



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

Report Nos.: 50-348/85-32 and 50-364/85-32

Licensee: Alabama Power Company
600 North 18th Street
Birmingham, AL 35291

Docket Nos.: 50-348 and 50-364

License Nos.: NPF-2 and NPF-8

Facility Name: Farley 1 and 2

Inspection Conducted: July 29 - August 2, 1985

Inspector: *E. Aswell Smith* 9-13-85
C. Smith Date Signed

Accompanying Personnel: R. Moore, Region II

Approved by: *A. Belisle* 9-16-85
A. Belisle, Acting Chief Date Signed
Quality Assurance Programs Section
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection entailed 73.5 inspector-hours on site in the areas of design control program, test and experiments program, and quality assurance/quality control (QA/QC) administration program.

Results: Two violations were identified - Design Changes caused by Plant Activities/Work Items and Special Test Program Noncompliance with Technical Specification (TS).

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

R. Badham, SAER Engineer
*C. Buck, Design Support Supervisor
W. Coggins, FDS Supervisor PMD
*R. Coleman, Systems Performance Supervisor
G. Dykes, Lead Electrical Engineer PMD
*D. Morey, APM-OPS
*C. Nesbitt, Technical Superintendent
C. Sheehan, General Plant Engineer (GPE-3)
W. Shores, Power Plant Specialist/Technician
*M. Stinson, Plant Modification Supervisor
*L. Ward, Maintenance Superintendent
*W. Ware, SAER Supervisor
*G. Waymire, General Plant Engineer (GPE-1)
R. Winkler, Supervisor, Modification, Evaluation and Testing Section
*J. Woodward, APCO-Plant Manager

NRC Resident Inspectors

*W. Bradford
*B. Bonser

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 2, 1985, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings listed below. Dissenting comments were received from the licensee regarding the two violations identified during this inspection.

Violation, Design Changes Caused By Plant Activities/Work Items, paragraph 4.a.

Violation, Special Test Program Noncompliance With TS, paragraph 5.

Inspector Followup Item, Section Instructions for the Plant Modification and Maintenance Support Group, paragraph 4.b.

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 Changes (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 1
 - (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 N18.7-1972, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants
 - (f) 10 CFR 50.59, Changes, Tests and Experiments
 - (g) Technical Specifications, Section 6.5, Review and Audit

The inspector reviewed the licensee design change program required by references (a) through (g) to determine if 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:

- Were procedures 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?
- Were procedures and responsibilities for design control established including responsibilities and methods for conducting safety evaluations?
- Were administrative controls for design document control 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 and distribution of approved design change documents?

- Were administrative controls and responsibilities 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?
- Did design controls require that implementation will be in accordance with approved procedures?
- Did design controls require assigning responsibility for identifying post-modification testing requirements and acceptance criteria in approved test procedures and for evaluation of test results?
- Did procedures assign responsibility and delineate the method for reporting design changes to the NRC in accordance with 10 CFR 50.59?
- Did controls require review and approval of temporary modifications in accordance with Section 6 of the TS and 10 CFR 50.59?

The documents listed below were reviewed to determine if these criteria had been incorporated into the licensee design change program:

FSAR Chapter 17.2.3, Design Control

Operations Quality Assurance Manual

Design Control, Chapter 3
Corrective Action, Chapter 16

FNP-0-AP-8, Design Modification Control, Revision 10

FNP-0-AP-7, Corrective Action Reporting, Revision 8

GO-NG-11, Procedure for Design Change and Design Control, dated
December 11, 1984

GO-NG-10, Corrective Action, dated November 5, 1984

FNP-0-AP-13, Control of Temporary Alteration, Revision 1

FNP-0-AP-52, Equipment Status Control and Maintenance Authorization,
Revision 6

The inspector interviewed licensee onsite Safety Audit and Engineering Review (SAER) staff to determine their involvement in the performance of audits in the functional area of plant modifications. The following audit reports were reviewed by the inspector:

Report of SAER Audit dated October 16, 1984: General area audited, Plant Modifications; Date(s) of audit, September 7 - October 15, 1984.

