UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

July 31, 2000

EA-00-100

Southern Nuclear Operating Company, Inc.
ATTN: Mr. D. N. Morey
Vice President
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT NOs. 50-348/00-03 and 50-364/00-03

Dear Mr. Morey:

On July 1, 2000, the NRC completed an inspection at your Farley Nuclear Plant. The enclosed integrated report presents the results of that inspection. The results of this inspection were discussed on June 29, with Mr. M. Stinson and other members of your staff.

This inspection was an examination of 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. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

The NRC identified four issues that were evaluated under the significance determination process (SDP) and were determined to be of very low safety significance (Green). These issues have been entered into your corrective action program and are discussed in the enclosed inspection report. All of these issues were determined to involve violations of NRC requirements, but because of their very low safety significance the violations are not cited. Additionally, we are administratively documenting the closure of Escalated Enforcement Item (EEI) 50-364/00-02-01 as a non-cited violation as we discussed in our July 13, 2000 letter to you. Because this issue was identified before implementation of the Revised Reactor Oversight Program, the SDP was not used to evaluate this finding. If you contest these non-cited violations, you should provide a response within 30 days of the date of this letter, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Farley facility.

In accordance with 10 CFR 2.790 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 NRC's document system (ADAMS).

ADAMS is accessible from the NRC Web site at *http://www.nrc.gov/NRC/ADAMS/index.html* (the Public Electronic Reading Room).

Sincerely,

/RA/

Stephen J. Cahill, Chief
Reactor Projects, Branch 2
Division of Reactor Projects

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

Enclosure: NRC Integrated Inspection Report Nos. 50-348/00-03 and 50-364/00-03

cc w/encl:
M. J. Ajluni, Licensing
Services Manager, B-031
Southern Nuclear Operating
Company, Inc.
Electronic Mail Distribution

L. M. Stinson
General Manager, Farley Plant
Southern Nuclear Operating
Company, Inc.
Electronic Mail Distribution

J. D. Woodard
Executive Vice President
Southern Nuclear Operating
Company, Inc.
Electronic Mail Distribution

State Health Officer
Alabama Department of Public Health
RSA Tower - Administration
Suite 1552
P. O. Box 303017
Montgomery, AL 36130-3017

cc w/encl cont'd: (See Page 3)

cc w/encl cont'd:

M. Stanford Blanton
Balch and Bingham Law Firm
P. O. Box 306
1710 Sixth Avenue North
Birmingham, AL 35201

Rebecca V. Badham
SAER Supervisor
Southern Nuclear Operating Company
Electronic Mail Distribution

Distribution: M. Padovan, NRR

*See previous concurrence page for signatures

OFFICE	RII:DRP	RII:Farley	RII:EICS	RII:DRS	RII:DRS	RII:DRS	
SIGNATURE	0	*SJC (for) (tele)	*ODM (for)	*RCC	*DForbes	*JJB	
NAME	CRapp:sjw	TJohnson	ABoland	RChou	DForbes	JBlake	
DATE	7/3/00	7/27/00	7/27/00	7/27/00	7/27/00	7/27/00	8/ /2000
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U. S. NUCLEAR REGULATORY COMMISSION (NRC)

REGION II

Docket Nos.:	50-348 and 50-364
License Nos.:	NPF-2 and NPF-8
Report Nos.:	50-348/00-03 and 50-364/00-03
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Farley Nuclear Plant, Units 1 and 2
Location:	7388 N. State Highway 95 Columbia, AL 36319
Dates:	April 2 to July 1, 2000
Inspectors:	T. P. Johnson, Senior Resident Inspector R. K. Caldwell, Resident Inspector J. H. Bartley, Resident Inspector D. B. Forbes, Radiation Specialist (Sections 2OS2, 2PS1, and 2PS3) J. J. Blake, Senior Project Manager (Section 4OA5.3) R. C. Chou, Reactor Inspector (Section 4OA5.3)
Approved by:	Stephen J. Cahill, Chief Reactor Projects, Branch 2 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000424-00-03, IR 05000425-00-03, on 04/02-07/01/2000; Southern Nuclear Operating Company Joseph M. Farley Nuclear Plant, Units 1 & 2. Event Follow-up, Post Maintenance Testing, Personnel Performance During Nonroutine Plant Evolutions and Events.

