



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

**REGION II**

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

April 26, 2001

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. 50-348/00-06 AND 50-364/00-06**

Dear Mr. Morey:

On March 31, 2001, the NRC completed an inspection at your Farley Nuclear Plant. 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 enclosed integrated inspection report presents the results of this inspection which were discussed on March 30, 2001, with Mr. Mike Stinson and other members of your staff.

Based on the results this inspection, the inspectors identified one finding of very low safety significance (Green) which was determined to be a violation of NRC requirements. However, because of its very low safety significance and because you have entered it into your corrective action program, the NRC is treating this violation as a Non-Cited Violation in accordance with Section VI.A.I of the NRC's Enforcement Policy. If you deny this non-cited violation, you should provide a response with the basis of your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Joseph M. Farley Nuclear Plant.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be publicly available 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,

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

Docket Nos.: 50-348, 50-364

License Nos.: NPF-2, NPF-8

Enclosure: NRC Integrated Inspection

Report Nos.: 50-348/00-06 and 50-364/00-06

Attachment: NRC's Revised Reactor Oversight Process Summary

cc w/encl:

M. J. Ajluni

Services Manager  
Southern Nuclear Operating  
Company, Inc.  
Electronic Mail Distribution

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

L. M. Stinson

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

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

J. D. Woodard

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

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

State Health Officer

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

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

**U. S. NUCLEAR REGULATORY COMMISSION (NRC)**

**REGION II**

Docket Nos.: 50-348 and 50-364

License Nos.: NPF-2 and NPF-8

Report Nos.: 50-348/00-06 and 50-364/00-06

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

Facility: Farley Nuclear Plant, Units 1 and 2

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

Dates: December 31, 2000 to March 31, 2001  
(Integrated Report of all inspection in this period)

Inspectors: T. Johnson, Senior Resident Inspector  
R. Caldwell, Resident Inspector  
D. Forbes, Radiation Specialist  
(Sections 2OS1 and 2OS2)  
R. Chou, Reactor Inspector - Mechanical  
(Sections 4OA5.2 thru 4OA5.4)  
J. Blake, Senior Project Manager (Section 1R08)  
J. Kreh, Emergency Preparedness Specialist  
(Section 1EP4)

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

## SUMMARY OF FINDINGS

IR 05000348-00-06, IR 05000364-00-06, on 12/31/2000-03/31/2001, Southern Nuclear Operating Company, Joseph M. Farley Nuclear Plant, Units 1 & 2, Integrated Inspection Report, Emergent Work.

This integrated inspection report covers a 13-week period of inspection conducted by resident inspectors, a regional radiation specialist, a regional emergency preparedness specialist, and two regional engineering inspectors. The inspectors identified one Green finding which is a non-cited violation. The significance of inspector findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, Significance Determination Process.

### A. Inspector Identified Findings.

#### Cornerstone: Mitigating Systems

Green. The inspectors identified a Non-Cited Violation of Technical Specification Surveillance Requirement 13.8.3.1 for failure to assure that maintenance performed on the 1C and 2C emergency diesel generators (EDGs) was in accordance with the vendor manual recommendations. The licensee had not followed the vendor manual's guidance for checking the vertical drive coupling and bearings of the 1C emergency diesel generator (EDG) which led to a degraded condition.

Although the 1C EDG was determined to be in a degraded condition, an operability evaluation concluded it could have performed its required function. Because the 1C EDG remained operable and the 2C EDG vertical shaft was found not to be damaged, this finding was determined to be of very low significance (Section 1R13.2).

### B. Licensee Identified Findings.

A violation of very low significance which was identified by the licensee and was reviewed by the inspectors is listed in section 4OA7 of this report.

## Report Details

### Summary of Plant Status

Unit 1 operated at 100% rated thermal power (RTP).

Unit 2 operated at 100% RTP until February 24 when the reactor was shutdown for Refueling Outage 14. The unit remained in an outage for the remainder of the report period.

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

#### 1R04 Equipment Alignment

##### a. Inspection Scope

The inspectors performed walk downs to verify that the systems listed below were properly aligned when redundant systems or trains were out of service as required by 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 both control room and in-plant checks of valves, switches, components, electrical power, support equipment, and instrumentation for the following systems:

- Unit 1 and 2 Auxiliary Feedwater (AFW) systems (partial walkdown)
- Unit 1 and 2 Emergency AC power (complete walkdown)
- Unit 1 Component Cooling water (CCW) system (partial walkdown)

##### b. Findings

No findings of significance were identified.

