



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

July 29, 2005

Southern Nuclear Operating Company, Inc.
ATTN: Mr. L. M. Stinson
Vice President - Farley Project
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000348/2005003 and 05000364/2005003

Dear Mr. Stinson:

On June 30, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 8, 2005, with Mr. Randy Johnson and other members of your staff. Subsequently, there was one issue discussed with Mr. Randy Johnson on July 28, 2005.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, two self-revealing findings of very low safety significance (Green) were identified, which were determined to be violations of regulations. Because these violations are of very low safety significance and were entered into your corrective action program, the NRC is treating these violations as non-cited violations (NCV) consistent with Section VI.A of the NRC Enforcement Policy. If you contest these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Farley Nuclear Plant.

In accordance with 10CFR2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document

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system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Malcolm T. Widmann, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos. 50-348 and 50-364
License Nos. NPF-2 and NPF-8

Enclosure: Inspection Report 05000348/2005003 and
05000364/2005003
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-348, 50-364

License Nos.: NPF-2, NPF-8

Report Nos.: 05000348/2005003 and 05000364/2005003

Licensee: Southern Nuclear Operating Company, Inc. (SNC)

Facility: Joseph M. Farley Nuclear Plant

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

Dates: April 1 - June 30, 2005

Inspectors: C. Patterson, Senior (Sr.) Resident Inspector
J. Baptist, Resident Inspector

Approved by: Malcolm T. Widmann, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000348/2005003, 05000364/2005003; 04/01/2005-06/30/2005; Joseph M. Farley Nuclear Plant, Units 1 & 2, Maintenance Risk Assessments and Emergent Work Evaluation; Event Followup.

The report covered a three-month period of inspection by resident inspectors. Two self-revealing Green non-cited violations were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July, 2000.

A. NRC-Identified and Self-Revealing Findings

- Green. A self-revealing non-cited violation (NCV) was identified for failure to follow procedure in accordance with Technical Specification 5.4.1.a, which resulted in a loss of both trains of Unit 1 spent fuel pool (SFP) cooling for nine hours and a 12 degree Fahrenheit rise in SFP temperature.

This finding is more than minor because it adversely impacted the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events. The finding was determined to be of low safety significance because the SFP temperature was below Updated Final Safety Analysis Report limits, peak temperature only reached 100 degrees and water level in the fuel pool was normal. This finding also involved the cross-cutting aspects of human performance in that the operators failed to properly follow the procedure requirement to successfully swap pumps in operation. (Section 1R13)

- Green. A Green, self-revealing NCV was identified for failure to implement the proper Limiting Condition of Operation (LCO) associated with Technical Specifications (TS) 3.3.2, Engineered Safety Feature Actuation System Instrumentation when one train was inoperable. The licensee initially entered a LCO for failed channel (TS 3.3.2.D), but later determined that a logic card failed that impacted the Unit 1 A train of solid state protection system (SSPS) and subsequently entered TS LCO 3.3.2.C.

This finding is more than minor because it affects the Mitigating Systems Cornerstone attribute of equipment performance and adversely impacted the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events. Unit 1 A train of the SSPS logic initiation was unavailable for a time that exceeded the allowed time permitted by TS. This finding is of very low safety significance because the B train of SSPS logic initiation was maintained operable at all times. (Section 4OA3)

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B. Licensee-Identified Violations

None.

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REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near rated thermal power (RTP) until April 23, 2005. Power was reduced to 65 percent to replace condenser water box amertap endbells. The unit returned to full power on April 24, 2005. On May 4, 2005, power was reduced to 32 percent to repair a steam leak on a feedwater heater drain line. The unit was returned to full power on May 6, 2005. On May 16, 2005, power was reduced to 74 percent to repair a turbine generator governor valve. The unit returned to full power on May 18, 2005. On June 17, 2005, power was reduced to 73 percent due to misaligned control rods and the unit taken off-line on June 18, 2005. The unit returned to full power on June 22, 2005 and remained there throughout the remainder of the period.