The inspection was conducted of baseline activities and was performed by resident inspectors, a regional office radiation specialist, and two regional office engineering specialists. Temporary Instruction (TI) 2515/144, Performance Indicator Data Collecting and Reporting Process Review, was also conducted during this inspection. This inspection identified four green issues, all of which were non-cited violations. The significance of issues is indicated by their color (green, white, yellow, or red) and was determined by the Significance Determination Process.

Cornerstone: Initiating Events

! Green. The inspectors identified a non-cited violation for failure to follow the turbine generator system operating procedure, as required by Technical Specification 5.4.1a, which resulted in a Unit 1 automatic reactor trip. The issue was of very low safety significance because the trip was uncomplicated, all mitigation systems functioned properly or remained operable, and barrier integrity was not challenged. (Section 4OA3.2)

Cornerstone: Mitigating Systems

! Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, for inadequate corrective actions taken relative to abnormal indications during a post maintenance test of the Unit 2 turbine driven auxiliary feedwater pump. On subsequent surveillance tests, the pump operation was erratic and often tripped on overspeed during startup and, therefore, failed to meet operability test requirements. The issue was determined to be of very low safety significance based on the limited duration and intermittent nature of the problem, on the ability of operators to recover, and because both redundant motor driven pumps were available. (Section 1R19.2)

Cornerstone: Barrier Integrity

! Green. The inspectors identified a non-cited violation of Unit 2 Technical Specification 3.4.15 requirements for the reactor coolant system leak detection systems. The issue was determined to be of very low safety significance because the monitors are not safety significant and redundant indications and systems were available to the operators to monitor for potential leaks. (Section 1R14)

Cornerstone: Emergency Preparedness

! Green. The inspectors identified a non-cited violation of 10 CFR 50.47 and licensee procedure FNP-0-EIP-9.0, Emergency Classifications and Actions, for failure to initially classify and report a Unit 1 loss of offsite power condition as a Notification of Unusual Event. Personnel error by the operating shift and a weak procedure were the causes. The licensee made a late notification the following day. This issue was determined to be of very low safety significance because the unit was defueled at the time and because of the low classification level. (Section 4OA3.1)

Report Details

Summary of Plant Status

Unit 1 was shut down at the beginning of the inspection period for a refueling outage and steam generator replacement. The unit was restarted on May 25, tripped on May 28, and restarted on May 29. Unit 1 operated at or near full Rated Thermal Power (RTP) from June 3 until June 23 when power was reduced to 80% RTP to repair a cooling tower. The unit operated at 80% RTP for the remainder of the inspection period.

Unit 2 operated at 100% RTP for the inspection period.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed partial system walk downs of the following systems to ensure that the systems were properly aligned when redundant systems or trains were out of service. The walk down included a review of system documentation, and independent control room and infield checks of valves, switches, components, electrical power, support equipment, and instrumentation.

- Unit 1 and 2 auxiliary feedwater (AFW)
- Unit 1, 2, and common emergency AC power
- Unit 1 and 2 component cooling water (CCW)
- Unit 1 residual heat removal (RHR) system.

b. Issues and Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors conducted a walk down of the 77, 83, and 100 foot elevations in the Unit 1 and Unit 2 Auxiliary Building to verify the licensee's implementation of fire protection activities. The inspectors reviewed the Updated Final Safety Analysis Report (FSAR) Appendix 9B, Fire Protection Program, to determine the requirements for the fire protection systems and compensatory actions. The inspectors verified 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 inspectors also verified that adequate compensatory measures, including fire watches, were in place for degraded fire barriers.

b. Issues and Findings

No findings were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

The inspectors observed portions of the licensed operator testing and training program during the quarter. The inspectors assessed overall performance, self-critiques, training reviews, and management oversight.

b. Issues and Findings

No findings were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed information associated with problems on the equipment listed below. Items reviewed included licensee evaluation of functional failures, maintenance preventable functional failures, repetitive failures, availability and reliability monitoring, and system specialist involvement. Items were evaluated for compliance with 10 CFR 50.65 and the licensee's associated internal procedures.

