of key plant parameters: Observance of the 1987 drill indicated improvement in this area. Installation of the SPDS in the future will further enhance this area of concern.
- d. BFN key managers not participating in drill: Observance of the 1987 drill indicated key managers assuming an active role. Additionally, work-up exercises conducted used various section managers to improve overall expertise and training for emergency response situations.
- e. Steam Suits not available on site: Although not a requirement to have steam suits available, it was noted during the 1986 drill the ability to isolate a primary system unisolable leak into secondary containment could greatly diminish the time to correct the problem and minimize personnel exposure. The residents felt steam suit availability within the T/A network would be a positive attribute to protect personnel and minimize exposure during emergencies. Steam suits are now available on site under control of the new site fire protection organization.
- f. Containment Atmosphere Dilution Instruction (OI-84) missing from TSC: Due to administrative error OI-84 was not filed in the TSC instruction binder. This problem was corrected.
- g. Radiological Control Instruction (RCI) not maintained in the TSC: The use of RCI's was required by TSC managers for the drill scenario

to determine personnel exposure rates and stay times. RCI's are maintained in the shift engineer office for reference by TSC members if required. The inspector noted this was an additional administrative burden to retrieve the RCI's during an emergency and required needless effort. TVA decided to leave the RCIs in the shift engineer's office rather than place a copy in the TSC.

- h. Usage of Standby Gas Treatment (SBGT) System Instruction (OI-65) was deficient during drill. Observance of the 1987 drill indicated no deficiency in this area.
- i. Scenario problem with SBGT status: This item was closed in inspection report 87-39.
- j. Use of Robot during drill: This item was closed in inspection report 87-39.
- k. Deficient training of Chattanooga personnel evaluating for fuel failure: Additional training was conducted during table-top exercises in October 1987. Closed in inspection report 87-39.
- l. Stack release rate information not understood by key managers in TSC: This item was observed during the 1987 emergency drill and closed out in inspection report 87-39.
- m. Controlled shutdown of non-affected units delayed due to management failure to understand normal plant operations. This item was addressed and closed in inspection report 87-39.
- n. Health Physics personnel too numerous in TSC: H.P. personnel have changed their sampling rate and location requirements as noted during the 1987 drill.
- o. Emergency Director transfer of authority was not adequately carried out. Table-top drills and the 1987 drill observation indicated no problem in this area.
- p. Plant system status was not known by Shift Engineer due to scenario problem. This item was closed in inspection report 87-39.
- q. Communication in Control Room not found: This item was closed in inspection report 87-39.
- r. EOI procedural steps not checked off as required by the operators: A similar concern was identified as IFI 87-39-03 during the 1987 drill and will be closed out during review of corrective actions in regards to that drill.
- s. TSC Communicator performing duties outside area of expertise: This item was closed in inspection report 87-39.

- t. Health Physics held up Operations Staff from entering Reactor Building: The emergency plant procedure (EPIP 14) providing guidance on this item was clarified. This item was also observed during the 1987 drill and closed out in inspection report 87-39.
- u. Operators slow to recognize unisolable leak from Scram Discharge Instrument Volume drain: This item was addressed and closed out in inspection report 87-39.
- v. Conflict between Security and Health Physics personnel at entry to reactor building: Security force dressouts should be required for drills to enhance emergency response training.
- w. Local and Perimeter Environmental monitoring data not used during drill. Since the drill TVA has disconnected the monitors and will not use the data henceforth.
- x. TSC status board not up to date. This item was addressed and closed out in inspection report 87-39.
- y. Control room logs illegible: Observance of the logs during the 1987 drills indicated no deficiencies as noted in inspection report 87-39, although unofficial logs were maintained for drill purposes.
- z. Improper use of EOI's: System-based EOIs should be more closely followed during drill and real scenarios. This item was closed in inspection report 87-39.
- aa. Shift Engineer wireless phone usage inadequate: This item was observed and closed out in inspection report 87-39.
- bb. Use of plant procedures difficult due to numerous cross-references. Procedures were upgraded and reviewed during 1987 drill. This item was closed in inspection report 87-39.

(CLOSED) Inspector Followup Item (259,260,296/87-33-08), This item resulted from an inspector review involving the Chernobyl accident lessons learned and the specific item being control of special tests. The procedure, Plant Managers Instruction (PMI) 17.1 Conduct of Testing, controls special tests was classified as NON-SAFETY RELATED although it not only administratively controlled special tests it also controlled surveillance instructions. A review of temporary change to become permanent number 17.1-08 to procedure PMI 17.1 indicated that the classification of the procedure was changed to SAFETY-RELATED. This item is closed.

(OPEN) Open Item (296/84-38-02), Shutdown Board Room A/C Test. The inspectors had monitored testing of the electrical shutdown board room ventilation system which occurred on September 8, 1984. Numerous problems were observed associated with cooling capacity and obtaining required air flow for the Unit 1 and 2 units. Unit 3 testing was not performed and

planned for a later time. This item was opened to track the resolution of problems after completion of testing.

The original corrective action was to correct the various problems with the system as designed by work under numerous maintenance requests including such work as increasing fan speeds to increase air flow and improve cooling capacity. The systems were intended to be left as designed.

The inspector reviewed documentation provided by the licensee and determined that the licensee has abandoned the original intention to repair the ventilation systems as designed. DCR 2344 was developed to remove the existing equipment and install for each unit a new single seismic/environmentally qualified air conditioning and ventilation system. Each system will consist of two redundant full capacity trains each capable of providing cooling requirements for both of the units shutdown board rooms. ECN P0956 was written to implement the design change for Unit 2. The licensee stated that the design work associated for ECN P0956 is partially field complete and scheduled to be complete and tested prior to unit startup. Units 1 and 3 systems will be modified prior to restart of the respective units. Additionally, the licensee stated that post modification testing would occur after field work is complete and that routine testing of the system would occur under revised versions of Electrical Maintenance Instruction (EMI)-97, Quarterly Maintenance on Electrical Board Room Emergency Air Conditioning, and Technical Instruction (TI)-81, Shutdown Board Room Emergency Cooling System Performance Check. This item will remain open pending completion of field work, post-modification testing, restart test, and the necessary procedural changes. This item will be placed on the Unit 1 and Unit 2 open list to allow tracking and closeout for each unit individually Inspector Followup Item (259,260,296/84-38-02).

(CLOSED) Inspector Followup Item (296/86-28-01), This item resulted from a routine tour of the plant by the inspector and a diesel generator fuel oil transfer valve 3-18-611 was discovered unlocked and closed. Plant drawing 47W840-1 indicated the valve's normal position as open. The original intent was to change the drawing; however, on further examination the licensee decided to change procedure O-OI-18, Fuel Oil System Operating Instructions, Attachment 1, Fuel Oil System Valve Lineup Checklist, to indicate the required position of valve 18-611 as open. This item is closed.

(CLOSED) Inspector Followup Item (259,260,296/86-40-11), This item concerned location of the responsible organization and program which would evaluate significant changes in the site surroundings such that original licensing assumptions remain valid. The specific example cited changes in hazardous material transported by barge past the plant site. As described in TVA's letter to the NRC dated March 1, 1988, in response to a similar deficiency, a corporate FSAR update program is being developed. This program will assign responsibility for and require an annual review of hazardous material passing or located near the facility. The Office of

Natural Resources and Economic Development (ONRED) has been tasked with performing this function. This item is closed.