#### 1R05 Fire Protection

##### a. Inspection Scope

The inspectors conducted a walk down of the auxiliary, diesel, and service water buildings to verify the licensee's implementation of fire protection requirements as described in licensee procedures FNP-0-AP-36, Fire Surveillance and Inspections, AP-37, Fire Brigade Organization, AP-38, Use of Open Flame, and AP-39, Fire Patrols and Watches. 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, fire doors, and fire barriers. The inspectors also verified that adequate compensatory measures, including fire watches, were in place for degraded fire barriers. The inspectors compared the requirements in the Updated Final Safety Analysis Report (UFSAR) Appendix 9B, Fire Protection Program, to the licensee's implementation of the program.

##### b. Findings

No findings of significance were identified.

#### 1R06 Flood Protection Measures

##### a. Inspection Scope

To verify implementation of severe weather contingencies, the inspectors walked down flood and tornado protection features of the plant that were required by licensee procedure FNP-0-AOP-21.0, Severe Weather.

##### b. Findings

No findings of significance were identified.

#### 1R08 Inservice Inspection (ISI)

##### a. Inspection Scope

The inspectors reviewed selected ISI records and discussed the results with the licensee's ISI personnel. The observations and records were compared to the Technical Specifications (TS) and the ASME Boiler and Pressure Vessel Code, Section XI. The ISI activities were limited in scope to visual examination of supports and bolted connections and included the following augmented or special inspections in response to industry experience or events:

- Ultrasonic Examinations of Six Residual Heat Removal (RHR) Welds in Response to a Thermal Fatigue Failure Reported at a Foreign Reactor
- Special Visual Examinations for Boron Deposits in the Area of the Reactor Vessel Head And the Main Loop Connections to the Reactor Vessel

In addition, the inspectors reviewed special visual and ultrasonic inspections that were conducted on the main steam and feedwater piping and supports after damaged main steam line supports were found inside the containment, the main steam valve room, and the turbine building.

##### b. Findings

No findings of significance were identified.

#### 1R11 Licensed Operator Requalification Program

##### a. Inspection Scope

The inspectors observed portions of the licensed operator training and testing program conducted per procedure FNP-0-AP-45, Farley Nuclear Plant Training Program. The inspectors assessed high risk operator actions, overall performance, self-critiques, training feedback, and management oversight. This training was conducted in response to a Pressurizer Power-Operated Relief Valve (PORV) that opened on February 13, 2001.

##### b. Findings

No findings of significance were identified.

#### 1R12 Maintenance Rule Implementation

##### a. Inspection Scope

The inspectors reviewed the licensee's evaluation of functional failures, maintenance preventable functional failures, repetitive failures, availability and reliability monitoring, and system specialist involvement. The inspectors interviewed maintenance personnel, system specialists, maintenance rule coordinator, and operations personnel. The following equipment was evaluated for compliance with 10 CFR 50.65 and licensee procedures FNP-0-M-87, Maintenance Rule Scoping Manual, FNP-0-SYP-19, Maintenance Rule Performance Criteria, Functional System Descriptions, the UFSAR, and FNP-0-M-89, FNP Maintenance Rule Site Implementation Manual:

- Unit 2 Feed Water Control System Level Transmitter LT496 (CR 2000005645)
- Unit 1 and Unit 2 Circulating Water Canal Make-up Valve V560 (CRs 2000005881, 2000005917, 2000005571, 2000005918, and 2000005689)
- Unit 2 Main Steam Isolation Valve HV-3370A (CR 2000005687)
- Unit 1 and 2 AFW systems
- Unit 1 and 2 Solid State Protection System cards

##### b. Findings

No findings of significance were identified.

#### 1R13 Maintenance Risk Assessments and Emergent Work Control

##### .1 Routine

##### a. Inspection Scope

The inspectors used licensee procedures FNP-0-ACP-52.1, Guidelines for Scheduling of On-Line Maintenance, AP-FNP-0-AP-52, Equipment Status Control and Maintenance Authorization, and FNP-0-AP-16 to review the licensee's actions to plan and control the work activities and to verify that the licensee had adequately identified and resolved risk challenges for emergent work for following the systems:

- Unit 1 Turbine Driven AFW pump
- Unit 1-2 A EDG
- Unit 1 C EDG
- Unit 1 A charging pump
- Unit 2 A RHR pump
- Unit 1 A and B battery chargers

##### b. Findings

No findings of significance were identified.