- AFW pump
- EDG 1C
- CCW pumps
- Steam dumps
- Safety-related breakers
- Service Water pumps

b. Issues and Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors evaluated the effectiveness of the risk assessments performed prior to conducting planned maintenance on the following systems and components to assess the licensee's actions to plan and control the work activities. The inspectors also verified the licensee had adequately identified and resolved risk assessments for emergent work and other problems.

- AFW room cooler breaker
- Turbine driven AFW pump
- CCW pump
- Charging pump and room cooler

- ! RHR pump
- ! SW pump

b. Issues and Findings

No findings were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events

(Closed) Licensee Event Report (LER) 50-364/00-02, Technical Specification (TS) 3.0.3 Entered Due to Reactor Coolant System (RCS) Leak Detection System Inoperable

a. Inspection Scope

On March 25, 2000, the licensee determined that Unit 2 had operated in non compliance of the RCS leak detection instrumentation requirements of TS 3.4.15 at least eight times during the period May 11, 1998 to March 18, 2000. The inspectors reviewed the licensee's root cause and corrective actions as stated in the LER and Condition Report (CR) 2-2000-278.

b. Issues and Findings

During work order document review, the licensee noted that containment air coolers' A, B, and C condensate level monitoring systems were out of service due to mispositioned throttle valves in the drain system. The containment air cooler D condensate level monitoring system was also out of service due to problems with the annunciator channel. During the period May 11, 1998 to March 18, 2000, the redundant leak detection systems (containment atmosphere particulate radiation monitor R-11 and gaseous radiation monitor R-12) were also intermittently out of service for routine maintenance and testing. While in Modes 1 through 4, TS 3.4.15 requires that R-11 and either R-12 or one containment air cooler condensate level monitor be operable. With all required monitors inoperable, TS 3.4.15 Action D.1 required that TS 3.0.3 be entered. The licensee's root cause determined that inadequate design documentation did not specify the valve design nor the throttling position of the level monitoring drain valves. The valves were replaced during a April 1998 refueling outage with a valve of different throttling characteristics. Corrective actions were documented in the root cause report.

The RCS leak detection system, as described in UFSAR 5.2.7 and the TS bases, is designed to detect a leak of one gallon per minute (g.p.m.) with a design margin of 10 g.p.m. With the valves in the incorrect throttle position, a leak of 1.8 to 5.1 g.p.m. could have been detected. Other means available to detect RCS leaks included containment temperature, pressure, and moisture monitors; containment sump level monitors; periodic RCS leak checks; and, routine containment air samples. The inspector reviewed this issue using the Reactor Safety Significance Determination Process (SDP). Because of the short duration of the simultaneous inoperabilities of the non safety significant monitors, and the additional means for monitoring for RCS leakage, the safety significance was determined to be very low and was characterized as Green by the SDP.

Contrary to the above, with Unit 2 in Mode 4 or above, for at least eight times during the period May 11, 1998 to March 18, 2000, with a duration of between 14 minutes and 14.5 hours, all four of the containment air cooler condensate level monitors were out of service concurrent to when both R-11 and R-12 were out of service, and the actions required by TS 3.0.3 were not taken. This violation is being treated as non cited violation (NCV) 50-364/00-03-01, TS 3.0.3 Not Entered When Reactor Coolant System (RCS) Leak Detection System Inoperable.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the licensee's operability evaluations on the following systems to ensure that the assessment was properly justified and that the affected component or system remained operable. Items checked included the technical adequacy of the operability evaluation, consideration of degraded conditions and compensatory measures, and a review of the design bases.