Report of SAER Audit dated November 17, 1983: General area audited, Plant Changes and Modifications; Date(s) of Audit, September 6 - November 15, 1983.

The audit conducted September 7 - October 15, 1984, identified two items of noncompliance in the Minor Departure from Design Program. The first concerned failure of the Plant Operating Review Committee (PORC) to review the Minor Departure Recommended Disposition and Safety Evaluation Checklist within the established 90 days of implementation approval. The second addressed the failure of the implementation superintendents to verify completion of the approved disposition of design changes implemented under the Minor Departure from Design Program, within one year of the implementation approval date. The inspector was informed by licensee personnel that corrective action had been initiated for these audit noncompliances.

The licensee established a Plant Modification and Maintenance Support (PMD) group on site. Administrative procedure FNP-O-AP-70, Conduct of Operations - Plant Modifications and Maintenance, is the controlling procedure for activities conducted by this group. This procedure describes the organizational structure, organizational responsibilities, administrative controls and personnel qualifications for the PMD Group staff members. The following are among the responsibilities assigned to this group:

Production Change Request (PCR) Review;

Minor Departure from Design Review;

Production Change Notice (PCN), Review and Engineering Evaluation;

Plant Staff Design Development;

Functional Testing of Design Changes.

The inspector conducted interviews with selected staff members of the PMD group to ascertain their involvement in the design program, and their understanding of the program requirements as delineated in administrative procedure FNP-O-AP-8. In response to the inspector's inquiry, staff members stated that their involvement in the Minor Departure from Design Program consisted of the post-implementation design review. All staff members were knowledgeable of the design modification controls contained in FNP-O-AP-8. The Supervisor-PMD had prepared draft copies of section instructions intended to provide detailed guidance not contained in FNP-O-AP-8 to staff

members in the performance of their duties. The inspector reviewed these draft copies.

The following PCNs were examined to verify that selected elements of the design change program were being implemented as specified by procedures:

PCN Number B81-2-2168, Charging Pump Auto Start, Revision 3

PCN Number B83-2449, Alternate Shutdown Capability - Appendix R, Revision 15

PCN Number B84-1-2784, Defeated the Signal Which Starts Diesel Generators 1C and 2C on Low Pond Level, Revision 0

PCN Number B83-1421, Added Shunt Trip Attachments to the Reactor Trip Breakers, Revision 0

The inspector verified that the following requirements were incorporated in the documentation associated with each PCN package:

The design change request was reviewed and approved as required.

Design input requirements were specified, reviewed, and approved.

Independent design verifications were performed as required.

Post-modification acceptance tests were performed as required and designated acceptance criteria were met.

Any changes to the design documents were properly reviewed and approved.

Design reviews required by Technical Specifications were performed.

Plant drawings were updated to reflect the design change or modification.

Plant procedures were updated to reflect the design changes.

The training organization was made aware of the modifications.

Administrative procedure FNP-0-AP-8 paragraph 16.0, delineates the programmatic controls for the processing of any activity/work item which is a change from approved design documents. These activities are processed as Minor Departures from Design and may either be permanent or temporary. The following criteria are evaluated by the responsible plant supervisor to determine if a Minor Departure from Design activity will be temporary.

The activity/work does not change the basic function of the structure, system or component involved.

The activity/work complies with recognized industry standards and good engineering practices.

The activity/work will not cause degradation of performance requirements such as capacity, response times, etc.

The activity/work will not require a change to the Plant TS

To determine if a change can be implemented as a permanent Minor Departure from Design, the plant supervisor evaluates the following additional criteria:

The activity/work must comply with plant design and installation specification.

The activity/work must comply with codes, standards or regulatory requirements applicable to the original plant design.