(CLOSED) Unresolved Item (259,260,296/86-40-10), Revaluation of the control room habitability following a postulated chlorine release. The inspector questioned the original analysis of this NUREG-0737 Item III.D.3.4 since it was based upon an assumption that no chlorine was shipped by barge past the site. The inspector learned through contacts with the Army Corps of Engineers that indeed several chlorine barges passed near the site each month. In response to this information, the licensee undertook a fairly comprehensive search for sources of chlorine river traffic and concluded that about 26 shipments per year could be expected. Since this is below the 50 per year cut-off in Regulatory Guide 1.78, no remedial protective measures were required. The licensee placed this information on the docket with it's letter to the NRC dated May 26, 1987. The letter requested concurrence with the conclusion that Item III.D.3.4 of NUREG-0737 remains closed in light of the revaluation. This unresolved item is closed and any further activity will be coordinated through the licensees letter of May 26, 1987.

5. Unresolved Items*

A new unresolved item related to Q-list programmatic deficiencies is identified in paragraph 13.

6. Operational Safety (71707, 71710)

The inspectors were kept informed of the overall plant status and any significant safety matters related to plant operations. Discussions were held as required with plant management and various members of the plant operating staff.

The inspectors made routine visits to the control rooms. Observations included instrument readings, setpoints and recordings; status of operating systems; status and alignments of emergency standby systems; onsite and offsite emergency power sources available for automatic operation; purpose of temporary tags on equipment controls and switches; annunciator alarm status; adherence to procedures; adherence to limiting conditions for operations; nuclear instruments operable; 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 their supervisors.

General plant tours were conducted on at least a weekly basis. Portions of the turbine building, each reactor building and outside areas were visited. Observations included valve positions and system alignment; snubber and hanger conditions; containment isolation alignments; instrument readings; housekeeping; proper power supply and breaker; alignments; radiation area controls; tag control; on equipment; work activities in progress; and radiation protection controls. Informal

discussions were held with selected plant personnel in their functional areas during these tours.

a. Temporary Alteration Control

On March 10, 1988, the licensee initiated a Temporary Alteration Control Form (TACF) to allow substitute bolts to be installed in place of two failed bolts on the Reactor Building overhead crane. During the licensee's review and approval of the TACF (Number 3-88-001-111), another deficient condition developed regarding damage to the threads of a different bolt on one of the crane rail supports. The damage was so extensive that repair was not possible and the nut could not be replaced. A revision to the TACF was initiated on March 15, 1988, in order to accept the deficient bolt and allow limited operation of the crane. PMI 8.1, Temporary Alterations, contains the administrative controls for processing TACF's. Only the following guidance on revising TACF's is contained in the instruction:

Revision to an existing TACF is permitted provided:

1. The original is replaced with a copy marked "original".
2. The revised and reapproved original is returned to the control room within 7 days.

As a result, some approval and review signatures were not re-obtained following addition of revised information on the TACF form.

1. The Operations Supervisor's concurrence signature was dated March 13, 1988.
2. The Shift Engineer's approval of the TACF was dated March 13, 1988.
3. The File Clerk made and distributed copies of the TACF on March 15, 1988, although four signatures on the TACF were dated March 16, 1988.

The above information was only available on the original TACF form maintained in the Shift Engineer office and was the condition of the TACF on March 17, 1988.

A review of the TACF files for similar problems yielded the following:

1. TACF 2-85-50-24 - Revision 1 added more tags; however, the Shift Engineer signature certifying that the tags were hung was not updated nor was the signature for changing the as-built drawings updated within the required 30 days. The Unreviewed Safety

Question Determination (USQD) for this alteration was also not updated to ensure the original evaluation remained valid.

2. TACF 2-84-097-57 - Revision 1 changed the number of tags. The sign-offs for installing these new tags were not obtained.
3. TACF 2-84-101-64 - Revision 1 added a restriction on the load carrying ability of some temporary framework and required the installation of an absolute filter. The USQD was not updated for this change.
4. TACF 2-85-039-064 - Revision 1 changed the system status after installation of the alteration from "operable" to "inoperable." The appropriate approval signature from the Operations Superintendent was not obtained.

No provisions are made for modification of the TACF number to signify the revision level nor is the TACF index appropriately annotated. There are additionally no controls on retrieval of superseded copies or notification of revision to organizations such as the Nuclear Safety Review Board (NSRB) who are on distribution for copies. These deficiencies have been identified as a violation of the document control requirements defined in Criterion VI of 10 CFR 50, Appendix B. (259,260,296/88-05-01).

7. Maintenance Observation (62703)

Plant maintenance activities of selected safety-related systems and components were observed/reviewed to ascertain that they were conducted in accordance with requirements. The following items were considered during this review: the limiting conditions for operations were met; activities were accomplished using approved procedures; functional testing and/or calibrations were performed prior to returning components or system to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; proper tagout clearance procedures were adhered to; Technical Specification were adhered to; and radiological controls were implemented as required.

Maintenance requests were reviewed to determine 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 below listed maintenance activities during this report period:

- a. RHRSW Dresser Coupling Replacement.
- b. Unit 2 Condenser Tube Bundle Replacement.
- c. Reactor Protection System (RPS) Motor-generator set motor reconditioning and cleaning.

- d. Refueling Bridge preventive maintenance.
- e. Refuel floor blowout panel inspection.
- f. Standby Gas Treatment System (SBGT) heater conduit trouble shooting and blower motor mount repairs.

No deviations or violations were identified for the areas inspected above.

On March 15, 1988, the licensee discovered that check valve number 2-67-659 was installed backwards. This condition prevented the flow of Emergency Equipment Cooling Water (EECW) from the north EECW header to the Unit 2 Residual Heat Removal (RHR) pump seal cooler and the RHR pump room cooler. This condition went undetected since an adequate supply of cooling water was available from the south header. The licensee researched the valve's maintenance history and found that the last activity pertained to Maintenance Request (MR) 792717 on November 20, 1987. This activity removed the check valve and installed a blank flange for hydrostatic testing. Following the hydro, the valve was reinstalled. The only post maintenance test requirements documented on the MR was a QC verification of cleanliness and a leak check at the flanged connection. The leak check was marked "not applicable" because another Surveillance Instruction (SI 3.3.14.A.2) was to be performed. There was no QC inspection required to ensure proper valve installation. The Browns Ferry Maintenance Program contains adequate controls to prevent this situation had they been used. Plant Managers Instruction (PMI) 6.2, Conduct of Maintenance, Section 4.14.3 contains the program guidelines on independent verification. These verifications are to be performed in order to provide a high degree of assurance that a maintenance activity was performed correctly and to eliminate personnel errors affecting work where there is a chance for an error to degrade a safety function. This instruction references Standard Practice 3.11, Second Person Verification, which in turn references Standard Practice BF-3.2, Quality Control Inspection Program. BF-3.2 section 5.2.1 contains examples of activities that should be verified by using QC inspection holdpoints. Satisfactory operation of a valve following maintenance is one of the examples. Failure to properly verify by inspection that the maintenance activity conformed with the instruction on MR 792717 which required that the valve be reinstalled in the proper orientation is a violation of 10 CFR 50 Appendix B, Criterion X (260/88-05-02).