! Unit 1 Service Water through wall piping leak
! Unit 2 RHR minimum flow
! Unit 2 Service Water through wall piping leak
! Unit 1 reactor trip hand switch
! Unit 1 and 2 safety pumps' oil bubblers

b. Issues and Findings

No findings were identified.

1R16 Operator Work Arounds

a. Inspection Scope

The inspectors reviewed operator works on the following systems to determine if the functional capability of the system or human reliability in responding to an initiating event were affected. Additionally, the prioritization and actions required to address the operator work arounds were evaluated. Inspectors reviewed the cumulative effects of the operator work arounds on the ability of operators to implement abnormal or emergency operating procedures, on the potential to increase an initiating event frequency, and on the potential to affect multiple mitigating systems.

! AFW
! 2B EDG
! High Head Safety Injection
! Containment post accident ventilation
! Radiation monitoring

b. Issues and Findings

No findings were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the following Design Change Packages (DCPs) to verify that the licensing and design bases and performance capability had not degraded. In addition, the inspectors reviewed plant configurations during the modifications, design review activities, implementation, testing, and documentation updating and turnover to operations.

! DCP 1-9608, Units 1 and 2 containment air cooler drain valves
! DCP 1-6986, Unit 1 room cooler replacements
! DCPs for SGRP related modifications

b. Issues and Findings

No findings were identified.

1R19 Post Maintenance Testing

.1 Routine Observations

a. Inspection Scope

The inspectors verified that post maintenance test procedures and test activities for the following systems were adequate to verify system operability and functional capability.

! RHR pumps
! charging pumps
! safety-related room coolers
! SW pumps
! AFW pumps
! electrical supplies and breakers.

b. Issues and Findings

No findings were identified.

.2 Unit 2 Turbine Driven Auxiliary Feedwater Pump (TDAFWP)

a. Inspection Scope

The inspectors witnessed tests and reviewed test data, design/licensing bases requirements, Technical Specifications, Updated Final Safety Analysis Report (UFSAR) commitments, and licensee procedures. The inspectors assessed if the TDAFW pump was capable of performing its intended safety functions. Additionally, the inspectors reviewed the testing to verify the scope of the maintenance work performed was adequately addressed; acceptance criteria were clear and demonstrated operational readiness; and test equipment range and accuracy was consistent with the application. The inspectors verified that after completion of testing, equipment was returned to the status required for the TDAFW pump to perform its safety function.

b. Issues and Findings

On April 6, the Unit 2 TDAFW pump tripped on overspeed while starting for routine quarterly surveillance testing. The licensee suspected a circuit failure on the governor control module (EGM) and replaced the Ramp Generator Signal Converter (RGSC) and the EGM and successfully tested the TDAFW pump. On May 3, during the next routine surveillance test, the TDAFW pump again tripped on overspeed. The licensee declared it inoperable and began troubleshooting. Technicians noticed the governor response was erratic and calibrated the EGM. The technicians noticed the speed potentiometer and the EGM were sensitive to vibration but did not report it. On May 4, at the end of the pump test data collection time (approximately 15 to 20 minutes after pump start), the technicians again noted the governor response was erratic but a CR was not generated to document and disposition their observation. On May 5, the surveillance test was performed with the pump vendor representative present. The TDAFW pump started and reached rated speed satisfactorily and was run for approximately 5 minutes. It was therefore declared operable without addressing the intermittent erratic performance and vibration problem. The TDAFW pump was placed on an increased test frequency due to the previous failures. On May 11, it failed the surveillance when it did not reach rated speed during startup. Additionally, when the EGM device was tapped, the TDAFW pump tripped on overspeed.

After extensive troubleshooting, the licensee root cause team concluded that oxide build-up on at least one of the three circuit cards in the EGM caused the TDAFW pump to not reach rated speed and to be sensitive to vibration. The vendor was able to replicate the EGM sensitivity. Another EGM was installed and the licensee performed daily testing for the following week with satisfactory results. During the time from May 5 to 11 that the TDAFW pump was inoperable, the inspectors verified that the two redundant motor driven AFW pumps were operable. The inspectors and the NRC Senior Reactor Analyst reviewed this period of inoperability using the Significance Determination Process (SDP). The event was found to be of very low safety significance based on the limited duration of the problem and the availability of the two motor driven AFW pumps and was characterized as Green by the SDP.

