

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-348 and 50-364

License Nos.: NPF-2 and NPF-8

Report Nos.: 50-348/99-06 and 50-364/99-06

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Farley Nuclear Plant, Units 1 and 2

Location: 7388 N. State Highway 95  
Columbia, AL 36319

Dates: August 8 to September 18, 1999

Inspectors: T. P. Johnson, Senior Resident Inspector  
R. K. Caldwell, Resident Inspector  
J. H. Bartley, Resident Inspector

Approved by: Pierce H. Skinner, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Enclosure

EXECUTIVE SUMMARY  
FARLEY NUCLEAR POWER PLANT UNITS 1 and 2  
Nuclear Regulatory Commission Inspection Report 50-348,364/99-06

This integrated inspection to assure public health and safety included aspects of licensee operations, maintenance, engineering, and plant support. The report covers a six-week period of resident inspection.

Operations

- The inspectors observed that control room operators were attentive to plant conditions during routine evolutions, loss of the common 'A' train River Water pumps, loss of Component Cooling Water to the Unit 2 Reactor Coolant Pump thermal barriers, and Unit 2 coast down operations (Sections O1.1 and O1.2).
- An incorrect 10 CFR 50.59 screening allowed a change to the plant as described in the FSAR without a written safety evaluation. The licensee promptly restored compliance and issued OR 1-99-589 to develop additional corrective actions. This issue was dispositioned as NCV 50-348, 364/99-06-01 (Section O1.3).

Maintenance

- Corrective actions for previous scaffolding issues did not prevent recurrence of inadequately secured scaffolding or to ensure inadequately secured scaffolding was evaluated. This issue was dispositioned as NCV 50-348, 364/99-06-02 because of the extent to which senior site management became immediately and aggressively involved in assuring effective corrective actions and the lack of actual safety significance (Section M1.2).

Plant Support

- The annual Emergency Drill scenario was challenging and provided the emergency response team with a variety of radiological and environmental data. The emergency response team acted conservatively in recommending protective measures to the state agencies. Personnel in the Operations Support Center and Technical Support Center demonstrated good coordination in reentry planning and status reporting. The drill was successfully conducted and adequately demonstrated the licensee's ability to conduct emergency response (Section P5.1).

## REPORT DETAILS

### **Summary of Plant Status**

Unit 1 operated at or near full power for the period.

Unit 2 operated at or near full power until September 2 when the unit began an end of cycle coast down.

### I. Operations

#### **O1 Conduct of Operations**

##### **O1.1 Routine Observations of Control Room Operations (71707)**

The inspectors observed licensed control room operator and non-licensed operator performance during the period. Operators were attentive to annunciator alarms and changing plant conditions, including the loss of the common 'A' train River Water pumps and loss of Component Cooling Water (CCW) to the Unit 2 Reactor Coolant Pump (RCP) thermal barriers during testing. Although both of these events involved risk significant systems, there was no effect on plant operation due to prompt operator response. The inspectors reviewed the licensee follow-up actions for these events and concluded they were adequate.

##### **O1.2 Unit 2 End of Cycle Power Coast Down (71707)**

The licensee began an end of cycle coast down on Unit 2 on September 2, and continued in a coast down mode for the remainder of the period. Operation was addressed by unit operating procedures, a 10 CFR 50.59 safety evaluation, and a Westinghouse technical evaluation dated July 1999. Operators and reactor engineering were involved in the coast down planning and implementation. The inspectors observed the coast down related evolutions and concluded they were adequate.

##### **O1.3 Incorrect 10 CFR 50.59 Screening**

###### **a. Inspection Scope (71707)**

The inspectors reviewed the Final Safety Analysis Report (FSAR) and documentation for a procedural change that allowed propping open watertight doors.

###### **b. Observations and Findings**

On August 10, during a routine tour of the Unit 1CCW Heat Exchanger (HX) Room, the inspectors noted that watertight door #168 was propped open. This door was labeled "Attention. Ensure door maintained closed. Required for train separation in the event of flooding." Door #168 separates the CCW HX room and the lower level equipment room (LLER) which contained the Turbine Driven Auxiliary Feedwater (TDAFW) pump and TDAFW pump uninterruptable power supply.

