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

Report Nos.: 50-259/85-02, 50-260/85-02, and 50-296/85-02

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

Docket Nos.: 50-259, 50-260 and 50-296 License Nos.: DPR-33, DPR-52, and DPR-68

Facility Name: Browns Ferry 1, 2, and 3

Inspection Conducted: January 21-25, 1984

Inspector: C. Smith 2/21/85
Date Signed

Approved by: C. M Upright, Section Chief 2/21/85
Date Signed
Operation Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection entailed 31 inspector-hours in the areas of design program and test program.

Results: Of the two areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees Contacted

N. Beasley, BFEP Project Manager (Office of Engineering)
C. Bridges, Quality Surveillance Coordinator
L. Claray, Quality Surveillance Supervisor
C. Elledge, Quality Assurance Evaluator
*A. Gordon, Browns Ferry Nuclear - Compliance
R. Guthrie, Design Services Staff Chief
*G. Hall, Browns Ferry Design Services Manager
*G. Jones, Browns Ferry Nuclear Plant - Plant Manager
*B. Morris, Browns Ferry Nuclear Plant - Compliance
H. Page, Shift Supervisor
W. Thomison, Engineering Section Supervisor
T. Ziegler, Browns Ferry Site Services Manager

NRC Resident Inspectors

*G. Paulk, Senior Resident Inspector
*C. Patterson, Resident Inspector
*C. Brooks, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on January 25, 1985, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection results. 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

This subject was not addressed in the inspection.

4. Design Program (37702).

References:
(a) 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants, Criterion III.

(b) Regulatory Guide 1.64, Quality Assurance Requirements for the Design of Nuclear Power Plants, Revision 2

(c) ANSI N45.2.11-1974, Quality Assurance Requirements for the Design of Nuclear Power Plants

(d) Regulatory Guide 1.33, Quality Assurance Requirements (Operations) November 1972

(e) ANSI N18.7-1976, Adminsitrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants

(f) 10 CFR Part 50.59, Changes, Tests and Experiments

(g) Technical Specifications Section 6.2, Review and Audit

The inspector reviewed the licensee design change program required by references (a) through (g) to verify that these activities were conducted in accordance with regulatory requirements, industry guides and standards, and Technical Specifications. The following criteria were used during the review to assess the overall acceptability of the established program:

- Procedures have been established to control design changes which include assurance that a proposed change does not involve an unreviewed safety question or a change in technical specifications as required by 10 CFR 50.59.

- Procedures and responsibilities for design control have been established including responsibilities and methods for conducting safety evaluations.

- Administrative controls for design document control have been established for the following:

  - Controlling changes to approved design change documents

  - Controlling or recalling obsolete design change documents such as revised drawings and modification procedures

  - Release distribution of approved design change documents

- Administrative controls and responsibilities have been established commensurate with the time frame for implementation to assure that design changes will be incorporated into:

  - Plant procedures

  - Operator training programs

  - Plant drawings to reflect implemented design changes and modifications

- Design controls require that implementation will be in accordance with approved procedures.

- Design controls require assigning responsibility for identifying post-modification testing requirements and acceptance criteria in approved test procedures and for evaluation of test results.

- Procedures assign responsibility and delineate the method for reporting design changes to the NRC in accordance with 10 CFR 50.59.

- Controls require review and approval of temporary modifications in accordance with Section 6 of the Technical Specifications and 10 CFR 50.59.

The documents listed below were reviewed to verify that these criteria had been incorporated into the licensee design program:

NQAM, Part II, Section 1.5, Onsite Independent Review, 12/31/84

NQAM, Part II, Section 6.4, Control of Temporary Alterations, 11/5/84

NQAM, Part II, Section 3.2, Plant Modifications: After Licensing, 12/31/84

NQAM, Part III, Section 4.1, Quality Assurance Records, 12/31/84

NQAM, Part IV, Section 2, Design Services, 12/31/84

NQAM, Part V, Section 2.8, Control of Design Requirements for Installation (ID-QAP-2.8), 12/31/84