## .2 1C EDG

### a. Inspection Scope

Inspectors reviewed maintenance on the 1C EDG to ensure it was completed in accordance with maintenance procedures FNP-0-IMP-226.12, R0 - Diesel Generator 1C Single Circuit Emergency Start Test, FNP-0-EMP-1701.01 - Electrical Equipment Condition Testing, FNP-0-MP-13.8 - Emergency Diesel Generators 1C and 2C 4-1/2 to 5 year Inspection, FNP-0-MP-13.17 - Diesel Generator 1C or 2C Air Start Check Valve Inspection, and FNP-0-MP-13.1 - Emergency Diesel Generator 1C and 2C 18-month Inspection.

### b. Findings

The inspectors identified a finding of very low significance (Green) that was a non-cited violation of Technical Specification Surveillance Requirement 13.8.3.1 for failure to assure that maintenance performed on the 1C and 2C emergency diesel generators (EDGs) was in accordance with the vendor manual recommendations. The licensee had not followed the vendor manual's guidance for checking the vertical drive coupling and bearings of the 1C emergency diesel generator (EDG) which led to a degraded condition.

Chapter 3, Section 3.1, Section W, of the vendor manual contained a recommendation that the vertical drive coupling and bearings be checked every 18 months. Volume 1, Tabs 3.1, and 4.1 of the vendor manual described the measurements used to satisfy the vendor's recommendation. To obtain these measurements, the upper and lower vertical drive shafts must be uncoupled. Licensee Maintenance Procedure (MP) FNP-0-MP-13.1, Emergency Diesel Generator 1C and 2C 18-Month Inspection, required visual checking of the vertical drive compartment, but did not require checking the vertical drive bearings. During a 1997 Fairbanks Morse Owners Group meeting, the licensee had determined that the visual check of the vertical drive compartment did not fulfill the vendor's 18 month inspection recommendation. The inspectors identified that the licensee consequently added this necessary physical inspection of the vertical drive coupling and bearings to the 1C and 2C EDG work schedules, but only for the next routine 5-year inspection. They also did not change the associated maintenance procedure.

On February 2, 2001, during the 1C EDG's routine 5-year inspection, the licensee found that the lower drive shaft and vertical drive coupling were damaged. The radial bearing inner race had loosened and slipped on the vertical drive shaft during the monthly surveillance runs. This slippage had caused damage to the lower drive shaft and vertical coupling. If this degraded condition had remained uncorrected, it had the potential of causing a failure of the 1C EDG. Previously, during the July 1999 18-month maintenance outage on the 1C EDG, the licensee had inadvertently corrected conditions that were indications of potential vertical drive shaft damage, but had not examined the vertical drive shaft and bearings as recommended by the vendor manual.

This condition had a credible impact on safety because the potential failure mechanism was not detected during the routine preventative maintenance implemented by the licensee and was common to both the 1C and 2C EDGs. The inspectors reviewed the



licensee's operability evaluation which adequately demonstrated that the 1C EDG had remained operable and capable of running for the required design basis mission time.

The licensee had previously inspected the 2C EDG and found no damage to the vertical shaft. Because the 1C EDG remained operable but degraded and the 2C EDG vertical shaft was not damaged, this finding was determined to be of very low significance (Green).

Technical Specification Surveillance Requirement 13.8.3.1 requires maintenance and inspections on each EDG be performed in accordance with procedures prepared in conjunction with the manufacturer's recommendations. Contrary to this, licensee maintenance procedure FNP-0-MP-13.1 did not adequately implement all the vendor recommended maintenance for the 1C and 2C EDGs, specifically the recommendation to check the vertical drive and bearings. However, this violation of NRC requirements is of very low significance, is in the licensee's corrective action program as CR 20010230, and therefore meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a Non-Cited Violation (NCV). It is identified as NCV 348,364/2000-06-01, Inadequate Maintenance Procedures for the 1C and 2C EDGs.

#### 1R14 Personnel Performance During Non-Routine Evolutions

##### a. Inspection Scope

On February 13, the Unit 1 PORV opened while I&C personnel were performing work per Work Orders (WO's) 20010235 and 1000179. The inspectors observed the root cause team assemble and interview shift crew personnel, reviewed the computer data, performed an independent interview of the involved Reactor Operator, Senior Reactor Operator, Shift Supervisor, and Operations Shift Superintendent. Additionally, the inspectors verified that parameters of concern returned or were returning to normal values. The inspectors reviewed the Annunciator Response Procedure, FNP-1-ARP-1.8, Main Control Board Annunciator Panel H, to verify if the operators acted promptly and properly. Condition Report 2001000284, which documented this event, was also reviewed.