Unit 2 operated at or near RTP until April 30, 2005. Power was reduced to 65 percent on April 30, 2005 to replace condenser water box amertap endbells. The unit was returned to full power May 1, 2005.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

Impending Adverse Conditions Review. The inspectors evaluated implementation of the adverse weather preparation procedures and compensatory measures for adverse weather that occurred on April 1, 2005. The inspectors reviewed procedures FNP-0-AOP-21.0, Severe Weather, and FNP-0-EIP-8.0, Non-Emergency Notifications, to verify that applicable portions of the procedure were performed for high river level.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial System Walk-downs. The inspectors performed partial walk-downs of the following three systems to verify they were properly aligned when redundant systems or trains were out of service. The walk-downs were performed using the criteria in licensee procedures FNP-0-AP-16, Conduct of Operations - Operations Group, and FNP-0-SOP-0, General Instructions to Operations Personnel. The walk-downs included reviewing the Updated Final Safety Analysis Report (UFSAR), plant procedures and drawings, checks of control room and plant valves, switches, components, electrical power line-ups, support equipment, and instrumentation. Documents reviewed are listed in the Attachment.

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- C Component Cooling Water (CCW) System, trains 2A and 2C during 2B CCW equipment outage
- C Unit 2A and 2B Motor Driven Auxiliary Feedwater Pump, (MDAFW) during troubleshooting of Turbine Driven Auxiliary Feedwater (TDAFW)
- C 2B Containment Spray (CS) Pump during 2A CS Pump equipment outage

Complete Walk-down. The inspectors conducted a complete walk-down of the accessible portions of the Unit 1 Service Water (SW) system. The inspectors used licensee procedures FNP-1-SOP-24.0, Service Water System; FNP-1-STP-24.0A and 24.0B Service Water System Check Lists; and drawings D-170119, D-170113 and D-3175003, Sheets 1-3, to verify adequate system alignment of on-service equipment. The inspectors also interviewed personnel and reviewed control room logs, Maintenance Rule (MR) monthly reports, condition reports (CRs), Quarterly system health reports, outstanding work orders, and industry operating experience to verify that alignment and equipment discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors conducted a walk-down of the 11 fire areas listed below to verify the licensee's control of transient combustibles, the operational readiness of the fire suppression system, and the material condition and status of fire dampers, doors, and barriers. The requirements were described in licensee procedures FNP-0-AP-36, Fire Surveillance and Inspection; FNP-0-AP-38, Use of Open Flame; FNP-0-AP-39, Fire Patrols and Watches; and the associated Fire Zone Data sheets.

- CUnit 2 TDAFW Pump Room, Fire Zone Six
- CUnit 2 CCW Room, Fire Zone Six
- CUnit 2 Cable Spreading Room, Fire Zone 40
- CUnit 1 Cable Spreading Room, Fire Zone 40
- CUnit 1 Hallway Local Hot Shutdown Panel Room, Fire Zone 12
- CUnit 2 B Train Electrical Penetration Room-139 foot, Fire Zone 34
- CUnit 2 A Train Electrical Penetration Room-139 foot, Fire Zone 35
- CUnit 1 Control Rod Drive Mechanism (CRDM) Motor Generator (MG) Set Room, Fire Zone 041
- CUnit 2 CRDM MG Set Room, Fire Zone 041
- CUnit 1 CRDM Switchgear (SWGR) Room, Fire Zone 23
- CUnit 2 CRDM SWGR Room, Fire Zone 23

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalificationa. Inspection Scope

Quarterly Resident Review. On April 25, 2005, the inspectors observed portions of the licensed operator training and testing program to verify implementation of procedures FNP-0-AP-45, Farley Nuclear Plant Training Program; FNP-0-TCP-17.6, Simulator Training Evaluation Documentation; and FNP-0-TCP-17.3, Licensed Operator Continuing Training Program Administration. The inspectors observed scenarios conducted in the licensee's simulator for dropped control rods, reactor trip and secondary feedwater rupture with safety injection. The inspectors observed high-risk operator actions, overall performance, self-critiques, training feedback, and management oversight to verify operator performance was evaluated against the performance standards of the licensee's scenario. In addition, the inspectors observed implementation of the applicable emergency operating procedures to verify that licensee expectations in procedures FNP-0-AP-16 and FNP-0-TCP-17.6 were met. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectivenessa. Inspection Scope