NQAM, Part V, Section 6.1, Configuration Drawing Control (ID-QAP-6.1), 12/31/84

NQAM, Part V, Section 6.1, Configuration Drawing Control (ID-QAP-6.1), 12/31/84

NQAM, Part V, Section 17.2, QA Records for Design and Construction (ID-QAP-17.2)

Procedure No. 0604.04, Unreviewed Safety Question (USQD)-Intent, Method, Review and Approval

Standard Practice BF8.3, Plant Modifications

Standard Practice BF8.2, Temporary Alterations, 7/1/83

Standard Practice BF8.7, Design Study Requests, 5/29/84

Standard Practice BF8.8, Non-Modification Work Plan, 6/20/84

Standard Practice BF8.9, Resolution of Backlog Work Plans

The inspector reviewed the 1984 schedule to determine the number of surveillances conducted in the functional area of plant modifications. The following surveillance reports were reviewed by the inspector:

Survey No: SP-21-QAS-84-171, Subject: Advanced Drawings - Units 1 and 2, dated 4/25/84

Survey No: O-6-QAS-84-58, Subject: Survey of Temporary Alterations, dated 2/9/84.

The inspector verified that appropriate corrective actions were initiated for deficiencies identified during the performance of these surveys. In addition, the inspector reviewed for adequacy the corrective actions taken by licensee management in response to the identified deficiencies.

The following document was reviewed by the inspector in connection with surveillance activities scheduled for 1985.

Memorandum from W. E. Andrews to H. L. Abercrombie, J. W. Anderson, Subject: Development of Surveillance Program - BFNP/RPIP Long-Term Action Item No. 5.3, dated May 14, 1984.

This memorandum describes a proposed surveillance program which would consist of activity and program surveys. Approximately 50 percent of the man-days scheduled will be allotted to activity surveys, with 35 percent allotted to program review and 15 percent to field activities associated with the program review. The inspector reviewed the 1985 schedule for surveillance activities and discussed with licensee management the schedule of surveys of plant modification activities. The inspector was informed that in accordance with the referenced memorandum, surveys of Maintenance/ Modification and Design Changes would be scheduled on an as-needed basis; i.e., the performance of "special surveys". The inspector determined that activities to be surveyed include the following:

Modification Program
Compliance to Work Plans (WPs)
ECN/FCR Control
Post-modification Testing

The inspector interviewed licensee management to determine the onsite organizational structure established to ensure effective management control of the design program and the degree of licensee management involvement in

the decision-making process pertaining to the design program. The following document was reviewed by the inspector in conjunction with this effort:

Memorandum from W. H. Thompson, Manager of Employee Relations to W. F. Willis, General Manager, Subject: Organization Bulletin - Office of Nuclear Power and Division of Nuclear Services, dated January 4, 1985.

The above memorandum transmitted for approval revised organizational bulletins for the Office of Nuclear Power and the Division of Nuclear Services. This memorandum was approved by W. F. Willis Janaury 8, 1985. Additionally, this document delineates responsibilities of the following onsite organizations among others:

Modifications
Site Services
Design Services

The inspector reviewed two job descriptions of the managers of the above organizations to determine the authority and duties of persons and organizations performing activities affecting the safety related functions of structures, systems, and components. The inspector determined that licensee management is in the process of recruiting staff for the newly established organizations, in addition to preparing job descriptions and level I principal tier instructions for guidance of the staff members. These activities are in accordance with licensee commitments delineated in the licensee long-term improvement program.

The inspector interviewed licensee management in the Office of Engineering (OE) to determine the adequacy of the administrative controls applicable to the design organization external and internal interfaces. Particular attention was directed to the newly-established interface between the onsite Office of Engineering organization and the Design Services group. Additionally, interfaces within the site OE office and the Knoxville OE office were also discussed with licensee management.