8. Surveillance Testing Observation (61726)

The inspectors observed and/or reviewed the below listed surveillance activities. The inspection consisted of a review of the procedures for technical adequacy, conformance to technical specifications, verification of test instrument calibration, observation on the conduct of the test, removal from service and return to service of the system, a review of test data, limiting condition for operation met, testing accomplished by qualified personnel, and that the surveillance was completed at the required frequency.

a. EECW Flow Verification

The inspector observed Surveillance Instruction (SI) 4.5.C.1(4), Emergency Cooling Water (EECW) Flow Verification, performed on March 10, 1988. Previous problems with this particular SI are documented in Inspection Reports 86-28 and 86-25. This SI was performed on B3 EECW pump as a post-maintenance test following repair of its associated discharge check valve. The major problem with this attempt, as observed previously, was the failure of the three valves to open. These valves cross-connect EECW to the Reactor Building Closed Cooling Water (RBCCW) heat exchangers in the event of a Raw Cooling Water (RCW) system failure. The Unit 1 and Unit 3 valves (1-FCV-67-51 and 3-FCV-67-51) would only open to an intermediate position. The Unit 2 valve failed to open at all. As a result of this, the required flow rate of 4500 gpm was not attained. The previous Unresolved Item on this SI will remain open pending a satisfactory, trouble-free performance (259,260,296/86-25-13). Other problems noted during the SI are listed below:

- (1) Operators do not understand Precaution statement 3.9 which states that RCW pressure should be monitored and maintained below 50 psig. They were unsure what action would need to be initiated if RCW pressure approached the limit.
- (2) The reason for precaution statement 3.10 which states that all diesel generator coolers should be operable was not apparent to the operators and in fact one cooler was out of service.
- (3) Procedure step 7.1.2 requires a sign-off that all prerequisites are met even though each one of the prerequisite steps requires an individual sign-off. Duplicate sign-offs make the procedure cumbersome and inefficient.
- (4) Completion of this procedure was unnecessarily burdensome to the Reactor Operator thereby distracting him from his primary duties. This procedure was intended to be a quick post-maintenance test to support declaring the B3 pump operable following check valve maintenance (a simple flow verification). The SI consumed the better part of a shift. The operators can't afford to have this type of distraction when more important licensed duties are required during reactor startup and operation.
- (5) When the required 4500 gpm was not reached, the operators felt a need to go outside of the procedure steps and adjust the RBCCW temperature control valve (TCV) in order to increase the flow. Although this was not contrary to any procedure it is indicative of the responsibility that operators feel are imposed on them to make a procedure work. Several examples of this type of activity have been recently observed.

- (6) The number of phone calls received by the Reactor Operators is excessive. The operator was observed to be interrupted by phone calls during every face to face discussion with maintenance technicians, other operators and engineers during the period of observation by the inspector.

The above items were discussed with the EECW system engineer and operations superintendent as appropriate.

b. SBGTS Charcoal Testing

As required by Technical Specification 4.7.B.2.a, the licensee sampled and analyzed charcoal from the Standby Gas Treatment System (SBGTS) following a fire in the Unit 2 Drywell in November 2, 1987. The charcoal was shipped offsite to an approved contractor for methyl iodide removal testing in accordance with ASTM D3803. Results were received on January 12, 1988, for trains B and C and on February 16, 1988, for train A. The inspector's review of the data detected examples of noncompliance with the required testing procedure. ASTM D 3803-1979, Standard Test Method for Radioiodine Testing of Nuclear-Grade Gas-Phase Adsorbents, contains five optional test methods. The first method measures the ability of the carbon to capture methyl iodide under conditions approximating inside containment under normal conditions. The second method approximates the conditions faced by a SBGT system (outside containment) following a design basis accident (DBA). The third method approximates a system located inside containment following a DBA. The last two tests use elemental iodine as a test gas and are not relevant to this discussion. The licensee did not specify which option was required in the procurement documents; however, the test parameters more closely approximate method C. This would be simulating a DBA with the system located inside containment. Method B (the SBGTS post-DBA simulation) would have been more appropriate in this case; however, the Technical Specifications require a temperature of 130°C which essentially requires that method C be performed. Table 1 of ASTM D3803 specifies the test parameters for method C which include 130°C, 95% RH, 60 minute feed time, and 240 minute elution time. The contractor's test report indicated compliance with the temperature and humidity requirements; however, the feed time was 90 minutes and the elution time was 90 minutes. The feed period consists of flowing humid air at 1.75 mg/m³ of methyl iodide past the charcoal bed. During the elution period, air flow without the tracer gas is maintained in order to evaluate the ability of the carbon to hold the adsorbate once it is captured. The licensee contacted the vendor for a justification of this noncompliance after the inspector raised the issue. The contractor contends that the longer feed time was a conservative test in that the equilibrium concentration is more closely approached as the feed time lengthens. He further stated that the results are not affected either way by a shorter elution time. The contractor provided test data to support this. The contractor didn't provide his motivation for deviating from the

provisions of the ASTM. Other problems with the conduct of the surveillance are described below:

- (1) Section 1.2 of ST 4.7.B.6, Standby Gas Treatment System - Iodine Removal Efficiency, contains an erroneous statement that the methyl iodide concentration should be 0.5 to 1.5 mg/m³. The actual tested concentration and the concentration required by ASTM D3803 was 1.75 mg/m³.
- (2) Section 2 of SI 4.7.B.6 failed to list ASTM D3803 as a reference.
- (3) Section 2.8, NRC Commitments, failed to reflect a commitment made to the NRC in response to a violation issued in Inspection Report 86-11. The commitment was to obtain a certificate of compliance to ASTM D3803 from the testing organization.
- (4) The procurement documents sent to the testing organization failed to specify which version of the ASTM was required. The licensee committed to the 1979 version and confusion with the latest version (1986) is a real possibility.
- (5) The certificate of compliance sent by the contractor certified that the service conforms to the "client spec.". Since the TVA procurement documents failed to be specific with regard to the method and version, the validity of the certificate was questionable. A clear statement of compliance with method C of ASTM D3803-1979 should have been required from the contractor. The SI was silent on what individual was responsible for verifying acceptability of the certificate. It was therefore not possible to judge whether that individual was sufficiently trained in QA requirements to make that judgement.

The record of noncompliances with this technical specification shows a lack of attention to the detailed test parameters. A violation for failure to comply with procedures has been issued (259,269,296/88-05-03). Inspection Reports 85-57 and 86-11 document the recent history on this test.

9. Reportable Occurrences (90712, 92700)

The below listed licensee events reports (LERs) were reviewed to determine if the information provided met NRC requirements. The determination included: adequacy of event description, verification of compliance with technical specifications and regulatory requirements, corrective action taken, existence of potential generic problems, reporting requirements satisfied, and the relative safety significance of each event. The following licensee event reports are closed:

<u>LER No.</u>	<u>Date</u>	<u>Event</u>
259/86-32	11/10/86	Standby Gas Treatment Not Meeting Technical Specification Requirements
259/87-17 and Rev. 1	7/17/87	Improper Byproduct Material Inventory And Records Retention Results In Failure To Meet Technical Specification Requirements
260/87-06	8/21/87	Fire Watch Function Was Not Fulfilled While Grinding Activities Were In Progress Because Of Personnel Error
260/87-10	9/24/87	Fire Watch Function Was Not Fulfilled While Grinding Activities Were In Progress Because Laborer Was Sleeping On Duty
296/85-06, Rev. 2	2/13/85	Mismatch Of Reactor Water Level Indicators

The licensee determined that the Standby Gas Treatment (SBGT) Surveillance Instruction (SI) acceptance criteria did not meet the Technical Specification (TS) trip setting requirements (LER 259/86-32). A review of the FSAR showed that the SI acceptance criteria met the design basis. The SBGT TS trip setting change was approved by the NRC on January 19, 1988.