The inspectors reviewed the following two issues to verify implementation of licensee procedures FNP-0-87, Maintenance Rule (MR) Scoping Manual; FNP-0-SYP-19, Maintenance Rule Performance Criteria; and FNP-0-89, FNP Maintenance Rule Site Implementation Manual; and compliance with 10CFR50.65. The inspectors assessed the licensee's evaluation of appropriate work practices, common cause failures, functional failures, maintenance preventable functional failures, repetitive failures, availability and reliability monitoring, trending and condition monitoring, and system specialist involvement. The inspectors also interviewed maintenance personnel, system specialists, the MR coordinator, and operations personnel to assess their knowledge of the program.

C CR 2005104015, Steam Generator Blowdown System Cooldown Function
C CR 2005104686, 2C Diesel Generator Local Alarm Panel Annunciators

b. Findings

No findings of significance were identified.

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1R13 Maintenance Risk Assessments and Emergent Work Evaluationa. Inspection Scope

The inspectors assessed the licensee's planning and control for the following six planned activities to verify the requirements in licensee procedures FNP-0-ACP-52.3, Guidelines for Scheduling of On-Line Maintenance; FNP-0-AP-52, Equipment Status Control and Maintenance Authorization; and FNP-0-AP-16, and the MR risk assessment guidance in 10CFR50.65(a)(4) were met.

CCR 2005104634, Unit 2 TDAFW Pump suction pressure and flow oscillations
 CCR 2005104431, 1B EDG water in rocker arm oil reservoir
 CCR 2005104634, 1C EDG particles in oil reservoir
 CCR 2005104484, Unit 1 Loss of Spent Fuel Pool (SFP) Cooling - Orange Condition
 CCR 2005105120, 1-2A EDG start relay outside acceptance criteria
 CCR 2005105561, Reactor Coolant Drain Tank level decrease

b. Findings

Introduction. A Green, self-revealing NCV was identified for failure to follow procedure in accordance with TS 5.4.1.a. During swapping of the Unit 1 SFP cooling trains, operators did not follow plant procedure, FNP-1-SOP-54.0, Spent Fuel Pit Cooling and Purification System, resulting in a loss of both trains for nine hours and a 12 degree Fahrenheit (EF) rise in the pool temperature.

Description. On May 4, 2005, the licensee conducted activities to swap the operating train of SFP cooling with the standby train. This evolution required an operator to secure one pump, perform valve manipulations, and start the opposite train pump. However, one pump was stopped and the other pump was started without performing the required valve alignment in accordance with FNP-1-SOP-54.0. Approximately nine hours later, an increase in SFP water temperature was noted during log readings. The operating SFP cooling pump was found hot to the touch and the discharge valve closed. The original operating train was placed back in service and cooling restored.

Analysis. This finding is more than minor because it adversely impacted the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events. By the licensee's risk procedure, FNP-0-ACP-52.3, Mode 1, 2, 3 Risk Assessment, loss of SFP cooling was classified as a risk profile of ORANGE which means degraded, risk significant, or medium risk. However, this finding was determined to be of low safety significance because the SFP temperature was below UFSAR limits, peak temperature only reached 100 degrees and water level in the fuel pool was normal. The cross-cutting aspects of human performance is discussed in Section 4OA4.