##### b. Findings

No findings of significance were identified.

## 1R15 Operability Evaluations

### a. Inspection Scope

The inspectors reviewed the licensee's operability evaluations to verify the technical adequacy, consideration of degraded conditions, and identification of compensatory measures. Inspectors reviewed the evaluations against the design bases as stated in the UFSAR and Functional System Descriptions. The licensee's evaluations were compared to the requirements of licensee procedures FNP-0-AP-16 and FNP-0-ACP-9.2, Operability Determination, for the following systems:

- 01-00, 1B EDG
- 00-11, Axial Burn up Shape Reactivity Bias
- 00-10, Regenerative Heat Exchanger
- 00-09, Pressurizer PORV
- 00-07, 2C CCW Heat Exchanger
- CR 2001000274, 1B EDG Fuel Oil Transfer Pump

### b. Findings

No findings of significance were identified.

## 1R16 Operator Work Arounds

### a. Inspection Scope

The inspectors reviewed operator work arounds to determine if system functional capability or human performance were affected. Inspectors reviewed the cumulative effects of the operator work arounds on the operators' ability to implement abnormal or emergency operating procedures, potential to increase an initiating event frequency, and potential to affect multiple mitigating systems. Additionally, the prioritization and actions to correct the operator work arounds as required by licensee procedure FNP-0-ACP-17, Operator Work Arounds, were evaluated for the following systems:

- Unit 1 service water dilution bypass control
- Unit 1 electro-hydraulic control system
- Unit 1 reactor water makeup system

### b. Findings

No findings of significance were identified.

### 1R17 Permanent Plant Modifications

#### a. Inspection Scope

The inspectors evaluated the following modifications during the Unit 2 outage to verify the implementation of licensee procedure FNP-0-AP-8, Design Modification Control.

- Unit 2 service water and secondary piping replacement (DCPs 9556 and 9557)
- Unit 2 battery room charger replacements (DCP 6987)
- Unit 2 Steam Generator Replacement Project (DCP 9502)

#### b. Findings

No findings of significance were identified.

### 1R19 Post Maintenance Testing

#### a. Inspection Scope

The inspectors used licensee procedures FNP-0-ACP-52.1, Guidelines for Scheduling of On-Line Maintenance, and AP-FNP-0-AP-52, Equipment Status Control and Maintenance Authorization, to verify that post maintenance test procedures and test activities were adequate to verify system operability and functional capability for the following systems:

- Unit 1 Turbine Driven AFW pump
- Unit 1C EDG
- Unit 1-2 A emergency diesel generator (EDG)
- Unit 2A RHR pump
- Unit 1A charging pump
- Unit 1 battery chargers

#### b. Findings

No findings of significance were identified.

### 1R20 Refueling and Outage Activities

#### a. Inspection Scope

The inspectors reviewed the following refueling outage activities for conformance to licensee procedures FNP-0-UOP-4.0, General Outage Operations Guideline and FNP-2-UOP-4.1, Refueling Outage Operation. Surveillance tests were reviewed to verify compliance with Technical Specifications. Shut down risk, management oversight, and operator awareness were evaluated for each major activity.

- reactor shutdown and spent fuel pool cooling systems
- refueling operations

- electrical lineups during electrical bus outages
- containment operability
- reactor fuel maintenance activities
- outage-related surveillance tests
- reactor coolant drain down and reduced inventory activities
- Mode changes

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors used licensee procedures FNP-0-AP-24, Test Control, and FNP-0-AP-16 to verify system and component operability. The inspectors also verified that the surveillance test procedure (STP) acceptance criteria met Technical Specification (TS) and design requirements for the following STPs:

- FNP-1-STP-33.0A, SSPS Train A Operability Test
- FNP-2-STP-23.2, Component Cooling Water Pump 2C Inservice Test
- FNP-2-STP-4.1, 2A Charging Pump Quarterly Inservice Test
- FNP-2-STP-168, Non-Intrusive Testing of Check Valves
- FNP-1-STP-33.2A, Reactor Trip Breaker Train A Operability Test
- FNP-2-STP-47.0, Miscellaneous Valve In-service Test

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspectors conducted an in-office review of changes to the Emergency Plan, as contained in Revision 34, against the requirements of 10 CFR 50.54(q) to determine if the changes decreased the plan's effectiveness.

b. Findings

No findings of significance were identified.