The NRC resident inspectors discovered improper byproduct material and record retention (LER 259/87-17) during their inspection. The licensee in turn found additional problems in this area. The accountability of byproduct material and source material was shifted to the Radiological Control section. Procedures for the control of radioactive byproduct and source material were revised.

The first event found a fire watch asleep while grinding was in progress. The second event found grinding in progress without a fire watch present (LER 260/87-06). Disciplinary action was taken against the sleeping fire watch. The craft personnel and their supervisors were counseled on the requirements and importance of the fire watch function. A critique of the events were provided to personnel who may be involved in work requiring fire watches.

A fire watch was discovered asleep (LER 260/87-10) during a housekeeping team inspection, while grinding work was in progress. Disciplinary action was initiated against the fire watch. A critique of this event was provided to personnel who are presently involved in work requiring fire watches.

A mismatch between GEMAC reactor water level indicators developed while at low system pressure and the situation was misdiagnosed by the operators, and the appropriate technical specifications were not implemented (LER 296/85-06). Reactor water level instrument response training was given and placed into the requalification program.

10. Plant Operations Review Committee (40700)

Amendment Number 134 to the Unit 2 TS significantly changed the function of the PORC. The changes were implemented on December 10, 1987. The major impact was to remove some of the administrative burden of procedure reviews imposed on PORC in order to focus the PORC activities on its operational oversight role. The safety evaluation associated with this amendment heavily references Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation) which in turn endorses ANSI N18.7-1976/ANS-3.2, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants. In order to address current standards, the inspector compared certain aspects of the Browns Ferry program with the current, 1982 version of ANSI/ANS 3.2. The Browns Ferry Program is implemented through PMI 7.1, Plant Operations Review Committee. During this limited review, the following problem areas were noted:

- a. PMI-7.1 designates three alternates for PORC chairman who are not authorized by TS 6.5.1.2.a. These are the Maintenance Superintendent and two Unit Superintendents. When brought to the licensee's attention, the licensee maintained their position that TS 6.5.1.2.b allows the PORC Chairman to designate alternate PORC Chairmen other than stated in TS 6.5.1.2.a. The applicable regulatory requirement (i.e., TS on PORC composition and alternates) requires interpretation. This item will remain open as an Unresolved Item (259,260,296/88-09) pending further NRC management evaluation.
- b. One individual (the acting Maintenance Superintendent) has been designated PORC alternate chairman on the backshift duty list for many months and in fact chaired a PORC meeting on March 10, 1988, although this individual has not been appointed in writing by the PORC chairman per TS 6.5.1.2.b.
- c. Contrary to ANS-3.2-1982 the use of alternates were not restricted to legitimate absences of principals. In fact, the rotating assignment of PORC members on the backshift duty list ensured that random assignments for expedited PORC meetings were made without regard to availability of the principals.
- d. Contrary to ANS-3.2-1982 alternative means for conducting meetings such as telephone conference calls were being made in the absence of extenuating circumstances for which it is impractical to convene formal meetings. Four recent examples of telephone conference PORC meetings (2/20/88, 3/10/88, 3/13/88 and 3/15/88) were convened only for the purpose of avoiding delays in the performance of maintenance

or modification activities. These delays would have been a day or two of the current three year outage had the issues been held for the next routinely scheduled PORC meeting. The inspector noted that no guidance is contained in PMI-7.1 on who may call for an expedited telephone PORC meeting or what criteria is to be used in evaluating the appropriateness of a telephone PORC.

- e. An expedited telephone conference PORC meeting was held on March 10, 1988, with unqualified alternates acting as the Chairman and Health Physics Supervisor. The Shift Supervisor who was designated the Acting Health Physics Supervisor on shift was surprised that he was being called in connection with a PORC meeting and questioned his selection as a PORC member. This individual had received no PORC training and had never attended a PORC meeting. He initiated a discussion with his supervisor the following day which resulted in a decision to void the PORC meeting. The hand written PORC meeting minutes were discarded. After this event, the inspector obtained a copy of the Safety Evaluation Review and Approval Form (tracking number 111-C-88010) which was discussed during the telephone PORC. This was a PORC reviewed and Plant Manager approved safety evaluation. In addition, MR No. 721014 had it's PORC approval sign-offs filled in based on the invalid PORC meeting. Thus, although the PORC meeting was voided and no meeting minutes existed, the documents which were approved by the invalid PORC were not retrieved and voided. The inspector noted that the chairman for this PORC meeting was the acting Maintenance Superintendent who is not designated in PMI 7.1 as an alternate PORC chairman. This deficiency was not identified by the licensee.
- f. Contrary to ANS-3.2-1982, the action taken by expedited telephone PORC meetings are not being reviewed at the next regularly scheduled meeting. In fact, PORC did not review the events surrounding the voided PORC meeting until after the issue was raised by the inspector during a meeting with the plant manager on March 18, 1988. During this review of the invalid PORC, the licensee failed to detect that the PORC chairman was not an approved alternate chairman nor was the fact that MR number 821014 was approved by the invalid PORC addressed.

Although the ANSI/ANS 3.2 issues discussed above are not regulatory requirements, the inspector recommended that these practices be added to the Browns Ferry PORC program in order to align it with the current industry standards. Failure to properly designate alternate chairmen and control alternate members on the March 10, 1988, meeting and failure to maintain written minutes of the March 10, 1988, expedited PORC meeting is a violation of TS 6.5.1 (259,260,296/88-05-04). The licensee took action to eliminate having unqualified PORC members listed on the duty call-out list and has initiated changes to PMI 7.1 and the TS in order to prevent similar situations. The licensee has also placed more attention on the necessity of telephone PORC meetings and has recently disapproved several requests for these meetings.

11. Restart Test Program

The inspector attended RTP status meetings, reviewed RTP test procedures, observed RTP Tests and associated tests performances, reviewed RTP Test results and attended selected Restart Operations Center (War Room) and Joint Test Group meetings. The following are the RTP activities and associated activities monitored and status of testing during this reporting period:

a. Restart Test Status

- (1) RTP-002, Condensate (COND). Special Test-99, Condensate Demineralizer, was completed. This test involved the nine (2A through 2J) condensate demineralizers for the clean and precoat sequence. Additional testing will depend on the availability of Unit 2 condenser.

- (2) RTP-023, Residual Heat Removal Service Water (RHRSW)

The system continued to be impacted by the RHRSW/EECW systems north header outage. Valve 2-FSV-23-56 cycled on loss of power; however, the alarm failed to actuate. This item is being addressed by MR 885963 and Parts Request (PR) 88-143. This requires the issuance of a Design Change Notice (DCN) and a work plan.

- (3) RTP-024, Raw Cooling Water (RCW)

The system was also impacted by the header outage. However, areas not affected by the outage were tested, such as: Section 5.2 - Units 1 and 2 Raw Cooling Water flow path and temperature control valve operability test for control bay chillers A and B; Section 5.5 - RCW pumps automatic pressure control test - Units 1 and 2; and Section 5.7 - RCW system minimum flow verification test. Additional testing for Sections 5.1, RCW check valve operability test and 5.3 RCW pressure permissive - auto start of RHRSW pumps test is being impacted by material needs.

- (4) RTP-030, Diesel Generator and Reactor Building Ventilation (DG & RX BLDG VENT)

Testing was performed in Section 5.10 through 5.17 which involved the diesel generator rooms battery room hood exhaust fans. Testing is ongoing for Sections 5.2 through 5.9 which involves the diesel generator rooms exhaust fans. Several problems in this area were encountered involving MR's not being adequately addressed, which in turn resulted in several test exceptions. The use and dispositioning of RTP MR's is identified as inspector followup item IFI 259,260,296/88-05-05, closeout of RTP Maintenance Work Requests.