Paragraph 18.3.6 of Operating Procedure FNP-0-SOP-0, "General Instructions to Operations Personnel," Revision (Rev.) 59, allowed propping open any watertight door as long as an administrative Limiting Condition for Operation was written to track that the door was open. The inspectors reviewed the procedure change package which inserted this allowance into FNP-0-SOP-0 and found that the 10 CFR 50.59 screening question 'A change to the plant as described in the FSAR?' was answered as "NO." However, the inspectors reviewed FSAR Appendix 3K, "High-Energy Line Break (Outside Containment)," and found that the licensee took credit for the motor driven AFW pumps, charging pumps, Residual Heat Removal pumps, and Containment Spray pumps being in watertight rooms. Based on the assumptions in FSAR Appendix 3K, allowing any watertight door to be propped open was a change to the plant as described in the FSAR. 10 CFR 50.59 required that a written safety evaluation be performed. However, because the 10 CFR 50.59 screening question was answered incorrectly, the licensee failed to perform the written safety evaluation. Consistent with Appendix C of the NRC Enforcement Policy, this NRC identified Severity Level IV violation is being treated as a Non-Cited Violation (NCV) and will be referenced as NCV 50-348, 364/99-06-01, Inadequate 10 CFR 50.59 Evaluation Allowed Propping Open Watertight Doors. This NCV is in the licensee's corrective action program as Occurrence Report (OR) 1-99-589.

c. Conclusions

An incorrect 10 CFR 50.59 screening allowed a change to the plant as described in the FSAR without a written safety evaluation. The licensee promptly restored compliance and issued OR 1-99-589 to develop additional corrective actions. This issue was dispositioned as NCV 50-348, 364/99-06-01.

**02 Operational Status of Facilities and Equipment**

**02.1 General Tours and Inspections of Safety Systems (71707)**

General tours of safety-related areas were performed by the inspectors to observe the physical condition of plant equipment and structures, and to verify that safety and risk significant systems were properly maintained and aligned. The inspectors verified the operability of selected, risk significant safety systems and equipment. These systems included the CCW, service water, and the hot shutdown panel systems. These systems were verified to be properly aligned and maintained. The inspectors also verified that selected tagouts were implemented in accordance with procedural requirements.

**07 Quality Assurance in Operations**

**07.1 Self-Assessment Activities (71707)**

The inspectors reviewed a licensee's corrective action self-assessment audit performed during the period. A team from corporate, site, and other plants conducted the assessment and debriefed the findings with management. The inspectors noted the assessment to be thorough with good findings and appropriate actions addressed.

## 07.2 Unit 2 Refueling Preparations (60705)

The inspectors reviewed the licensee's preparations for the upcoming Unit 2 refueling outage including outage scope, critical path, maintenance and modification work, testing, radiation dose estimates, and shutdown risk. The inspectors also attended a shutdown risk meeting conducted in accordance with the requirements of procedure FNP-0-AP-94, Outage Nuclear Safety, Rev. 1. The inspectors concluded that the preparations were adequate, and that the focus toward shutdown safety was evident.

## II. Maintenance

### **M1 Conduct of Maintenance**

#### M1.1 General Comments (61726 and 62707)

The inspectors witnessed or reviewed portions of selected maintenance and surveillance test activities in progress. This included the CCW heat exchanger maintenance and testing, and 1B emergency diesel generator (EDG) preventive maintenance outage. For those maintenance and surveillance activities observed or reviewed, the inspectors determined that the activities were conducted in a satisfactory manner and that the work was properly performed in accordance with approved maintenance work orders. The inspectors also determined that the observed activities were performed in a satisfactory manner and met the TS requirements. Related tagouts were reviewed and determined to be adequate.

#### M1.2 Inadequate Corrective Actions for Constructing Scaffolding

##### a. Inspection Scope (62707)

The inspectors evaluated scaffolding built near safety related equipment against the requirements of procedure FNP-0-GMP-60, "General Guidelines and Precautions for Erecting Scaffolding," Rev. 23. The inspectors also reviewed the completed corrective actions for OR 2-99-056, "Scaffold Construction in Ctmt Spray Pump Room," and the immediate corrective actions for the issues identified during this inspection.

##### b. Observations and Findings

Procedure FNP-0-GMP-60 provided tie-off requirements to ensure that scaffolding would not endanger safety-related equipment in its zone of influence. Any deviations to the tie-off requirements were to be documented on GMP-60 Attachment 3, "Deviations to Seismic Requirements of Section 7.4," for review by a qualified evaluator.

In Inspection Report 50-348, 364/ 99-01, issued March 19, 1999, the NRC documented that the corrective actions for previous ORs for NRC identified scaffolding issues: 1) focused on the contractors who installed scaffolding during the outage; 2) did not revise GMP-60 to ensure the tie-off requirements were clear; and 3) did not provide any training to maintenance personnel. The previous inadequate corrective actions resulted in a

scaffold being built over safety related equipment without being adequately tied off. This was identified as NCV 50-364/99-01-01, Inadequate Corrective Actions Resulting in Additional Scaffold Errors. The issue was in the licensee's corrective action program as OR 2-99-056. The inspectors reviewed the OR 2-99-056 to determine if the planned corrective actions were adequate and completed. The OR was approved on March 27, 1999, and all corrective actions were documented as complete on July 1, 1999.