## 2. RADIATION SAFETY

### Cornerstone: Occupational Radiation Safety

#### 2OS1 Access Control to Radiological Significant Areas

##### a. Inspection Scope

The inspectors evaluated implementation of licensee procedures FNP-0-DOS-1, "Personnel Monitoring" and FNP-O-RCP-0.1, "Key Control Program And Health Physics Guidance For Control of High Radiation Areas, Radiological Exclusion Areas, And Very High Radiation Areas" for control of radiation areas and worker adherence to these procedures. The inspectors also evaluated licensee radiation surveys and radiological postings and barricades for exposure significant areas. Pre-job briefings, work in progress, Health Physics (HP) technician coverage were evaluated. Personnel dosimetry results and exposure investigation reports were evaluated to verify 10 CFR 20 exposure limits were not exceeded.

##### b. Findings

No findings of significance were identified.

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

##### a. Inspection Scope

The inspectors reviewed plant collective exposure history, current exposure trends, ongoing or planned activities to assess current performance and exposure challenges, and outage planning exposure estimates and source term reduction initiatives to evaluate if the licensee was implementing ALARA processes as required licensee procedures FNP-O-AP-90, ALARA Policy and Implementation. During plant tours, the inspectors evaluated radiation worker performance and the use of low dose waiting areas, temporary shielding, and cameras, teledosimetry, and communications for controlling personnel exposures. The inspectors also evaluated doses for declared pregnant workers. Radiation Work Permits (RWPs) evaluated included:

- RWP-001-2461, Reassembly of Reactor Head
- RWP-001-2488, All Work Associated With Snubbers In Containment
- RWP-001-2901, Steam Generator Replacement Routine Inspections and Walkdowns
- RWP-001-2908, Install/Remove Temporary Shielding
- RWP-001-2901, Install/Remove Temporary Scaffolding
- RWP-001-2916, Rig Out Old Steam Generators, Foot Bolt Activities, Transport, Store Old Steam Generators, Rig In New Steam Generators, and Old Steam Generator Storage facility Activities
- RWP-001-2919, Install New Steam Generator Platforms

The inspectors also evaluated Condition Reports (CRs) 2000005851, 2001000530, 2001000355, and 2001000446 related to radiation protection activities and radiological control deficiencies for compliance with 10 CFR 20 and Technical Specifications.

##### b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA5 Other

##### .1 Withdrawal of NCV 50-348,364/00-01-01, Failure to Identify an Unreviewed Safety Question

By letter dated April 4, 2001, the NRC informed the licensee that, based on the review of additional information provided by the licensee, the change to the UFSAR was not an Unreviewed Safety Question. Accordingly, NCV 50-348,364/00-01-01 was formally withdrawn.

##### .2 Unit 2 Steam Generator Replacement Project (Inspection Procedure 50001)

##### .21 Routine Inspections

###### a. Inspection Scope

Inspectors reviewed the licensee's replacement steam generator (RSG) preparations in the steam Generator Staging Area and reviewed the Foreign Material Exclusion (FME) controls per Construction Procedure CP-10, Housekeeping, FNP-0-AP-35, General Plant Housekeeping and Cleanliness Control, and FNP-0-AP-44, Cleanliness of Fluid Systems & Associated Components. The inspectors interviewed craft and supervision performing the RSG preparations, discussed Non-Conformance Report (NCR) U2-059, Inspection of Cadweld 133H Not Documented, and reviewed the implementation of FNP-0-ACP-99.0, Steam Generator Replacement Project Verification Plan. The inspectors observed RSG security implementation per Temporary Order #003-2000 and routinely monitored the implementation of radiological controls.

###### b. Findings

No findings of significance were identified.

##### .22 Heavy Load Lifting Equipment Preparation and Installation

###### a. Inspection Scope

The inspectors reviewed the following documentation for the heavy load lifting and rigging equipment and devices to verify that they met the requirements of NUREG -0612, Control of Heavy Loads at Nuclear Power Plants, and ASME B30.2, Overhead and Gantry Cranes. The inspectors observed the installed equipment or devices to be used for moving the heavy loads and examined the Outside Lifting System (OLS) installed for transferring the SGs from the pushing cart to the transporter outside the containment hatch.

The inspectors verified that travel limit markings were taped to the polar crane girders as required by the Work Plan & Inspection Record (WP&IR) R-SGA-235, Rig Out OSG-SG "2-A", to assure that the lifting chains would be positioned within the 2% limits during the lift.