- (5) RTP-031, Control Building Heating Ventilation and Air Conditioning (CONT BLDG HVAC)

The system RTP Test procedure has not been released by the Joint Test Group (JTG) for testing. However, preliminary activities are ongoing, involving the Control Room Emergency Ventilation (CREV) power supply modifications, shutdown board room exhaust fan 1A being out of service, and a tear in Unit 3 duct work. The original schedule for this system was completely rewritten with no definite forecast date for the actual start of the RTP.

- (6) RTP-57-4, 480 Volt Distribution System (480 V DIST)

Due to the special test being performed on the diesel generators this system will not be tested in conjunction with system 082-Standby Diesel Generators. The test will be performed on a total of one hundred eighteen (118) separate circuits. As of March 31, 1988, a total of three (3) have been completed with a forecast completion date of April 27, 1988. This RTP was impacted by the change out of Transformer TS2B Power to 480 Volt Shutdown Board 2B, which was completed and returned to service on March 30, 1988.

- (7) RTP-57-5, 4160 Volt Distribution System (4.16 KV DIST)

The system is also impacted by the special tests being performed on the diesel generators. Testing of the individual boards, such as low voltage start relays, etc. is continuing. However, the major portions of the tests depend on the individual load acceptance test of the diesel generators.

- (8) RTP-57-7, 250 Volt DC Shutdown Batteries (250 VDC BATT)

A total of six battery chargers are involved with the system, i.e., A, B, C, D, Spare and 3 EB. B charger was placed back in service minus the filter capacitors and resistors in order to test the spare charger. Both the spare charger and the 3 EB failed the ripple voltage specification, which was .5% (arrived at by calculation). The Division of Nuclear Engineering raised the ripple voltage specification to 1%, which made the spare and 3 EB chargers acceptable. The B charger will be tested when the filter network is restored.

- (9) RTP-065, Standby Gas Treatment (SGTS)

Train "B" humidity heaters cable was meggered and found to be grounded. The licensee removed the defective cable, which contained a total of six conductors, and verbally reported that the conduit was filled with mud. This was due to the condition of the conductors and the large amount of force required to remove the individual conductors. The conduit run is from the

diesel generator building to the SGTS building and it is under twenty-three (23) feet of soil. It is suspected that this run is crushed and full of mud. The engineering and modifications groups devised an interim fix using Train "C" spare conduits, in order to support the fuel reconstitution effort. Due to this problem establishment of secondary containment and fuel reconstitution efforts have been rescheduled for mid April 1988.

(10) RTP-067, Emergency Equipment Cooling Water (EECW)

The system continued to be impacted by the north header outage and repairs to chillers for shutdown boards as well as thermo walls. These outstanding items virtually stopped most testing during practically the entire month of March 1988. However, some testing was performed in Section 5.5.

(11) RTP-070, Reactor Building Closed Cooling Water (BRCCW)

The pretesting activities were completed involving leak rate testing and hydrostatic testing. The system was partially released for testing in order to support LOP/LOCA. However, several outstanding MR's involving material such as caskets and brass flanges need to be closed out before partial testing can be completed. Dry well air coolers A3.A4 and A5 have leaks and this material is needed to repair the coolers.

(12) RTP-075, Core Spray (CS)

The system is required to support LOP/LOCA. Testing was performed in the following areas; Section 5.1, Manual initiation for core spray pumps 2A, 2B, 2C and 2D; Section 5.9, Core spray ready logic and 2A pump power interlock test 4160 volt shutdown board (4160 V SD Bd) A; 2B pump power interlock test 4160 V SD Bd C; 2C pump power interlock test 4160 V SD Bd B, and 2 D pump power interlock test 4160 V SD Bd D; and Section 5.2 core spray pump start signal to Automatic Depressurization System (ADS).

(13) RTP-092, Standby Diesel Generators (STDBY DG)

DNE by correspondence has conditionally accepted the load acceptance tests performed to date. However, the licensee must perform speed governor and voltage regulator adjustment tests and DG loading as a result of the Sequoyah DG experience. Special Test (ST) 8806 was written for 1B DG and approved by the PORC. The ST commenced on March 29, 1988; however, a device known as the EGA box did not perform as the vendor required and a new box was installed. A ST will be written for each of the eight DG's in Units 1, 2 and 3. After the ST for each DG is performed then the load acceptance test is performed immediately after the ST and this also includes the RTP diesel paralleling test.

b. Quality Assurance/Control Overview of RTP (40704)

The inspector reviewed Quality Surveillance Reports directly associated with the RTP. The inspector noted QA/QC involvement in actual testing activities, status meetings and JTG activities over the past few months. The review was conducted to assure adequate documentation of QA/QC coverage of RTP activities.

The following specific quality surveillances were reviewed in depth:

(1) QAF-S-87-0498

This surveillance was performed to observe/verify that portions of the Restart Test Program (RTP) were being performed in accordance with SDSP 12.1 by observing sections of 2-BFN-RTP-082 Standby Diesel Generators. The surveillance and accompanying checklist indicated that the test director exhibited an excellent understanding of the requirements of SDSP 12.1 and noted that CAQR BFP-87-0945 was written as a result of Test Exception (TE)-29.

(2) QAF-S-87-0526

This surveillance was performed in part to verify and observe acceptable implementation of Special Maintenance Instructions (SMI's) performed by the Division of Power Systems operation (DPSO). RTP is required to use existing plant procedures in whole or in part to satisfy test requirements. The performance of DPSO SMI 1-3EC.4 was required to satisfy portions of 2-BFN-RTP-57-5, 4160 volt Distribution System. The surveillance indicated that DPSO personnel involved exhibited an understanding of the SMI and communication was conducted clearly and objectively.

(3) QAF-S-87-0534

This surveillance was performed to verify and observe that portions of RTP Test 2-BFN-RTP-024, Raw Cooling Water (RCW) system, Section 5.1.4, Heat Exchanger Check Cooling Water System, Valve Closure Test, were performed in accordance with SDSP 12.1. The surveillance and accompanying checklist indicated that test exceptions TE-6 was documented adequately and that the qualifications of the RTP engineer and system engineer were verified.

(4) QAF-S-88-0008

This surveillance was performed to verify and observe that portions of RTP Test-024, RCW, Section 5.6, RCW Booster Pumps 1A, 1B and 2A Automatic Pressure Control were performed in accordance with SDSP 12.1. The surveillance and accompanying

checklist included that a total of three (3) TE's were identified and four (4) MR's were written to correct hardware deficiencies.

(5) QAF-S-88-0074

This surveillance was performed to observe and verify that portions of RTP Test-057-4, 480 Volt Distribution System, Section 5.5, Verification of Automatic Transfer of 480 V Control Bay Ventilation Board A from Normal to Alternate Source, were performed in accordance with SDSP-12.1. The surveillance and accompanying checklist indicated that personnel were familiar with the test instructions and that three (3) test exceptions (TE) were identified with one TE generating a maintenance work request.

(6) QAF-S-88-0033

This surveillance was performed to observe and verify that portions of RTP Test 024, Raw Cooling Water, Section 5.5, RCW Pumps Automatic Pressure Control, were performed in accordance with SDSP-12.1. The surveillance and accompanying check list indicated that the test was performed on pumps 2A and 2B. Two test exceptions were written, TE-21 and TE-23, which documented the pumps 2A and 2B auto started a second time when tests requirements stated that neither pump would auto start a second time and the restoration was performed out of sequence.

