



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

Report Nos.: 50-364/90-22 and 50-364/90-22

Licensee: Alabama Power Company
600 North 18th Street
Birmingham, AL 35291-0400

Docket Nos.: 50-348/90-22 and 50-364/90-22

License Nos.: NPF-2 and
NPF-8

Facility Name: Farley 1 and 2

Inspection Conducted: August 20-24, 1990

Inspector: J. R. Harris

9/25/1990

Date Signed

Accompanying Personnel: M. D. Hunt

Approved by: M. D. Hunt
M. D. Hunt, Acting Section Chief
Plant Systems Section
Engineering Branch
Division of Reactor Safety

9/25/90

Date Signed

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of fire protection and followup on an unresolved item 88-27-02 identified during an Appendix R Triennial inspection conducted September 26-30, 1988.

Results:

The inspector identified the following strengths in the implementation of licensee's fire protection program:

- Staffing of the fire protection group is very good.
- The licensee management appears to be committed to the successful implementation of the fire protection program
- The licensee has effectively implemented a program of controlling the movement of transient combustibles.

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- The licensee took proper corrective action on Unresolved Item 50-348/88-27-01, Unsealed Penetration In Barriers Credited for Appendix R Exemptions. The penetrations were sealed using silicone No-26-100-08. This was done on January 25, 1989.

No deviations or violations were identified in the areas inspected.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *S. Fulmer, Safety Audit and Engineering Review Site Supervisor
- *J. Hayes, Acting Fire Marshal
- *R. Henley, Plant Instructor Fire Protection
- *R. Hill, Assistant General Manager Operations
- *R. Mikhell, Health Physics Superintendent
- *J. Osterholtz, Manager Operations
- *J. Thomas, Manager Maintenance
- J. T. Knowles, Engineering Aide

NRC Resident Inspectors

- *G. Maxwell Senior Resident

*Attended exit interview

2. Fire Protection Program (64704)

a. Fire Prevention/Administrative Control Procedures:

<u>Procedure No</u>	<u>Title</u>
FNP-0-AP-29	Plant Fire
FNP-0-AP-33	General Plant Housekeeping and Cleanliness
FNP-0-AP-36	Fire Surveillance Procedures and Inspections
FNP-0-AP-37	Fire Brigade Organization
FNP-0-AP-38	Use of Open Flames
FNP-0-AP-39	Fire Patrol Watches
FNP-0-AP-45	Farley Nuclear Plant Training Plan
FNP-0-AP-52	Equipment Status Control and Maintenance Authorization

These procedures comply with the NRC supplemental guidelines of the document entitled "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Control and Quality Assurance dated June 14, 1977.

b. Fire Protection Surveillance Procedures

The inspector examined the following fire protection surveillance procedures:

<u>Procedure No.</u>	<u>Title</u>
FNP-0-STP-54	Fire Pump Functional Test - Every 18 months
FNP-0-STP-55	Fire System Underground Piping Operability Test - Annually
FNP-0-STP-56	Fire System Valve Operability Test - Every 18 months
FNP-0-STP-58	Fire Distribution System Flow Test - Every 3 years
FNP-0-STP-128	High Pressure CO ₂ Systems - Every 18 months
FNP-0-STP-131	Smoke Detectors - Semiannually
FNP-0-STP-133	Yard Fire Hydrant Inspection - Semiannually
FNP-0-STP-134	Fire Doors and Dampers Functional Inspection - Every 18 months
FNP-1-FSP-1	Portable Smoke Removal - Semiannually
FNP-1-FSP-7	Halon System - Monthly
FNP-1-FSP-9	Portable Extinguisher - Monthly

The above surveillance procedures were reviewed to determine if the various test outlines and inspection instructions adequately implement the surveillance requirements of the plant's fire protection Technical Specifications. In addition, these procedures were reviewed to determine if the inspection and test instructions followed general industry practices, NRC fire protection program guidelines and the guidelines of the National Fire Protection Association fire Codes. Based on this review, it appears that the above procedures are satisfactory.

c. Fire Protection System Surveillance Inspections and Tests Records

The inspector reviewed the following surveillance inspection and test records for the dates indicated:

<u>Procedure No.</u>	<u>Results Reviewed</u>
FNP-0-STP-54	Fire Pump Functional Test - Every 18 months. Reviewed test performed February 4, 1990
FNP-0-STP-55	Fire System Underground Piping Operability Test - Annually. Reviewed test performed March 15, 1990
FNP-0-STP-56	Fire System valve Operability Tests - Every 18 Months. Reviewed test March 11 to April 11, 1990
FNP-0-STP-58	Fire Distribution System Flow Test - Every 3 years. Reviewed test conducted May 23, 1990
FNP-0-STP-128	High Pressure CO ₂ Systems - Every 18 months. Reviewed test conducted February 23, 1989
FNP-1-FSP-1	Portable Smoke Removal - Semiannually. Reviewed tests November 8, 1984 to April 11, 1990
FNP-1-FSP-9	Portable Extinguisher - Monthly. Reviewed tests performed January 2, February 3, March 4, April 5, May 6 and June 7, 1990
FNP-0-STP-131	Smoke Dectectors - Semiannually. Reviewed tests January 9, 1990 to August 8, 1990
FNP-0-STP-132	Hydrant Hose House Inspection - Monthly. Reviewed tests April 8, May 7, June 6 and July 7, 1990
FNP-0-STP-133	Yard Fire Hydrant Inspection - Semiannually. Reviewed tests conducted October 1, 1989 to April 4, 1990

Procedure No.
(cont'd)

Results Reviewed

FNP-STP-134

Fire Doors and Dampers Functional
Inspection - Every 18 months.
Reviewed test conducted September 1,
1989

The surveillance test record data and testing frequency associated with the above fire protection system surveillance test/inspections were found to be satisfactory with regard to meeting the requirements of the plant's Fire Protection Technical Specifications.

d. Fire Protection Audits

The following licensee audits were reviewed:

A Safety Audit and Engineering Review (SAER) Group audit of fire protection report dated March 21, 1989, identified a noncompliance [FNP-NC-08-89/05(12)] to FNP-0-AP-16 which requires quarterly audits of control room boundary penetration controls.

Contrary to the requirements, the documentation indicated that only one audit was performed in 1988. Corrective actions to prevent recurrence included an audit of the penetrations release files which documents authorized breachings of the control room fire barriers. These files were placed in the operations group administrative task sheets of the surveillance test schedule and are now audited monthly.

The Triennial Fire Protection and Loss Prevention Program Inspection and Audit Conducted July 10-14, 1989, was reviewed.

The following Noncompliance was identified as FNP-NC-34-89/13. There were three items in the Farley FSAR that were inconsistent with the observed plant conditions. The three items were related to the combustible loadings as identified in the Fire Hazards Analysis, portable fire extinguishers in the plant and floor drains in cable chases.

Corrective actions included specific listing of combustible loading will be added to the Fire Hazards Analysis. It was also verified that existing extinguishers are in accordance with design intent, and the design intent of the cable chases was not to include floor drains.

The inspector reviewed these items and verified that proper corrective actions were taken.

e. Fire Brigade

(1) Organization

The total station fire brigade is composed of approximately 163 personnel from the operations, chemistry and security staff. The on duty shift fire brigade leader is one of the shift foremen and the remaining four fire brigade members are composed of two plant operators, one chemistry and one security person. The inspector reviewed the shift brigade on duty for August 19, 20, 21, 23 and 24 and verified that the correct number of people were on duty in the event of a fire. The inspector also verified that the correct number of operators would remain on duty in the Unit 1 and 2 Control room in the event of a fire.

- (2) The inspector reviewed the training and drill records for all of the above members for 1990. The records reviewed indicated that each of these leaders and members had attended the required training and participated in the required number of drills. The fire brigade training records were inspected and found to be satisfactory.

The inspector reviewed the shift fire brigade drills conducted during 1990 and verified that each brigade shift had participated in at least one drill per quarter in accordance with the licensee's Technical Specifications and fire protection program.

- (3) During this inspection, the inspector witnessed an unannounced fire brigade drill. The drill scenario was a fire at the Emergency Operations Facility in the Chemistry Laboratory. The drill scenario was announced at 3:57 p.m. The fire brigade leader, three operators, one chemistry and two security people responded to the fire. A one and a half inch hose was used and the fire was placed under control in nine minutes.

Some concerns noted by the licensee and the inspector during the drill were that the brigade leaders had problems gaining access to areas due to locked doors for which keys were not readily available. Additionally, some type of door stop equipment could be added to the response equipment for use when hoses are run through self closing doors. This would free up one additional person for fire fighting duties.

f. Plant Tour and Inspection of Fire Protection Equipment

(1) Outside Fire Protection Walkdown

The inspector verified that the two fire protection water storage tanks contained sufficient water to meet the requirements of the Technical Specifications.

Diesel fire pumps 1 and 2 and electric driven fire pump were inspected and verified to be operable. The system jockey pump was inspected and verified to be running properly.