- Calculation 23734-C-023, To Qualify the Pressurizer Missile Shield to Mount 15 Ton Capacity Pedestal Crane
- WP&IR C-HRM-2107, Unit 2 Steam Generator Haul Route
- WP&IR C-TLD-272, Install and Remove Jacking Trolley (TLD) and Hydraulic Lifter
- WP&IR R-TSG-246, Transport OSG to the Old Steam Generator Storage Facility
- Work Order N2Y13, Perform Load Test on The Unit 2 SG Haul Route
- Unit 2 Containment Polar Crane Inspection and Maintenance Records
- Auxiliary Crane Inspection Record, February 15, 2001

b. Findings

No findings of significance were identified.

.23 Engineering Preparation and Implementation

a. Inspection Scope

The inspectors reviewed the following Design Change Packages (DCPs) for the pipe cutting and reconnection, interference removal and restoration, and temporary restraint installation and removal. The inspectors observed the pipe cutting and interference removal. The inspectors also observed preparation activities for steam generator removal including biowall concrete chipping for exposure of the rebars for reconnection, runway installation, and structural preparation for reconnection. The inspectors also examined the temporary restraint installed for steam lines, reactor coolant systems, and steam generator columns. The inspectors verified that the appropriate personnel signed off the WP&IR steps during these activities.

- DCP 97-2-9316-004, SGR-Replace SG and RCS Work, Transmittal 4
- DCP 97-2-9318-003, SGR-Large Bore Piping, Transmittal 3
- DCP 97-2-9322-004, SGR-Containment Modifications and Structural Evaluations, Transmittal 4
- DCP 97-2-9324-005, SGR-SG Rigging and Transport, Transmittal 5

b. Findings

No findings of significance were identified.

.24 Observation of "A" Steam Generator Rigging Out and "B" Steam Generator Rigging In

a. Inspection Scope

The inspectors observed portions of "A" SG lifting and rigging out operations and replacement "B" SG rigging in and upending operations. During these activities, the inspectors observed personnel coordination among TLD operators, flag man, and spotters and verified that the lifting chain position remained within the 2% limit. The inspectors examined the area near the "A" SG before the lifting operation to verify that the licensee removed all interferences and restraints. The following documents were reviewed for these activities.

- Pre-OSG A Inspection Activity ID SGBASG011, March 14, 2001
- Pre-OSG B Inspection Activity ID SGBBSG011, March 16, 2001
- WP&IR R-SGA-235, Rig Out OSG-SG "2-A"
- WP&IR R-SGB-261, Rig In RSG- "2B"
- Nonconformance Report (NCR) U2-035, Field Weld Number 2 Undersized, Joining the Up/Down Ending Ring Adapter Plate to Foot Pad "B" of Old Steam Generator

b. Findings

No findings of significance were identified.

4OA6 Meetings

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 March 30. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee Identified Violations

The following finding is a violation of NRC requirements. However, because of its very low safety significance and because it was identified by the licensee, the NRC is treating this violation as a Non-Cited Violation in accordance with Section VI.A.I of the NRC's Enforcement Policy. If you deny this non-cited violation, you should provide a response with the basis of your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Joseph M. Farley Nuclear Plant.

NCV Tracking Number

Requirement Licensee Failed to Meet

NCV 348, 364/00006-02

Technical Specifications 5.4.1.a requires applicable written procedures be established, implemented, and maintained covering the activities recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. The licensee's procedures to install and adjust the Unit 1 Turbine Driven AFW Pump bubbler type oiler were inadequate. Consequently, on January 23, 2001, the outboard bearing failed from lack of oil. This issue is in the licensee's corrective action program as CR 2001000144.

**ITEMS OPENED, CLOSED, AND DISCUSSED**

Closed

NCV 348, 364/00006-01

Inadequate Maintenance Procedures for the 1C and 2C EDGs (Section 1R13.2)



NCV 348, 364/00006-02      Inadequate Maintenance Procedures for the Installation of  
Bubbler Type Oilers (Section 4OA7)

Discussed

NCV 50-348,364/00-01-01 Failure to Identify an Unreviewed Safety Question (Section 4OA5)

**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  
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  
M. Mitchell, Radiation Protection Manager  
C. D. Nesbitt, Training and Emergency Preparedness Manager  
L. M. Stinson, Plant General Manager - FNP  
R. J. Vanderbye, Emergency Preparedness Coordinator

## **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**

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

### **Radiation Safety**

- Occupational
- Public

### **Safeguards**

- Physical Protection

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>.