Enforcement. TS 5.4.1.a. requires written procedures be established, implemented, and maintained covering the attributes recommended in Regulatory Guide (RG) 1.33,

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Revision 2, Appendix A. RG 1.33, Appendix A, Item 3.h, requires procedures for operation of the fuel storage pool purification and cooling system. Contrary to the above, procedure FNP-1-SOP-54.0 was not followed when swapping Unit 1 trains of SFP pumps, which resulted in a loss of spent fuel cooling. Because this failure to follow procedure is of very low safety significance and has been entered into the licensee's corrective action program (CR 2005104484), this violation is being treated as an NCV consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000348/2005003-01, Loss of Spent Fuel Pool Cooling.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events

a. Inspection Scope

The inspectors reviewed two successive Unit 1 events. On April 23, 2005, the inspectors observed a Unit 1 planned down-power to resolve secondary plant maintenance issues and subsequent testing. A separate event occurred on May 16, 2005. Unit 1 experienced a transient induced by the turbine generator governor valve #2 failing closed. This transient was initially interrupted at 94 percent reactor power, but through troubleshooting and restoration efforts, the evolution resulted in an unplanned change to approximately 74 percent reactor power. The plant was restored to 100 percent reactor power on May 18, 2005 after appropriate repairs were completed. For both non-routine plant events the inspectors assessed the licensee's use of operating procedures, annunciator procedures, abnormal operating procedures, control room actions, command and control, management involvement, training expectations, previous CRs, maintenance work history, and communication. The inspectors reviewed operator logs, plant computer data, control room strip charts, and discussed actions with operations personnel. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following seven operability evaluations to verify they met the requirements of licensee procedures FNP-0-AP-16, and FNP-0-ACP-9.2, Operability Determination, for technical adequacy, consideration of degraded conditions, and identification of compensatory measures. The inspectors reviewed the evaluations against the design bases, as stated in the UFSAR and Functional System Descriptions (FSDs) to verify system operability was not affected.

- CR 2005104227, 1C CCW Heat Exchanger Service Water Leak
- CR 2005104268, Unit 1 Penetration Room Filtration Boundary Volatile Organic Compound Limit Potentially Exceeded
- CR 2005104634, Unit 2 TDAFW Pump Suction Pressure and Flow Oscillations

- CR 2005103571, 2B Battery Charger Room Cooler Found in Degraded Condition
- CR 2005104686, 2C Diesel Generator Local Control Panel Annunciator Windows #43 and #44
- CR 2005104888, 2A CCW Room Cooler Degraded
- CR 2005104853, 1B Centrifugal Charging Pump Gas During Venting

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the following plant modification to verify the implementation of procedure FNP-0-AP-8, Design Modification Control. This included verification that the design bases, licensing bases, and performance capability or risk significant systems, structures, and components would not be degraded through the modifications and the modifications would not place the plant in an unsafe condition. The inspectors also discussed the modifications with engineering and operations personnel, and reviewed the related procedures and drawings.

DCP 2049000601, Upgrade of large penetration fire seals

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors reviewed the criteria contained in licensee procedure FNP-0-PMT-0.0, Post Maintenance Test Program, to verify post-maintenance test procedures and test activities for the following six systems/components were adequate to verify system operability and functional capability.

C FNP-2-STP-80.17, Diesel Generator 2C, Operability Test, following output breaker changeout

C FNP-2-STP- 24.1, SW Pump 2A, Inservice Test, following pump replacement

C WO 1040860101, Replace light sockets with LEDs on atmospheric relief valves

C FNP-0-IMP-226.7, Diesel Generator 1-2A Single Circuit Emergency Start Test, following maintenance

C FNP-0-EPP-3643, Verification of Rod Control System Operability

C FNP-1-STP-5.0, Full Length Control Rod Operability Test

b. Findings

No findings of significance were identified.

1R22 Surveillance Testinga. Inspection Scope

The inspectors reviewed surveillance test procedures and either witnessed the test or reviewed test records for the following six surveillance tests to determine if the tests adequately demonstrated equipment operability and met the TS requirements. The inspectors reviewed the activities to assess for preconditioning of equipment, procedure adherence, and valve/component alignment following completion of the surveillance. The inspectors reviewed licensee procedures FNP-0-AP-24, Test Control; FNP-0-050, Master List of Surveillance Requirements; and FNP-0-AP-16, and attended selected briefings to determine if procedure requirements were met.