Within this area one violation and one inspector followup item were identified and are discussed in the following paragraphs.

a. Design Changes Caused by Plant Activities/Work Items

Technical Specification 6.5.3.1.b. requires that proposed modifications to plant nuclear safety-related structures, systems, and components be approved prior to implementation by the plant manager. The accepted QA program, FSAR Chapter 17.2.3, requires that design changes and modifications during plant operations be handled in a manner which will comply with the requirements of ANSI N45.2.11. Paragraph 8.0 of this standard requires that design changes be subjected to design control measures commensurate with those applied to the original design.

The minor departure from design program is intended for processing plant work/activities which results in changes to design documents. These changes can be permanent or temporary as previously discussed. According to FNP-0-AP-8, the cognizant plant supervisor approves Minor Departure from Design requests prior to implementation. This request is also reviewed within 90 days of implementation by the Plant Operations Review Committee to determine if an unreviewed safety question exists because of the implemented design change. After the Minor Departure from Design is implemented, a review is performed by the PMD group.

Existing administrative controls for Minor Departure from Design do not require:

Prior implementation approval by the plant manager,

Design changes (Minor Departure from Design) be subject to those measures commensurate with those applied to the original design,

Scope of activities under which a Minor Departure from Design can be used,

Requirements for post-implementation functional tests and test acceptance criteria.

The failure to include measures to assure that a Minor Departure from design meets existing regulatory requirements is identified as violation 348/85-32-01 and 364/85-32-01.

b. Section Instructions for the Plant Modification and Maintenance Support (PMD) Group

The licensee has established a PMD Group onsite with responsibilities in the PCR/PCN program area. Administrative procedure FNP-O-AP-8 is the controlling procedure for design modification control and delineates the program requirements of the PCR/PCN program. The licensee has identified a need to supplement the administrative controls delineated in FNP-O-AP-8 with section instructions, intended to provide guidance to PMD staff members in the performance of their duties. The inspector reviewed unapproved draft copies of section instructions. Until the licensee incorporates the section instructions into the PCR/PCN program, this is identified as Inspector Followup Item 348/85-32-03 and 364/85-32-03.

5. Test and Experiments Program (37703)

- References:
- (a) 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants
 - (b) 10 CFR Part 50.59, Changes, Tests and Experiments
 - (c) Technical Specification, Section 6.5, Review and Audit
 - (d) Regulatory Guide 1.33, Quality Assurance Requirements (Operations) November 1972
 - (e) ANSI N18.7-1972, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants

The inspector reviewed the licensee test and experiment program required by references (a) through (e) to determine if the program was in conformance with regulatory requirements and industry guides and standards. The following criteria were used during this review to assess the overall acceptability of the established program:

- Was a formal method established to handle all requests or proposals for conducting plant tests involving safety-related components?

- Were provisions made to assure that all tests will be performed in accordance with approved written procedures?
- Were responsibilities assigned for reviewing and approving test procedures?
- Was a formal system, including assignment of responsibility, established to assure that all proposed tests will be reviewed to determine whether they are as described in the FSAR?
- Were responsibilities 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 determine if these criteria had been incorporated into the licensee test and experiments program.

FSAR Chapter 17.2.11, Test Control

Operations Quality Assurance Manual

Instructions Procedures, Drawings, Chapter 5
Test Control, Chapter 11

FNP-0-AP-24, Test Control, Revision 2

FNP-0-AP-1, Development, Review, and Approval of Plant Procedures,
Revision 7

FNP-0-AP-3, Plant Organization and Responsibility, Revision 6

FSAR Chapter 14.0, Initial Tests and Operations

FSAR Chapter 13.5, Plant Procedures

The inspector reviewed the licensee test and experiment program documents to assess the program scope and content. The inspector determined that a test program had been established to assure that all testing required to demonstrate satisfactory operation of in-service critical systems, structures, and components had been identified and that these tests were performed in accordance with approved written procedures. The inspector also verified that written safety evaluations required by 10 CFR 50.59 were developed for tests to assure that unreviewed safety questions or changes to TS do not exist.