10 CFR 50, Appendix B, Criterion XVI, and the Quality Assurance Program (UFSAR 17.2.16) states, in part, that for significant Conditions Adverse to Quality, measures shall be taken to ensure that the cause of the condition is determined and corrective action is taken to preclude its repetition. Contrary to the above, the licensee did not take adequate measures to identify and correct the cause of the TDAFWP overspeed trips which occurred on May 3 and 11, 2000 in that problems were known with EGM vibration sensitivity but were not entered into the Corrective Action Program. The cause was eventually determined to be oxide buildup on an EGM card's knife connection. This is a non cited violation (NCV) 50-364/00-03-02, Inadequate Corrective Actions During Post Maintenance Testing of the TDAFWP. This violation is in the licensee's corrective action program as CR 2-2000-477 and CR 2-2000-513.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors reviewed the following activities from the spring 2000 Unit 1 refueling outage and Steam Generator Replacement Project (SGRP) for conformance to applicable procedures. Inspectors witnessed selected activities. Surveillance tests were reviewed to verify compliance with the required TS. Shut down risk, management oversight, and operator awareness were evaluated for each major activity.

- SGRP activities
- reactor shutdown
- refueling operations and spent fuel pool cooling systems
- shutdown risk evaluations
- electrical lineups during bus outages
- containment closeout
- reactor startup, physics testing, and unit power ascension
- outage-related surveillance tests
- reactor coolant drain down and mid-loop activities
- mode changes

b. Issues and Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the surveillance test procedures (STP) listed below to verify system and component operability and to ensure that the acceptance criteria met TS and design requirements. In addition, completed STPs were reviewed to ensure safety significant components were operable.

- FNP-2-STP-0022.16, Turbine Driven AFW Inservice Test
- FNP-2-STP-0022.19, AFW Normal Flowpath Verification
- FNP-1-STP-0040, Safety Injection With Loss Of Offsite Power Test
- FNP-1-STP-0080.14(15), DG A(B) Train Loss Of Offsite Power Test
- FNP-1-STP-101, Initial Criticality and Zero Power Physics Testing
- FNP-2-STP-11.1, 2A RHR Pump Quarterly Inservice Test
- FNP-1-STP-11.2, 1B RHR Pump Quarterly Inservice Test
- FNP-2-STP-24.21(22), 2A(B) Service Water Booster Pump Inservice Test

b. Issues and Findings

No findings were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following minor departures (MD) including the 10 CFR 50.59 evaluations against the system design bases information and documentation. MD implementation, configuration control, post-installation test activities, and operator awareness were reviewed.

- MD 99-02592, Diesel Generator space heater wiring
- MD 99-02606, Unit 1 reactor coolant pump seal leakoff alarm set point change
- MD 00-02617, Wiring used in the Unit 2 7300 instrument racks
- MD 00-02622, Wiring used in the Unit 1 7300 instrument racks

b. Issues and Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed selected emergency drills and training evolutions to validate that the licensee is properly identifying classification, notification and protective action recommendations, and assessing performance in those opportunities. A practice drill on June 14 was observed and evaluated.

b. Issues and Findings

No findings were identified.

2. RADIATION SAFETY

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Controls

a. Inspection Scope

The inspectors reviewed the plant collective exposure history, current exposure dose trends, the Unit 1 steam generator replacement outage reports and exposure goals, the year 2000 annual site dose goal and internal and external exposure control practices exercised during the outage against the ALARA criteria of 10 CFR 20.1101. The inspectors also discussed ALARA initiatives with chemistry personnel for reducing solid radioactive waste to the environment.

b. Issues and Findings

No findings were identified.