Surveillance Tests

- FNP-0-FSP-202, CO2 Operability Test
- FNP-1-STP-609.0, Containment Surveillance Test
- FNP-2-STP-20.2, Penetration Room Filtration System Operability Test
- FNP-2-STP-80.23, Diesel Generator 1C Remote Shutdown Capability Test

In-Service Tests

- FNP-2-STP-22.16, TDAFW Pump Quarterly Inservice Test

Reactor Coolant System (RCS) Leak Detection

- FNP-1-STP-9.0, RCS Leak Detection

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness1EP6 Drill Evaluationa. Inspection Scope

The inspectors evaluated two emergency plan drills on April 6 and May 11, 2005, to verify the licensee was properly classifying the event, making required notifications, making protective action recommendations, and conducting self-assessments. The inspectors used procedure FNP-0-EIP-15.0, Emergency Drills, as the inspection criteria and observed the drills on April 6 and May 11 in the Technical Support Center (TSC). The inspectors reviewed FNP-0-EIP-9.0, Emergency Classification and Actions, and other supporting procedures to validate the classification of the event made by the

licensee. The inspectors subsequently observed and reviewed the notifications made, communications between emergency response team members, team work of licensee personnel, licensee identification of weaknesses and deficiencies, corrective action documentation, and overall performance. Documents reviewed are listed in the Attachment.

- The April 6 drill consisted of a reactor trip and a small break loss of cooling accident (SBLOCA) due to a control rod ejection, which subsequently resulted in offsite release of radioactive material.
- The May 11 drill consisted of a reactor trip and loss of all auxiliary feedwater along with a SBLOCA that ultimately resulted in an offsite release of radioactive material.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

1. Daily Review

- a. As required by Inspection Procedure 71152, Identification and Resolution of Problems, and to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing daily hard copy summaries of CRs and by reviewing the licensee's electronic CR database.

b. Findings

No findings of significance were identified.

2. Annual Sample Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors performed a detailed review of the problems with Units 1 and 2 Diesel Generator Annunciator Panels. CRs 2005103273 and 2005104686 were examined to verify that safety concerns were properly classified and prioritized for resolution and that technical issues were evaluated and dispositioned to address operability and reportability. The inspectors also reviewed the applicable CRs to verify that apparent cause determinations were sufficiently thorough; extent of condition and generic implications were considered; and common causes and appropriate corrective actions (short and long-term) were implemented or planned in a manner consistent with safety and compliance. The inspectors also evaluated the CRs against the requirements of the

licensee's corrective action program as delineated in Procedure NMP-GM-002, Corrective Action Program, and 10CFR50, Appendix B.

b. Findings and Observations

No findings of significance were identified. However, a concern identified involved proper diagnosis of abnormal indications associated with the diesel generators annunciators. Specifically, there is a known design issue with the diesel generator annunciator panels that allows electronic "noise" to "lock-up" the panel. This restricts the diesel generator annunciator panel from remotely indicating in the control room if there was an alarming condition. This issue is well known by the licensee and has resulted in plans to replace the annunciator panels in the upcoming refueling outage. Discussion with system engineers, licensed operators, and non-licensed operators revealed discrepancies as to the operability impact on the plant and the required compensatory actions. These concerns were discussed with station management and an "Operations Management Plan" was issued clarifying the expected response to this issue. The plan objectives were briefed to each operating crew to ensure common understanding and consistent response.

3. Semi-Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more safety significant safety issue. The inspectors' review focused on CRs with corrective action that were not sufficiently comprehensive to reduce the likelihood or prevent recurrence of the condition. The review also considered the results of the daily inspector CAP item screening discussed in Section 4OA2.1, licensee trending efforts, and licensee human performance results. The inspectors reviewed the licensee quarterly trend reports for November 2004 - January 2005, and February - April 2005, daily CRs, selected completed CRs, Maintenance Rule (a)(1) list, equipment health reports, and quality assurance reports to identify issues not recognized by the licensee. The inspectors compared and contrasted their results with the results contained in the licensee's quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy. The inspectors also evaluated the reports against the requirements of the licensee's CAP procedures FNP-0-AP-30.0, Corrective Action Reporting and NMP-GM-002-GL05, Corrective Action Program Trend Coding and Analysis Guideline, and the requirements of 10 CFR 50, Appendix B.