On August 10, the inspectors identified that a scaffold built on August 3 (Permit #23726) adjacent to the 2C EDG did not meet the tie-off requirements of GMP-60. On August 26, the inspectors identified two additional scaffolds built on August 2 in the Service Water Intake Structure (Permit #23725 and 23716) which did not meet the tie-off requirements. In both cases the Attachment 3's documented that there were no deviations to the tie-off requirements. The licensee initiated ORs 1-99-554 and 586 and took prompt actions to evaluate the scaffolds.

This violation of the procedural requirements of FNP-0-GMP-60 was repetitive of violation NCV 50-364/99-01-01, involving failure to meet the tie-off requirements for scaffolding constructed within the area of influence of safety-related equipment. In accordance with Appendix C of the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, this violation would normally result in a cited Notice of Violation requiring a formal written response because the violation is repetitive as a result of inadequate corrective action, and was identified by the NRC. However, the NRC has determined that the exercise of discretion to not cite this Severity Level IV violation is appropriate, in accordance with Section VII.B.6 of the Enforcement Policy, because of the extent to which senior site management became immediately and aggressively involved in assuring effective corrective actions and the lack of actual safety significance. This violation is identified as NCV 50-348, 364/99-06-02, Inadequate Implementation of Corrective Actions Resulting in Additional Scaffold Errors. The issue is in the licensee's corrective action program as ORs 1-99-554 and 1-99-586.

c. Conclusions

Corrective actions for previous scaffolding issues did not prevent recurrence of inadequately secured scaffolding or to ensure inadequately secured scaffolding was evaluated. This issue was dispositioned as NCV 50-348, 364/99-06-02 because of the extent to which senior site management became immediately and aggressively involved in assuring effective corrective actions and the lack of actual safety significance.

M1.3 Old Steam Generator Storage Facility (OSGSF) Concrete Pour (50001)

On September 11, the inspectors watched a concrete pour for the OSGSF foundation. The inspectors observed instances where contract personnel performing the concrete pour did not take concrete samples as specified in procedure CP-C-1, Installation Of Concrete and Grout, Revision (Rev.) 1, and Bechtel Specifications 23734-C-101 and 23734-C-302. Although this concrete pour was not safety-related, the same procedure

and specification will be used during the safety-related concrete pour for repair of the containment biological shield following steam generator replacement. The inspectors discussed these observations with the licensee. During subsequent concrete pours, the inspectors noted that proper concrete sampling was performed. The inspectors concluded that the licensee promptly and effectively responded to the inspector's observations.

## **M8 Miscellaneous Operations Issues**

### **M8.1 (Closed) LER 50-364/98-004: Failure to Perform Penetration Room Filtration (PRF) System Surveillance Requirements (92700)**

On April 20, 1998, the licensee identified that the Unit 2 PRF ventilation low differential pressure isolation surveillance was not performed within the required 18-month frequency specified in Technical Specifications. Subsequent testing demonstrated that the isolation function was operable prior to April 20. The inspectors reviewed the licensee's corrective actions and determined that they were adequate. No other instances similar to this event were identified. Because this was an isolated instance and the system was demonstrated to have been operable, this violation is of minor safety significance and not subject to formal enforcement action.

## **III. Engineering**

### **E1 Conduct of Engineering**

#### **E1.1 Design Control and Modification Process (37551)**

The inspectors reviewed the licensee's processes for design control and modifications, including administrative procedure FNP-0-AP-8, Design Modification Control, Revision 26. The review included planned design control packages (DCPs) for the upcoming Unit 2 October 1999 refueling outage (2R13). The inspectors also reviewed the DCP development controls and oversight including the Configuration Control Board (CCB) and the Conception Design Final (CDF) processes. The inspectors attended a CDF meeting on September 1 and reviewed licensee actions. The inspectors noted the meeting to be well controlled and attended.

## **IV. Plant Support**

### **R2 Status of Radiological Protection Facilities and Equipment**

#### **R2.1 Radiologically Controlled Area (RCA) Tour (71750)**

Overall cleanliness of the RCA remained good. Plant personnel observed working in the RCA generally demonstrated appropriate knowledge and application of radiological control practices. Health physics technicians generally provided positive control and support of work activities in the RCA.

**P5 Staff Training and Qualifications in EP****P5.1 Annual Emergency Drill (71750)**

On August 18, the licensee conducted their annual emergency drill, in which the inspectors participated and monitored. The control room operators in the training simulator responded to the drill in accordance emergency operating and emergency plan implementing procedures. The Technical Support Center (TSC) was staffed in a timely manner and site accountability was satisfactorily completed. The drill scenario was challenging and provided the emergency response team with a variety of radiological and environmental data. The emergency response team were conservative in recommending protective measures to the state agencies. Personnel in the Operations Support Center (OSC) and TSC demonstrated good coordination in reentry planning and status reporting. The TSC and OSC drill debriefs were complete and comprehensive. The inspectors concluded the drill adequately demonstrated the licensee's ability to conduct emergency response.