2PS1 Gaseous and Liquid Effluents

a. Inspection Scope

The inspectors reviewed the most current radiological effluent release reports to verify the program is implemented in accordance with TS and the Offsite Dose Calculation Manual (ODCM). The inspectors observed a liquid radwaste discharge to the environment from a Unit 1 waste monitor tank and reviewed the discharge permit, the isotopic analysis, the liquid radwaste monitor set point calculation methodology and calibration associated with this discharge. Calibrations were also reviewed for other radwaste environmental pathway monitors specified by the ODCM.

b. Issues and Findings

No findings were identified.

2PS3 Radiological Environmental Monitoring

a. Inspection Scope

The inspectors reviewed meteorological instrumentation including tower sighting criteria and reviewed operability results for local and remote meteorological data readouts and recording equipment for wind speed, wind direction and delta temperature. The inspectors reviewed calibration data for meteorological monitoring equipment and environmental air samplers. The inspectors observed environmental sampling for vegetation, surface water and air to verify sampling was being performed as required by the ODCM. Interlaboratory comparison results for environmental sampling were reviewed as well as audits and corrective actions for the laboratory performing environmental analysis.

b. Issues and Findings

No findings were identified.

OTHER ACTIVITIES

4OA1 Performance Indicators

.1 Performance Indicator Verification

a. Inspection Scope

The inspectors verified the high pressure safety injection and heat sink safety system unavailability performance indicator (PI) data for the first quarter of 2000 using IP 71151. The data was verified using the reactor operator logs, weekly work planning schedules, and Technical Specification (TS) limiting condition for operations (LCO) log sheets.

b. Issues and Findings

No findings were identified.

.2 Performance Indicator (PI) Data Collection and Reporting Process Review (Temporary Instruction (TI) 2515/144)

a. Inspection Scope

The inspectors reviewed the licensee’s PI data collection and reporting process per the requirements of the TI. Site administrative procedure (AP) FNP-0-AP-54, Preparation and Reporting of the NRC PI Data, Revision 0, was reviewed to ensure it was consistent with the guidance of NEI 99-02, Regulatory Assessment PI Guideline, Revision 0. Personnel involved in the PI data collection, review, and submittal were interviewed. The accuracy of the PI data was not verified during this review.

b. Issues and Findings

No findings were identified..

4OA3 Event Follow-up

.1 Unit 1 Loss of Site Power While Defueled

(Closed) LER 50-348/00-05, Loss of Site Power While Defueled Due to Loss of 1A Startup Transformer

a. Inspection Scope

The inspectors reviewed the Unit 1 loss of offsite power on April 9. The inspectors interviewed personnel, reviewed applicable CRs, and attended Plant Operations Review Committee (PORC) meetings. Additionally, the inspectors reviewed applicable emergency operating procedures and emergency action level classification guidance.

b. Issues and Findings

With Unit 1 defueled for the refueling outage, a loss of site power occurred when the 1A startup transformer tripped during B train load shed testing. The 1A startup transformer was supplying power to both vital AC busses. Procedure FNP-0-EIP-9.0, Emergency Classifications and Actions, Rev. 44, Notification of Unusual Event (NOUE), Guideline 4, step 6.0, requires a NOUE be declared if a loss of both trains of offsite power occurs. However, a NOUE was not declared as required. The licensee determined the cause of the missed notification was personnel error with a weak procedure as a contributing factor. The inspectors reviewed this issue using the Significance Determination Process. Based on the unit being defueled and the event being classified as a NOUE, the event was determined to be of very low safety significance and characterized as Green by the SDP.

10 CFR 50.47 requires procedures to assess emergency classification levels and to determine actions, and to make timely notifications to local authorities, to the states, and to the NRC. Contrary to this, on April 9, at 10 a.m., the operators failed to declare a NOUE as required by FNP-0-EIP-9.0. The licensee reported a NOUE the following day. This failure to follow FNP-0-EIP-9.0 is a non cited violation, NCV 50-348/00-03-03, Failure to Classify a Notification of Unusual Event. This violation is in the licensee's corrective action program as CRs 1-2000-353 and 400.