b. Assessments and Observations

No findings of significance were identified. However, the inspectors noted that there had been several heat exchanger problems and a failure of a Unit 2 main lube oil cooler. This was not noted as an adverse trend by the licensee, but action had been taken to address heat exchanger problems. A number of preventive maintenance items had

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been identified based on an industry review of the program. A corporate procedure, NMP-ES-012, Heat Exchanger Program, was written to address these issues. A separate observation was noted by the inspectors. During review of the two quarterly trend reports, information provided was contradictory concerning adverse trends. The November 2004 - January 2005 report indicated 14 potential adverse trends. However, the February - April 2005 report indicated that there was not any adverse trends and many of the potential adverse trends mentioned in the previous quarter had been justified or dispositioned as not being indicative of an adverse trend. Based on comments by the resident inspectors as to the validity of the justifications, licensee management indicated additional reviews of the reports were being conducted and several issues would be adverse trends.

4OA3 Event Follow-up

1. (Closed) Licensee Event Report (LER) 05000348/2005001-00, Solid State Protection System (SSPS) Card Failure Troubleshooting

- a. Inspection Scope

The inspectors reviewed the Unit 1 LER and CR 2005104278 documenting the SSPS card failure that occurred on May 4, 2005. The inspectors reviewed the actions taken and LCO entered, based on the control room indication and alarms received.

- b. Findings.

Introduction. A Green, self-revealing NCV was identified for failure to implement the proper LCO associated with TS 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation when one train was inoperable. The required action was to restore the inoperable train to an operable status within six hours or be in Mode 3 in the next 12 hours. The train was restored to an operable status in 23 hours and 19 minutes after the failure and no action was taken to reduce power or proceed to Mode 3. The licensee initially entered a LCO for failed channel (TS 3.3.2.D), but later determined that a logic card failed that impacted the Unit 1 A train of SSPS and subsequently entered TS LCO 3.3.2.C.

Description. On May 4, 2005, with the Unit 1 at 100 percent power several indications of a card failure were received in the control room. Main Control Board Annunciator 1B SG Steam Line High Delta P (differential pressure) Alert and associated computer alarm came in and trip status indicating light was illuminated. The licensee entered TS 3.3.2.D based on a suspected failed channel and placed the channel in a trip condition within the required six hours. However, troubleshooting revealed there was not a channel failure. The licensee determined that the problem was a failed logic card affecting the A train of SSPS. TS 3.3.2.C was entered and 2 hours and 7 minutes later the failed card was replaced and the LCO was exited. The licensee did not take the appropriate action of the LCO to proceed to Mode 3 based on the original discovery time of the failed card (which actually occurred 21 hours and 12 minutes earlier; entry time of LCO for TS

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3.3.2.D). The licensee instead started the six hour clock for TS 3.2.2.C when they discovered the failed card impacting the A train.

Analysis. This finding is more than minor because it affects the Mitigating Systems Cornerstone attribute of equipment performance and adversely impacted the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events. Unit 1 A train of the SSPS logic initiation was unavailable for a time that exceeded the allowed time permitted by TS. This finding is of very low safety significance (Green) because the B train of SSPS logic initiation was maintained operable at all times.

Enforcement. TS 3.2.2.C, ESFAS Instrumentation, requires when one train inoperable to restore the train to an operable status within six hours or be in Mode 3 in the next 12 hours. Contrary to the above, the proper LCO action statement associated with TS 3.2.2.C was not entered at the time the condition of failed logic card was discovered. The licensee entered the incorrect TS LCO action statement and did not take the required actions of TS 3.3.2.C for a delayed period of approximately 21 hours. Because this failure to follow TS is of very low safety significance and has been entered into the licensee's corrective action program (CR 2005104278), this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000348/2005003-02, Failure to Follow TS for Inoperable Train of SSPS Logic.

4OA4 Cross Cutting Aspects of Findings

The finding identified in Section 1R13 of this report involving a the loss of SFP cooling was noted as having cross-cutting aspect of human performance in that in that the operators failed to properly follow procedure requirement to successfully swap pumps in operation.