The following documents were reviewed by the inspector in connection with this effort:

ENDES-EP 4.06, Field Change Requests Initiated by NUC PR, dated 2/24/84

ENDES-EP 4.22, Preliminary Design Change Requests (P-DCR's) - Handling, dated 4/13/83

ENDES-EP 4.52, Engineering Change Notices (ECNS) after licensing - Handling, dated 4/24/84

The inspector was informed by licensee management that the engineering procedures of ENDES, now renamed OE, are being reviewed by the Engineering Quality Assurance Department. They will be rewritten to reduce the number of procedures and consolidate program requirements into approximately 18

policy level procedures. Licensee management further stated that with the reduction in numbers of the engineering procedures, the Browns Ferry Engineering Project (BFEP) group would be required to prepare implementing procedures to delineate administrative controls applicable to day-to-day operation of the group. Engineering type documents, such as engineering/design guides or standard specifications intended to provide technical guidance to staff members, would not be affected by these changes.

The inspector reviewed licensee design program documents to determine the program scope, content, and consistency with the organizational changes instituted on site. The following document was reviewed in connection with this effort:

> Memorandum from J. A. Coffey to those listed, Subject: Browns Ferry Nuclear Plant (BFNP) - Site Director Policy memorandum No 24-Title Tier Documents, dated 12/31/84.

The Site Director's Policy memorandum (SDPM-24) dated 12/31/84 delineates the requirements for establishing two types of site level instructions as follows:

- Site Director's Policy Memoranda are nonauditable statements of the methods to conduct business. Policy memoranda will be issued by the site director.

- Site Director Standard Practices (SP) are documents which describe and detail methods for ensuring that plant activities are conducted within the limits set by facility licenses, division requirements, and site policy. SPs will be issued by the site director.

The memorandum further states that at BFN all policy and procedures which govern programmatic activities of more than one principal organization shall be issued in the format of one of the document types shown in the site tier level.

The memorandum addresses the establishment of principal tier-level instructions and states that principal tier-level instructions shall be prepared by principal managers if clarification and enhancements to site tier-level procedures or additional instructions are deemed necessary to accomplish organizational missions in the safest and most efficient manner.

The hierarchial relationship of licensee program documents shown in the site tier-level, Attachment I to SDPM-24, is as follows:

> Level I
>
> Principal Tier Instructions: applicable to the Plant Manager, Site Services, Modification, and Design Services

Level II

Site Tier Procedures: Site Director Standard Practices or Site Director Policy

Level III

Office Tier Requirements: NQAM, NPRM, PMP, others

Level IV

Technical Specification, Topical Report, FSAR, TVA Code and others

Site Director Policy Memorandum No. 24 establishes the requirements of a transition plan pursuant to the reorganization of Nuclear Power and states the requirements as follows:

Transition Plan

Standard practices in effect at the plant manager level remain in effect for all site employees until they are superseded by a Site Director Standard Practice or until identified as a principal level document. Site Director Standard Practices transition shall be initiated prior to March 1, 1985.

Each site principal shall establish a principal tier-level instruction by March 1, 1985. Each principal organization shall issue new instructions in their instruction format after this date.

Instruction-type material in standard practices currently at the plant manager level shall be reissued as deemed appropriate as principal -level instructions on a planned basis.

Site Services will status transition implementation monthly as a RPIP agenda item.

The inspector verified that licensee Level III office tier program documents contained in the NQAM have been revised to reflect the reorganization of Nuclear Power and the organizational responsibilities and interfaces that presently exist on site. Additionally, the inspector determined that most Level II site tier procedures have not been revised to be consistent with the upper tier Level II documents. Principal tier instructions (Level I) have not yet been prepared by either Site Services or Design Services. The inspector determined that these organizations are in the process of preparing these instructions and reviewed the following drafts prepared by Design Services:

DSIL 2, Design Organization Coordination
Draft; B54352 (DSIL), - Handling of Nonconformances Reports (NCR's)
DSIL 1, Design Change Request Processing - Plant Interface
DSIL, Vendor Information Distribution

The inspector discussed with licensee management in Design Services and Site Services the requirements of an integrated design and document control program and features of such a program that should be incorporated in Level II site tier procedures.