(7) QAF-S-88-0073

This surveillance was performed to observe and verify that portions of RTP were being performed in accordance with SDSP 12.1, which requires that the RTP use existing plant procedures in whole or in part to satisfy test requirements. The surveillance and accompanying check list indicated the Surveillance Instruction (SI) 4.9.A.1.b-2 was being performed to support RTP-082, Standby Diesel Generators, Section 5.7, Load Run, Load Acceptance and Miscellaneous Tests. However, during the performance of the SI a ground fault indication on Residual Heat Removal Pump 2C was detected and the SI was aborted.

(8) QAF-S-88-0038

This surveillance was performed to observe and verify that portion of RTP Test-057-7, 250 V DC Shutdown Batteries, Section 5.2, Measure the 250 volt Battery Charger Voltage and determine the ripple factor were performed in accordance with SDSP 12.1. The surveillance and accompanying checklist indicated that the test was performed on the 250 V Shutdown Board Battery Charger and that the surveillance involved review of the completed test instruction.

(9) QAF-S-88-0127

This surveillance was performed to observe, verify and review acceptable implementation of RTP-065, Standby Gas Treatment System, Section 5.7, Off-Gas Cubicle Fan Test and Section 5.8. Off-Gas Dilution Fan test. The surveillance and accompanying check list indicated that the several minor deficiencies were noted such as not all signatures in the test instruction was on the signature log. Panel 9-8-1 was identified as panel 9-8 etc. The surveillance also indicated that all personnel involved exhibited an understanding of the test instruction.

From the in depth review of the surveillances and the day-to-day observations, the QA/QC oversight appears to be adequately documented.

c. Design Deficiency Identified by RTP

RTP-65-SGTS. This design deficiency pertains to the Standby Gas Treatment System damper closure logic. The four dampers located in the equipment bay, between the inner and outer equipment doors, close on a signal from either of two trains; however, the two signal trains are wired up to one relay which closes all four dampers. The licensee's representatives verbally informed the NRC that this may not meet the single failure criteria. This item is identified as Inspector Followup Item (259,260,296/88-05-JE).

d. Joint Test Group (JTG) Meetings

The JTG held periodic meetings with the inspector attending on a continuous basis. Meetings numbered 88-006 and 88-007 were held on March 24 and March 31, 1988, respectively. The meetings involved discussions and recommendations of seven changes affecting five RTP test procedures, and one system test specification, two RTP test procedures, seven system test specifications and two system check lists. The inspector noted that during a discussion involving 2-BFN-RTP-099, Reactor Protective System RTP Test, a question arose about a test specification for the Mode Switch. A member of the JTG inquired as to whether a test of the mode switch was necessary. The member of the JTG was informed that it was a test requirement established by the Base Line Test Requirements Document (BLTRD). However, the discussion still continued as to the necessity of the Mode Switch test. The inspector was later informed that the JTG as a group understands that Base Line, by program, establishes test requirements and that JTG and Restart Test Group are tasked with meeting these requirements.

12. Containment Spray Header Examination For Rust Blockage of Spray Nozzle

The NRC requested the licensee to inspect the Unit 2 containment spray headers for rust deposits that might affect system operability. There is

no history of leaks into the containment spray header or inadvertent actuations of this system on the licensee files. The containment spray header nozzles are tested in accordance with Surveillance Instruction 4.5.2a (using air). This SI is performed every 5 years. There have been no indications of blockage of the nozzle heads found during the past performance of this SI.

On June 25, 1987, the Unit 2 containment spray header nozzles at elevation 601', azimuth 45° and 315° were removed and inspected for rust per MR (maintenance request) A-710489. There was a slight amount of rust found which was uniformly distributed and which tightly adhered to the inside of the carbon steel piping (i.e. 10" Spray Header and 1-1 1/2" Standard Nipples). The brass nozzle heads had no signs of loose rust and no signs of oxides. Therefore, based on these preliminary findings, the licensee reported to the NRC that no concern existed.

On January 22, 1988, with the RHR System aligned for a hydrostatic pressure test, water was observed leaking from several spray nozzles on the Unit 2 lower containment spray header. The water which was leaking past the containment spray outboard isolation valve (2-FCV-74-60) was drained from the header and the header was inspected. Rust particles were found in the lower spray header and several of the spray nozzles inspected were noted to be partially clogged with the rust.

Stagnant water found in the normally dry header was the apparent cause of the rust.

The design of a 170° circumferential section of the Unit 2 lower containment spray header allowed water which had leaked into this normally vented area to remain until it evaporated. Subsequent visual inspections revealed most of the nozzles on the 170° circumferential section of the lower header to be 30% clogged with rust. Additionally, loose rust particles were noted in the spray header which could affect system operability during initiation of the sprays. A CAQR (Condition Adverse to Quality Report) BFP880052 was written by the licensee to address the concerns of this problem. During the initial discovery of this problem by the licensee no Licensee Reportable Event Determination (LRED) action was initiated as required by plant procedures.

The shift supervisor was involved in the reportability determination on the rust in the containment spray header. When the condition was initially discovered the shift supervisor was involved in securing the leak and removing the water from the header. The shift supervisor or STA, due to these distractions, did not initiate a LRED on the discovery date. When the CAQR was reviewed by the Plant Operating Review Staff (PORS), a copy was taken to the shift supervisor on February 3, 1988, at 10:15 a.m. The shift supervisor still did not initiate a LRED because the CAQR did not provide any additional information to him. A LRED was initiated on March 4, 1988, after discussing the condition with the resident inspectors on March 3, 1988. The shift supervisor determined the condition as described to him was not reportable.

A review of the CAQR by the resident staff indicated that an LRED should have been initiated no later than February 3, 1988. The CAQR states explicitly that unit operability was affected. Although, there were apparent disagreements within the TVA staff as to system operability or affects, a LRED is still required to be initiated by Plant Managers Instruction 15.4 (Unique Reporting Requirements) Section 4.3. Failure to initiate an LRED to determine reportability or generic applicability is a second example of the violation against 10 CFR 50, Appendix B, Criterion V (260/88-05-03).

13. Q-List

- a. The inspectors reviewed the status of the Q-List implementation program which was effective February 26, 1988, for Unit 2. The CSSC list is no longer effective for Unit 2. The following concerns were identified to the plant management in regards to this initial inspection.
 - (1) Preliminary review of TVA design documents (e.g. BFEP PT 87-52, Development and Control of Browns Ferry Nuclear Plant Unit 2 Phase I Q-List, and SDSP-3.10) and discussion with TVA program management shows that the Phase I program does not fully meet 10 CFR 50, Appendix B requirements for all required equipment.
 - (2) Generic Letter 83-28 requires the licensee have available for review an equipment classification program which includes the broader class of structures, systems, and components "important-to-safety" required by GDC-1 (defined in 10 CFR Part 50, Appendix A, "General Design Criteria, Introduction"). A request by the inspector for this data indicated this Generic Letter item had not been completed.
 - (3) No data was available to indicate how the General Electric contractor who developed the Q-list justified the inclusion or exclusion of equipment from the list. Concerns exist that the source data used to compile the list may not be all inclusive. For example as an outcome of GE's work, leading to the development of Unit 2 Phase I Q-List, the Standby Liquid Control System was designated as having primary functions that are nonsafety-related in which only a few components of that system are safety-related.
 - (4) Items listed as non-safety related on the Q-list do not require any 10 CFR 50, Appendix B controls during any facet of its maintenance or operation. This includes items required to be operable by the plant TSs. An example is the Standby Liquid Control System which has been dropped from all QA requirements as indicated by TVA program management. The inspector requested justification for this analyses. Also, a listing of all equipment "Important to Safety" should be developed and

available for review by the NRC of all equipment not currently under any QA controls.