4OA5 Other Activities

1. (Closed) Temporary Instruction (TI) 2515/163, Operational Readiness Of Offsite Power

a. Inspection Scope

The inspectors collected data pursuant to TI 2515/163, Operational Readiness of Offsite Power. The inspectors reviewed the licensee's procedures related to General Design Criteria 17, Electric Power Systems; 10 CFR 50.63, Loss of All Alternating Current Power; 10 CFR 50.65(a)(4), Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants; and the Technical Specifications for the offsite power system. The data was provided to the Office of Nuclear Reactor Regulation for further review. Documents reviewed are listed in the Attachment.

4OA6 Meetings, Including Exit

On July 8 and 28, 2005, the inspectors presented the inspection results to Mr. Randy Johnson and the other members of his staff who acknowledged the findings. The

Enclosure

inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

R. V. Badham, Security Manager
W. L. Bargeron, Assistant General Manager - Operations
W. R. Bayne, Performance Analysis Supervisor
S. H. Chestnut, Engineering Support Manager
R. S. Fucich, Work Control Superintendent
P. Harlos, Health Physics Manager
J. Horn, Training and Emergency Preparedness Manager
J. R. Johnson, Plant General Manager
T. Livingston, Chemistry Manager
R. R. Martin, Operations Manager
B. L. Moore, Maintenance Manager
W. D. Oldfield, Quality Assurance Supervisor
R. J. Vanderbye, Emergency Preparedness Coordinator
T. L. Youngblood, Assistant General Manager - Plant Support

NRC personnel

M. Widmann, Chief, Reactor Projects, Branch 2
C. Casto, Director, Division of Reactor Projects

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000348/2005003-01	NCV	Loss of Spent Fuel Pool Cooling (Section 1R13)
05000348/2005003-02	NCV	Failure to Follow TS for Inoperable Train of SSPS Logic (Section 4OA3)

Closed

05000348/2005001-00	LER	Solid State Protection System Card Failure Troubleshooting (Section 4OA3)
2515/163	TI	Operational Readiness Of Offsite Power (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Functional System Description A-181000, Component Cooling Water System
P&ID D-205002 Sheets 1-3
FNP-2-SOP-23.0, Component Cooling Water System
Technical Specification 3.7.7, Component Cooling Water
Functional System Description A-181001, Service Water System
Technical Specification 3.7.8, Service Water System
P&ID D-205007
Technical Specification 3.7.5, Auxiliary Feedwater System

Section 1R11: Licensed Operator Requalification

FNP-1-AOP-100.0, Instrumentation Malfunction
FNP-1-AOP-19.0, Malfunction of Rod Control System
Various TS
FNP-1-ESP-0.1, Reactor Trip Response
FNP-1-ESP-1.1, SI Termination
FNP-1-EEP-0, Reactor Trip or Safety Injection
FNP-1-EEP-1, Loss of Reactor or Secondary Coolant
FNP-1-EEP-2, Steam Generator Tube Rupture

Section 1R14: Personnel Performance During Non-Routine Plant Evolutions and Events

FNP-1-UOP-3.1 Power Operation
FNP-1-SOP-28.1 Turbine Generator Operation
Reactivity Plan

Section 1EP06: Drill Evaluation

FNP-0-EIP-6.0 TSC Setup and Activation
FNP-0-EIP-10.0 Evacuation and Personnel Accountability
FNP-0-EIP-9.2 Obtaining Meteorological Information
FNP-0-EIP-30.0 Post Accident Core Damage Assessment

Section 4OA5: TI 2515/163

FNP-1/2-AOP-5.2, Degraded Grid
A-173444, Power Quality Guide
FNP-0-EIP-8.0, Non-Emergency Notifications
FNP-0-EIP-9.0, Emergency Classification and Actions
FNP-0-ACP-52.2, Guidelines for Scheduling of On-Line Maintenance
FNP-0-ACP-52.3, Risk Assessment
FNP-0-ACP-4.0, Switchyard Control
FNP-1/2- ECP-0.0, Loss of All AC Power
Alabama Control Center, Black Start