The inspector determined that, as a result of joint audit JA 8100-06, a finding was issued in January 1982 against NUC PR and ENDES stating that "as-constucted" drawings contain many errors and inaccuracies. The following documents were reviewed by the inspector:

Memorandum from R. D. Gutherie, Chairman, As-Constructed Task Force, BFNP, to J. A. Coffey Site Director, BFNP, Subject: Browns Ferry Nuclear Plant (BFN) - Additional work plans assigned to the Backlog Work Team (BWT), dated 1/4/85.

Memorandum from G. R. Hall, Project Manager, Boiling Water Reactor Project, to L. J. Cooney, Chief, Engineering Services Branch, Subject: Browns Ferry Nuclear Plant - Joint Quality Assurance Audit JA 8100-06-Finding 0-9-Interim Report, dated 4/16/84

Browns Ferry System for As-Constructed Drawings

The Backlog Work Team (BWT) was formed in 1983 to close out approximately 450 open work-plans per BFNP/RPIP long-term action item 2.1. This effort is still in progress.

Within this area no violations or deviations were identified in this area.

5. Tests and Experiments (35749, 37703)

References:

(a) 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants.

(b) Technical Specifications Section 6.2, Review and Audit

(c) Regulatory Guide 1.64, Revision 2, Quality Assurance Requirements for the Design of Nuclear Power Plants

(d) ANSI N45.2.11-1974, Quality Assurance Requirements for the Design of Nuclear Power Plants

(e) Regulatory Guide 1.33, Revision 2, Quality Assurance Program Requirements (Operation)

(f) ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants

The inspector reviewed the licensee's test and experiment program required by references (a) through (f) to verify that the program was in conformance with regulatory requirements, commitments in the application, and industry guides and standards. The following criteria were used during the review to assess the overall acceptability of the established program:

- A formal method has been established to handle all requests or proposals for conducting plant tests involving safety related components.
- Provisions have been made to assure that all tests will be performed in accordance with approved written procedures.
- Responsibilities have been assigned for reviewing and approving test procedures.
- A formal system, including assignment of responsibility, has been established to assure that all proposed tests will be reviewed to determine whether they are as described in the FSAR.
- Responsibilities have been assigned to assure that a written safety evaluation required by 10 CFR 50.59 will be developed for each test to assure that it does not involve an unreviewed safety question or a change in Technical Specifications.

The documents listed below were reviewed to verify that the previously listed criteria had been incorporated into the licensee tests and experiments program:

NQAM Part II, Section 4.6, Special Test, dated 10/12/84

NQAM Part II, Section 4.9, Handling of CSSE Test Deficiencies, dated 10/12/84

NQAM Part II, Section 6.4, Control of Temporary Alterations, dated 11/5/84

Standard Practice BF17.1, Special Tests, dated 8/10/83

Standard Practice BF17.18, Unreviewed Safety Question Determination, dated 8/28/84

Standard Practice BF8.2, Temporary Alterations, dated 8.1.84

The inspector reviewed licensee tests and experiment program documents to determine the program scope, content,and consistency with the organizational changes instituted on site. The inspector determined that licensee Level

III office tier requirements delineated in the NQAM have been revised to address organizational responsibilities and interfaces that presently exist on site. The Level II site tier procedures standard practices have not been revised to address the reorganization instituted on site and are therefore generally, inconsistent with program requirements delineated in the NQAM. The inspector verified that in accordance with J. A. Coffey's memorandum dated 12/31/84 subject: Browns Ferry Nuclear Plant (BFNP)-Site Director Policy memorandum No. 24, efforts are presently in progress for the establishment of Site Director Standard Practices and Site Director's Policy memorandum to address this deficiency.

The inspector reviewed the following special tests:

Special Test 8418, Test Description: Electrical Board Room Ventilation System Smoke Detector Temperature, Revision 0.

Special Test 8414, Test Description: Diesel Generator Starts During SI 4.2.B-399, Revision 0.

The inspector verified that an Unreviewed Safety Question Determination was performed in accordance with the requirements of 10 CFR 50.59 and that the format of the test procedure was consistent with the requirements delineated in the NQAM, Part II, Section 4.6.

Within this area, no violations or deviations were identified in this area.