The following fire protection valves located in the fire pump house were examined to verify proper alignment for fire pump operation. All valves were in the open (N/O) position as designated by Procedure FNP-0-SOP-0061, Fire Protection - Pump House and Yard Main:

- N1P43V005 - Engine driven fire Pump No. 1 suction isolation valve
- N1P43V109 - No. 1 fire tank to jockey pump suction valve
- N1P43V008 - Engine driven fire Pump No. 1 discharge isolation valve
- N1P43V108 - Jockey pump suction isolation valve
- N1P43V007 - Motor driven fire Pump No. 3 suction isolation valve
- N1P43V010 - Motor driven Fire Pump No.3 discharge isolation valve

The following sectional control valves in the outside fire protection water supply systems were inspected and verified to be properly aligned:

- N1Y43V001 - Cooling tower header isolation valve (Unit 2) N/O
- N1Y43V002 - Plant loop header isolation valve N/O
- N1P43V001 - Storage tank No. 1 isolation valve N/O
- N1P43V002 - Storage tank No. 2 isolation valve N/O
- N1P43V037 - Yard main supply header isolation valve N/O
- N1P43V038 - Yard main supply header cross connect valve N/O
- N1Y43V047 - Unit 1 Auxiliary Building header cross connect valve N/O
- N1Y43V045 - Unit 1 Auxiliary Building motor operated isolation valve N/O

The following fire hydrant equipment houses were inspected:

hose house 14	hose house 46
hose house 15	hose house 47
hose house 17	hose house 48
hose house 18	hose house 49

The equipment hose houses contained the minimum equipment requirements of that specified by NFPA-24, Private Fire Service Mains and Their Appurtenances and/or the FSAR commitments. The equipment appeared to be adequately maintained.

(2) Plant Tour

A plant tour was made by the inspector inside and outside the plant. Areas covered included Unit 1 and 2 Auxiliary Building, Diesel Generator Building Units 1 and 2 and the Service Water Intake Structure Units 1 and 2.

Inspection of these areas included examination of smoke and fire detection equipment, water suppression piping systems, fire hose cabinets, dry chemical portable extinguishers, fire area boundary walls and three hour rated fire doors. The main CO₂ supply bottles and reserve CO₂ bottles located in the diesel generator building and the service water intake structure which are used to protect the electrical switch gear installed in these buildings were verified to be in service.

(3) Appendix R Fire Protection Features

The inspector visually inspected the fire rated raceway fire barriers required for compliance with Appendix R, Section III. G.2 in the following plant areas:

<u>Raceway No.</u>	<u>Location</u>
BDDA1B BH0E09	Room 185 Unit 1 Auxiliary Building 100 ft Elevation Component Cooling Water Room
BEE010 BNL243	Room 319 Unit 1 Auxiliary Building 139 Ft Elevation Hallway
21E044 31E021 41E020	Room 444 Unit 1 Auxiliary Building 151 Ft. Elevation Clean Linen Storage

<u>Raceway No.</u> (cont'd)	<u>Location</u>
BHD15C	Room 2185 Unit 2 Auxiliary Building 100 ft. Elevation Component Cooling Water Room
BHF443 B1D03D	Room 2319 Unit 2 Auxiliary Building 139 ft. Elevation Hallway
AHE321 BHJ12W	Room 2-502 Auxiliary Building Stairwell

Based on the inspectors observation of the above raceway fire barrier enclosures, it appears that the one hour fire barrier integrity associated with the above fire barrier assemblies was complete.

3. Surveillance Test Observations

The inspector observed the monthly Technical Specification Surveillance of the operability test of No. 1 Diesel Fire Pump. This surveillance was performed or directed by procedure FNP-0-STP-52.1, No. 1 Diesel Fire Pump Operability Test. It was noted that the test was a verification of the starting and running of the diesel fire pump, and that the pump speed was not a part of the acceptance criteria or fire code requirements for this test. The speed was expected to be greater than or equal to a normal 1700 RPM. The speed recorded was 1810 RPM with the pump dead headed.

The yearly FNP-0-STP-54.1 Fire Pump Functional Test (Pump Flow Test) indicated that the pump speed for No 1 Diesel Fire Pump had to be 1792 RPM to obtain rated capacity and the dead head pump speed was 1844 RPM during this test. The inspector questioned why there was a difference in the dead head pump speeds. The licensee advised that the discharge valve arrangement was slightly different for each of these tests which could account for the difference in the deadhead pump speeds. The licensee stated that they would review the test acceptance criteria to determine if a more acceptable pump speed should be considered.

4. Action on Previous Inspection Findings (92701)

(Closed) Unresolved Item 50-348/88-27-01 Unsealed Penetrations in Barriers Credited for Appendix R Extensions. The penetrations were sealed using silicone preparation No. 20-100-8. This was done on January 25, 1989.

5. Exit Interview

The inspection scope and results were summarized on August 24, 1990 with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results. Dissenting comments were not received from the licensee. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector during this inspection.