.2 Unit 1 Reactor Trip During Turbine Generator Testing

(Closed) LER 50-348/00-06, Unit 1 Automatic Reactor Trip

a. Inspection Scope

The inspectors reviewed the licensee response to an automatic Unit 1 trip from 4% power on May 28. The inspectors assessed operator actions, emergency classification, reportability, safety significance, and the status of mitigating systems and fission product barriers.

b. Issues and Findings

The licensee concluded that personnel did not follow the guidance in procedure FNP-1-SOP-28.1, Turbine Generator Operation, and incorrectly operated the main turbine in the manual mode. When the turbine was tripped for testing, the electro-hydraulic control (EHC) system responded by attempting to keep the governor valves open, reducing EHC system pressure. The lowered EHC pressure caused the speed of the steam generator feedwater pumps (SGFPs) to lower, reducing flow to the steam generators, and resulting in a low water level reactor trip. Inspectors reviewed this issue using the SDP. Based on the uncomplicated trip, the event was determined to be of very low safety significance and characterized as Green by the SDP.

TS 5.4.1a and NRC Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, require procedures to be established, implemented, and maintained for the operation of the turbine generator system. Contrary to this, SOP-28.1, Section 4.13, Main Turbine Manual Operation, was not properly implemented when the Turbine Generator was placed in the manual mode of operation. This is identified as a non cited violation, NCV 348/00-03-04, Failure to Follow Turbine Generator Operating Procedure. The violation is in the licensee's corrective action program as CR 1-2000-579.

4OA5 Other

.1 (Closed) LER 50-348, 364/00-01, Non-conservative Main Steam Line Break (MSLB) Offsite Dose Calculation The licensee identified a non-conservatism for the MSLB accident offsite dose calculation due to low assumed letdown flow which affected the iodine source term or Dose Equivalent Iodine (DEI) used in the MSLB analysis. This issue was initially identified in February 1999, and additional analyses were completed and finalized in February 2000. As a compensatory measure, the licensee added correction factors to the TS DEI value. Inspectors verified that TS DEI limits were not exceeded after applying the correction factors. The licensee had concluded the issue did not meet any 10CFR 50.72 or .73 or NUREG 1022 reporting criteria but submitted it voluntarily. The inspectors reviewed the licensee's basis for this determination and did identify any discrepancies. Other licensees reported this issue based on actual DEI values that exceeded dose calculation limits when the actual letdown flowrate was used in the calculation.

.2 (Closed) LER 50-364/00-01-01, T.S. 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable
(Closed) LER 50-364/00-01-02, T.S. 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable
(Closed) Escalated Enforcement Item (EEI) 50-364/00-02-01, TS 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable

By letter dated May 01, 2000, the NRC informed the licensee that an apparent violation of TS 3.0.5 occurred. However, by letter dated July 13, 2000, the NRC concluded that the service water system could have performed its intended safety function based on a vendor's analysis described in LER 50-364/2000-01-02. Due to the low safety significance of this issue, the violation has been categorized as a Severity Level IV violation as described in the "General Statement of Policy and Procedures for NRC Enforcement Actions" NUREG-1600. In addition, the NRC has concluded that this violation should be characterized as a non-cited violation, in accordance with Section VII.B.1.a of the Enforcement Policy and is identified as NCV 50-364/00-03-05, TS 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable. Because this violation was identified before implementation of the Revised Reactor Oversight Program, the SDP was not used to evaluate this finding.

.3 Steam Generator Replacement

a. Inspection Scope (IP 50001)

The inspectors reviewed the following activities related to the Unit 1 steam generator replacement outage for conformance to the applicable codes and procedures, and witnessed selected activities associated with each evolution.