- (5) The licensee's memorandum which promulgated the Q-List (R01 870805 935) stated that the original objective of the Q-List Project was to eliminate the Critical Structures Systems and Components list (CSSC list) with the initial issue of the Q-List. It further stated that due to scope restrictions on the program's input sources, the CSSC list would be retained until completion of the Phase II effort. In spite of this, the Unit 2 CSSC list was cancelled with promulgation of the Phase I Q-List.
- (6) The same memorandum referenced in (5) above documented that ancillary supporting devices for components which were determined to be safety-related for the Control Rod Drop Accident and the Refueling Accident were not included in the Q-List source documents. The phase II activity will classify and include these devices.
- (7) The FSAR Chapter 14 analysis of "special events" was not included as part of the Q-List development process. Licensee representatives indicated that this deficiency was largely responsible for the lack of inclusion of any reactivity control functions of the SLC system in the Q-List.
- (8) The following documents contained contradictory lists of the source documents used to develop the Q-List.
 - (a) The BFNP Nuclear Performance Plan, Section 14.1.2
 - (b) Q-List promulgation memorandum (R01 870805 935)
 - (c) Site Directors Standard Practice 3.10, Use of the Q-Lists
 - (d) DNE Project Instruction 87-52, Development and Control of the BFNP Phase I Q-List
 - (e) "Unit 2 Phase I Q-List" Notes associated with Drawing 47A 302-1, Rev 000

In summary, the Q-List cannot be relied upon to ensure that all components or systems which are safety-related or important to safety are included. The reasons for this conclusion are:

- (1) Source data used to compile the list were restricted to the Design Baseline Program and the Environmental Qualification Program. These were not sufficient to ensure integration of the complete TVA QA program for BFNP into the Q-List.
- (2) The FSAR Chapter 14 Analysis of "Special Events" was not evaluated.
- (3) Two Design Basis Accidents (DBA's) were not properly evaluated to determine all ancillary support devices as was done for the other DBA's

Deficiencies identified with the Q-list program implementation will be tracked as an Unresolved Item (259/260/296/88-05-07).

b. Program Description

The Browns Ferry Phase I Q-List was developed to satisfy the regulatory requirements contained in NRC Generic Letter 83-28 and 10 CFR 50, Appendix B, to implement the commitments made in the BFN Nuclear Performance Plan and partially implement NQAM Part I, Section 2.2, ID-QAP-2.7, "Q-List". The references, assumptions, definitions and procedures used by DNE to develop the Phase I Q-List and the procedures DNE will use to control and revise the Q-List are contained in BFEP PI-87-52. One of the objectives of the Q-List program is to replace the CSSC listing contained in Standard Practice BF-1.11 with the Q-Lists and cancel BF1.11. The Q-Lists are unitized. Therefore, as each unit Q-List is issued it will supercede and replace the CSSC listing for that unit. It should be noted that the Q-List program used design output documents to produce the Q-List. The Q-List is a listing of safety-related systems, equipment and components with their identifications and classifications derived from design output documents. The Q-List was primarily produced to satisfy NRC regulatory requirements to have such a listing for centralized identification and control only. The benefit of the Q-List is the ability of a number of BFN organizations to use the Q-List to assist users in system, equipment and component classifications required by, as an example, design, procurement, modification, inspection and special program efforts. Q-List development and implementation will be in two phases. The Phase I Q-List does not list any limited QA or special management controls components or non-safety related components in safety-related systems. The Phase I Q-List provides partial fulfillment of the requirements of 10 CFR 50, Appendix B, Criterion II and NQAM Part I, Section 2.2, ID-QAP-2.7. The Phase II Q-List will expand and improve the Phase I Q-List and will provide complete fulfillment of the requirements of 10 CFR 50, Appendix B, Criterion II and NAQM Part I, Section 2.2, ID-QAP-2.7 and will be final and complete BFN Unit 2 Q-List.

The Unit 2 Phase I Q-List included compilation and analyses of data from the following sources:

- Safe Shutdown Analyses
- System Retirement Calculations
- Design Basis Commitments/Requirements Tracking System
- BFN-2 Final Safety Analysis Report (FSAR)
- Component Master List (CML)
- Environmental Qualification Walkdown Team (EQWT) B1/B2 Analyses Block Diagrams
- EQWT B1 Analysis Block Diagrams - ECNs Pending
- Torus Integrity Long-Term Program, Plant Unique Analysis Report

- Master Component Electrical List (MCEL)
- Mechanical Control Diagrams

c. Definitions of Terms

- (1) Q-List - This document is a design output unitized list of permanent plant systems, structures and components that have been identified as being SR, non-SR or Q-L. For BFNP, the Q-List stipulates for each item the safety classification, main and safety functions, description and source document. The Q-List is a verified and controlled equipment listing derived from design output documents developed to satisfy the NRC regulatory requirements contained in NRC Generic Letter 83-28 and 10 CFR 50, Appendix B and the TVA commitments contained in NQAM Part I, Section 2.2, ID-QAP-2.7. BFNP Q-List development and implementation will be in two phases.
- (2) Phase I Q-List - For BFN, the term which identifies the initial Q-List development and implementation. The Phase I Q-List includes Unit 2 safety-related components and a limited number of non-safety related components with the UNID, system description, functions and classification identified. The Unit 2 Phase I Q-List does not contain any limited QA components (Q-L) and the majority of NSR components located in SR systems. The Phase II Q-List Program will incorporate these components. The Phase I Q-List will provide partial fulfillment of the requirements of 10 CFR 50, Appendix B, Criterion II and NQAM Part I, Section 2.2, ID-QAP-2.7.
- (3) Phase II Q-List - For BFN, the term which identifies the final Q-List development and implementation that will expand and improve the Phase I Q-List to incorporate the limited QA components and NSR components in SR systems. The Phase II Q-List will provide the complete BFN Unit 2 Q-List and complete fulfillment of 10 CFR 50, Appendix B, Criterion II and NQAM Part I, Section 2.2, ID-QAP-2.7. The Phase II Q-List is scheduled for issue in FY 89.
- (4) Safety-Related (SR) - Each item listed on the Unit 2 Phase I Q-List is identified as Safety-Related or Non-safety related depending on the item's function and/or requirements. Safety-Related items are those structures, systems, and components necessary to ensure: (1) integrity of the reactor coolant pressure boundary, (2) capability to shutdown the reactor and maintain it in a safe shutdown condition, or (3) capability to prevent or mitigate the consequences of accidents which could result in potential offsite radiation exposures comparable to guideline exposures of 10 CFR Part 100 which are included in the Q-List and classified as safety-related due to requirements resulting from TVA commitments.

- (5) Non-Safety-Related (non-SR) - Those items which are not safety-related and have no limited QA requirements.
- (6) Limited QA Program (Q-L) - Refers to a system of special management controls which are applied to ONP special programs and special features in order to ensure that they are appropriately controlled.