Audits conducted by the SAER staff were reviewed by the inspector to verify the degree of involvement of the staff in this functional area. The following are the specific audits reviewed:

Report of SAER Audit dated April 26, 1983: General Area Audited, Test Control; Dates of Audit, March 9 - April 7, 1983

Report of SAER Audit dated April 30, 1984: General Area Audited, Test Control; Dates of Audit, March 26 - April 27, 1984

Report of SAER Audit dated April 14, 1985: General Area Audited, Test Control; Dates of Audit, February 25 - April 2, 1985.

The licensee annual operating report required by 10 CFR 50.59, transmitted by letter dated March 29, 1985, from R. P. McDonald to Dr. J. N. Grace, Administrator, U.S.N.R.C., was used as the basis for selecting completed test packages for review. The following test packages were reviewed to verify conformance with written procedures:

FNP-1-ETP-134, Performance of Service Water Flow Verification Test, Revision 0

FNP-1-STP-33.2 Reactor Trip Breaker Train B Operability Test, Revision 5.

FNP-1-ETP-4140, 1B Component Cooling Water Heat Exchanger Leak Detection, Revision 0.

Within this area, one violation was identified. Pursuant to the review of the above test packages the inspector identified that one special test package, FNP-1-ETP-4140, was performed without the plant manager's approval. This does not meet TS 6.5.3.1.c requirements in that proposed tests and experiments which affect plant nuclear safety and are not addressed in the FSAR are required to be approved by the plant manager before implementation. Licensee management stated that this test was erroneously classified on the Procedure Request Form as a special test, consequently, approval by the plant manager was not required.

However, further investigation by the inspector identified the apparent root cause of the problem to be a deficiency in procedure FNP-0-AP-1. Paragraph 5.4.1 of this procedure defines which documents require the plant manager's approval. This paragraph does not establish measures to ensure that the requirements of TS Section 6.5.3.1.c are implemented.

Special tests are defined in 10 CFR 50.59 as tests which impact nuclear safety and which are not described in the safety analysis report. The TS requires that special tests be approved by the plant manager before implementation. The licensee controlling procedure for the development, review and approval of plant procedures does not establish measures to

ensure that the requirements of the TS are implemented. This failure to establish measures to ensure approval of special tests by the plant manager before implementation as required by the TS is identified as violation 384/85-32-02 and 364/85-32-02.

6. QA/QC Administration (35751)

- References:
- (a) 10 CFR 50 Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants
 - (b) Regulatory Guide 1.28, Quality Assurance Program Requirements (Design and Construction)
 - (c) ANSI N45.2-1971, Quality Assurance Program Requirements for Nuclear Power Plants
 - (d) Technical Specifications, Section 6, Administrative Controls

The inspector reviewed the licensee QA/QC administration program required by References (a) through (d) to determine if QA/QC administration requirements were conducted in accordance with regulatory requirements, industry guides or standards, and Technical Specifications. The following criteria were used for this review:

- Did QA program documents clearly identified those structures, systems, components, documents, and activities to which the QA program applies?
- Were procedures and responsibilities established for making changes to QA program documents?
- Did the licensee establish administrative controls for QA/QC procedures which assure procedure review and approval prior to implementation, control of changes and revisions, and methods and control for distribution and recall?
- Were responsibilities established to assure overall review of the effectiveness of the QA program?
- Did methods exist to modify the QA program to provide increased emphasis on identified problem areas?

The documents listed below were reviewed to determine if these criteria had been incorporated into QA/QC administration activities:

FSAR Chapter 17.3, Quality Assurance Q-List

FNP-0-AP-31, Quality Control Measures, Revision 7

Operations Quality Assurance Manual, Revision 22

SAER-AP-02, Development and Implementation of Procedural Guidance,
Revision 9

SAER-AP-03, Control of Guidance Documents, Revision 9

SAER-AP-09, Corrective Action, Revision 9

SAER-AP-11, Summaries and Analysis of Audit Results, Revision 9

Composite Audit Report No. 85-07, 4-month Interval, March 29, 1985

Within this area, no violations or deviations were identified.