- WO S99009622, VT-3 inspections of modified condensate and feedwater supports
- WO S99009618, system inservice testing on instrument air piping
- WO S99009624, VT-3 inspections of modified supports
- WO S99009617, leak checks and VT-2 and VT-3 reports for steam generator blowdown
- WO S99009616,main steam system inservice VT-2 and VT-3
- Design Change Request (DCR) 98-1-9357, Steam Generator Replacement - Unit 1
- WOs 20004294, 4295, and 4296, new leak rate parameters for SG tube leak detection

The inspectors discussed SGRP activities and the resolution of licensee identified problems with the licensee's engineers and walked down the reinstallation of piping and components and the biowall for the C steam generator (SG). The inspectors also attended the biowall job preparation briefing, verified removal of the heavy lifting equipment, and reviewed Field Change Request (FCR) documents for SGRP activities. The inspectors observed personnel performing cadwelding for rebar splices and reactor coolant pipe preparation and welding. The inspectors observed quality control (QC) personnel examining cadweld preparation and fit-up. The inspectors verified that the qualifications of the QC inspectors were acceptable.

The inspectors observed set-up and operation of welding equipment during mock-up work and welder qualifications to verify the integrity of the testing activities. Supporting documentation for qualified welders was also reviewed. The inspectors observed machining equipment operations and nondestructive examinations during welding preparations on the replacement steam generator nozzles. Nondestructive examination inspectors qualification records were also reviewed. The inspectors reviewed special procedures for cutting, machining, welding, and nondestructive examination. The welding procedure essential variables were compared to data provided in the ASME-required supporting procedure qualification reports (PQRs.) Proper use of decontamination and foreign object search and retrieval equipment were also observed during mock-up drills and demonstrations.

b. Issues and Findings

No findings were identified.

4OA6 Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mike Stinson, Plant General Manager, and other members of licensee management at the conclusion of the inspection on June 29. The licensee acknowledged the findings presented.

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

.2 Public Meetings

The NRC conducted a Plant Performance Review Meeting at the Farley site on June 8 to discuss overall plant performance during the period February 1, 1999 to January 31, 2000.

The NRC conducted a Revised Reactor Oversight Program Meeting at the Houston County Administrative Building in Dothan, AL on June 8 to discuss the NRC's revised program for inspection and enforcement of nuclear plants with members of the public.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. V. Badham, Safety Audit Engineering Review Supervisor
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. G. Horn, Outage Planning Supervisor
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

ITEMS OPENED AND CLOSED

Opened and Closed

50-364/00-03-01	NCV	TS 3.0.3 Not Entered When Reactor Coolant System (RCS) Leak Detection System Inoperable (Section 1R14)
50-364/00-03-02	NCV	Inadequate Corrective Actions During Post-Maintenance Testing of the TDAFWP (Section 1R19.2)
50-348/00-03-03	NCV	Failure to Classify a Notification of Unusual Event (Section 4OA3.1)
50-348/00-03-04	NCV	Failure to Follow Turbine Generator Operating Procedure Which Caused a Reactor Trip (Section 4OA3.2)
50-364/00-03-05	NCV	TS 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable (Section 4OA5.2)

Closed

50-364/00-02	LER	TS 3.0.3 Entered Due to Reactor Coolant System (RCS) Leak Detection System Inoperable (Section 1R14)
2515/144	TI	Performer Indicator Data Collection and Reporting Process Review (40A1.2)
50-348/00-05	LER	Loss of Site Power While Defueled Due to Loss of 1A Startup Transformer (Section 4OA3.1)
50-348/00-06	LER	Unit 1 Automatic Reactor Trip (Section 4OA3.2)

50-348, 364/00-01	LER	Non-conservative Main Steam Line Break Offsite Dose Calculation (Section 4OA5.1)
50-364/00-01-01,	LER	T.S. 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable (Section 4OA5.2)
50-364/00-01-02	LER	T.S. 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable (Section 4OA5.2)
50-364/00-02-01	EEI	TS 3.0.5 Entered Due to Service Water Lubrication and Cooling Pumps Inoperable (Section 4OA5.2)

Attachment - NRC's Revised Reactor Oversight Process Summary

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	**Radiation Safety**	**Safeguards**
! Initiating Events	! Occupational	! Physical Protection
! Mitigating Systems	! Public	
! Barrier Integrity		
! Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at *http://www.nrc.gov/NRR/OVERSIGHT/index.html*.