14. Regulatory Performance Improvement Program Items

In a letter from R. L. Gridley of TVA to J. N. Grace, dated March 18, 1986, the licensee proposed action to close Confirmatory Order EA 84-54 issued on July 13, 1984, which pertains to the implementation of commitments made by TVA in the Browns Ferry Regulatory Performance Improvement Program (RPIP). The TVA status of remaining short-term and long-term open RPIP items is provided in Appendix A of the Browns Ferry Nuclear Performance Plan (NPP), Volume 3, Revision 1. The last inspection status of these items is described in Inspection Report 86-32. A following inspection on selected open RPIP items was performed with emphasis placed on short-term items. Current status is shown below:

Short-Term

Item I-3.4 Training for Craftsmen

The required licensee action is to continue with procedure and systems training for craft personnel. This item remained open because the specialized training procedure BF-PMI-4.3 did not specify the frequency of retraining.

The inspector reviewed the licensee's lesson plans and schedule for craft training on several systems operation and procedures. The latter course has been changed to a Conduct of Maintenance course. Course content was found to be comprehensive and thorough. Training reported that most of their craft people (greater than 90 percent) in the disciplines of I & C, electrical, and mechanical have completed the initial courses. Further, training initiated a 3-day pilot systems refresher course in January 1988. This course was well received by the employees and the licensee plans to proceed with this program. Per SDSP-4.7, the licensee also implements continuing training for annual craft personnel. This includes a reading list for all personnel to review which documents procedure changes. The inspector concluded that the retraining frequency for craft is not a concern and this RPIP item can be closed.
(CLOSED)

Item - 3.5 Systems Engineering

The specific action and intent of this item was to assign system responsibility to section engineers and provide specific training to each. This item was addressed in Inspection Report 86-32 and remained open because BF-PMI-6.4 does not specify frequency of retraining. Current PMI 4.3, retraining frequency for this item is specified "as required by supervisor." The inspector reviewed BF-PMI 4.3, Specialized Training, Attachment 1, Item 1.3 and required systems training for all engineers. The following courses are required: Systems 101, BWR Systems for Engineers; QAT 003, Regulatory Requirements; EGT 121; Technical Specifications, Plant Modifications, Work Control; and EGT 119, Print Reading and Reference Material.

Standard Practice BF 4.14 requires all technical staff and managers newly assigned to the site to complete the above orientation phase training within the first 18 months assignment and before being allowed full unreviewed responsibility in areas concerned with the training to topic. BF 4.14 also requires all incumbent technical staff and managers to have completed the orientation phase training by August 1, 1987, or have an approved waiver for the training topics. The inspector reviewed the training status for the affected technical staff and managers. A large number of the technical staff were noted to have completed the training and the licensee informed the inspector that only two incumbent individuals did not satisfactorily complete the training as required by August 1, 1987. These two were in repeat training at the time of inspection. The inspector also reviewed selected training records for three engineers to confirm that engineers completed the training or had an approved waiver. The records were in order and no discrepancies were found.

In addition, each section supervisor or manager receives Regulatory Compliance Supplemental Training Bulletin to review on a monthly basis. The type of information that is provided includes issued CAQRs, NMRG findings, Radiological Incident Reports, and NRC Inspection Report Summaries. Finally, the cognizant engineer concept described in the RPIP was replaced by a system engineering organization. Based on the above, the inspector concluded that the licensee is providing appropriate training for the technical staff and that a specific retraining frequency need not be provided in the PMI 4.3. The inspector considers this RPIP item closed. (CLOSED)

Item - 3.7 Unreviewed Safety Question Determination (USQD)
Preparation Training

The required licensee action for this item was to provide training in preparation of safety evaluation techniques to those individuals assigned such duties. This item was addressed in Inspection Report 86-32 and remained open because BF PMI 4.3 did not require this training for licensing staff or other engineers processing USQDs. During this inspection and a previous look in October 1987, the inspector was informed that the Site Licensing personnel are included in the USQD training and BF PMI 4.3, Revision 2, Item 1.4 requires all engineers preparing USQDs to receive USQD training. Towards the end of 1987, approximately 100 TVA personnel have taken and passed USQD training. The Training Department plans to administer more training sessions. Further, Section 5.1 of procedure PMP 0604.04, Revision 1, Evaluation of Changes, Tests, and Experiments, states that the organizations assigning individuals to approve screening reviews or perform safety evaluations shall ensure that the individuals are technically qualified and are trained in accordance with Section 6.6 of the same procedure. The inspector considers this RPIP to be closed. (CLOSED)

Item - 3.8 Quality and Compliance Awareness

The required licensee action for this item was to ensure that the craft personnel understand their responsibility regarding quality awareness and regulatory compliance. In response to this item the licensee is providing G.E.T. training (i.e., G.E.T.4, QA/QC and G.E.T.6, Plant Procedures) and R.P.I. 1.383 Regulatory Compliance training for all personnel. R.P.I. 1.384 is designated as a retraining course for regulatory compliance. Per BF PMI-4.3, Item 1.7, foremen are required to receive retraining on regulatory compliance annually and all other employees on a biannual basis.

The inspector reviewed the licensee's implementation of administering quality and compliance training to craft personnel. Tracking records were reviewed for 12 arbitrarily selected craft personnel, including machinists, steam fitters, electricians, instrument mechanics, foremen, and general foremen. Of the sampled training records, the inspector found three foremen, one general foreman and one craft person delinquent in receiving regulatory compliance retraining (R.P.I. 1.384), and three craft people delinquent in receiving GET 4 QA/QC retraining. For some people the retraining delinquency was greater than one year. The finding was essentially the same to a similar inspection performed back in October 1987. This constitutes a violation in that the licensee did not adhere to the frequency retraining requirements specified in PMI-4.3,

Item 1.7 and PMP 0.202.04, Nuclear Plant General Employee Training (GET) Program (259,260,296/88-05-08).

In response to the above finding the licensee has stated that they recognized this problem and plan to have corrective actions implemented by June 1, 1988. To improve timeliness of retraining, the training department is developing a training cycle schedule that will adjust each individual's retraining/qualification dates to fall due around the same time each year. Furthermore, since there is overlap of course content in G.E.T. 4, QA/QC; G.E.T. 6, Plant Procedures and Instructions; and R.P.I. 1.383, Regulatory Compliance, the training department plans to combine all three of these into one course. This RPIP remains open. (OPEN)

Item 4.5 Organization

Licensee action for this item is to review and revise appropriate documents to define and describe the new organization.

The inspector reviewed the following documentation to determine if they accurately reflect the new corporate and BFN site organization: TVA Topical Report, TVA-TR75-1A, Revision 9; BFN TS; Nuclear Performance Plan (NPP) Volume 3 Revision 1, Figures II-1 and II-2; Site Director's Standard Practice (SDSP) No. 1, Site Organization; SDSP-22.2, Emergency Response Organization; Standard Practice BF 3.12, Organization; the Office of Nuclear Power, Nuclear Quality Assurance Manual (NQAM) Part I, Section 2.1; and the Final Safety Analysis Report. The inspector found the TVA Topical Report, BFN TS, and NPP Vol. 3 organization figures to be out-of-date. Also, the inspector did not find any information in SDSP Section No. 1, entitled Site Organization. The BFN site reorganized at the plant manager's level in February 1988. This item will remain open pending the revision of at least the TVA Topical Report and BFN TS documentation. (OPEN)

Item I-4.11 Independent Safety Engineering Group

Licensee action is to establish a Site Independent Safety Engineering Group (ISEG). The current site (ISEG) composition consists of the supervisor and a full-time engineer. The licensee's planned three staffing level calls for three full time engineers. Per discussion with the ISEG supervisor the inspector was informed that his department is attempting to obtain two more full-time engineers. The BFN ISEG staffing level and experience was previously addressed in Inspection Report 87-14. The inspector was

informed that TVA plans to respond to this concern. Thus RPIP item remains open pending satisfactory resolution.
(OPEN)