**P5.2 Y2K Key Rollover Date (KRD) Preparation and Plan Implementation (71750)**

On September 9, the inspectors observed the preparations for this KRD. The inspectors noted that the licensee had very comprehensive contingency plans for this KRD. Communications with state, county, and local support agencies were continually verified to be operational during the KRD. The communication contingency plans were detailed with redundant and diverse communications capabilities established. The inspectors checked staffing at the EOF, TSC, and control room. During the KRD, no Y2K-related problems were reported. The inspectors concluded that the licensee had adequately planned for the September 9 KRD and effectively implemented their plan. Additionally, they demonstrated the ability to carry out their Y2K contingency plans.

**S1 Conduct of Security and Safeguard Activities****S1.1 Routine Observations of Plant Security Measures (71750)**

The inspectors verified that portions of the site security program plan were being properly implemented. Disabled vital area doors were properly manned and controlled. Security personnel activities observed during the inspection period were performed well. Site security systems were adequate to ensure physical protection of the plant.

**F5 Fire Protection Staff Training and Qualification****F5.1 Fire Drill in the Unit 2 Cable Spreading Room (71750)**

On August 25, the inspectors observed a fire drill conducted in the Unit 2 Cable Spreading Room. The Fire Brigade responded in a timely manner and took appropriate actions to combat the simulated fire. The inspectors also observed that the control room personnel took appropriate actions for the drill. The Fire Brigade leader demonstrated adequate knowledge of plant fire protection systems and procedures when questioned



by the drill monitor. The drill monitor performed a post-drill critique and questioned the other drill participants. There were several minor comments regarding Fire Team dress out and communication capability. The inspectors concluded the fire drill demonstrated the ability of the crew to successfully fight a fire.

## **F8 Miscellaneous Fire Protection Issues**

### **F8.1 (Closed) Unresolved Item (URI) 50-348, 364/96-09-08: Adequacy of Kaowool Qualification Tests to Scope Installed Configurations (92904)**

The adequacy of Kaowool qualification testing was reviewed by the Staff. The Staff concluded that the qualification testing did not provide an adequate technical basis to demonstrate that the Kaowool fire barriers met regulatory requirements. This information was provided to the licensee in a letter dated August 26, 1999. Based on the results of the Staff's review, this URI is closed.

## **V. Management Meetings**

### **X1 Exit Meeting Summary**

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on September 28, 1999. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

The inspectors reviewed the Institute of Nuclear Plant Operations (INPO) evaluation report of the Farley Site dated June 30, 1999. The INPO findings were consistent with recent NRC findings, issues, and assessments.

### **Partial List of Persons Contacted**

#### Licensee

C. L. Buck, Technical Manager  
 R. M. Coleman, Outage and Modification Manager  
 C. D. Collins, Operations Manager  
 K. C. Dyar, Security Manager  
 S. Fulmer, Plant Training and Emergency Preparedness Manager  
 J. S. Gates, Administration Manager  
 D. E. Grissette, Assistant General Manager - Operations  
 J. R. Johnson, Maintenance Manager  
 R. R. Martin, Engineering Support Manager  
 C. D. Nesbitt, Assistant General Manager - Plant Support  
 L. M. Stinson, Plant General Manager - FNP  
 R. J. Vanderbye, Emergency Preparedness Coordinator

### List of Inspection Procedures (IP) Used

IP 37551: Onsite Engineering  
 IP 50001: Steam Generator Replacement  
 IP 60705: Preparations for Refueling  
 IP 61726: Surveillance Observations  
 IP 62707: Maintenance Observations  
 IP 71707: Plant Operation  
 IP 71750: Plant Support Activities  
 IP 92700: Event Reports  
 IP 92904: Plant Support Followup

### Items Opened and Closed

<u>Type</u>	<u>Item Number</u>	<u>Description and Reference</u>
NCV	50-348,364/99-06-01	Inadequate 10 CFR 50.59 Evaluation Allowed Propping Open Watertight Doors (Section O1.3).
NCV	50-348,364/99-06-02	Inadequate Implementation of Corrective Actions Resulting in Additional Scaffold Errors (Section M1.2).
LER	50-364/98-04	Failure to Perform PRF Surveillance Test (Section M8.1).
URI	50-348,364/96-09-08	Adequacy of Kaowool Qualification Tests to Scope Installed Configurations (Section F8.1).