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

October 27, 2003

Florida Power and Light Company
ATTN: Mr. J. A. Stall, Senior Vice President
Nuclear and Chief Nuclear Officer
P. O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: ST. LUCIE NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 05000335/2003006 AND 05000389/2003006

Dear Mr. Stall:

On September 27, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your St. Lucie Units 1 and 2. The enclosed integrated inspection report documents the inspection findings which were discussed on October 2, 2003, with Mr. Jefferson and other members of your staff.

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, there was one self-revealing finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV), in accordance with Section VI.A of the NRC's Enforcement Policy. If you contest this NCV, you should provide a response, within 30 days of the date of this inspection report, with the basis for your denial, to the 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 Senior Resident Inspector at the St. Lucie 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/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Joel T. Munday, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos.: 50-335, 50-389
License Nos.: DPR-67, NPF-16

Enclosure: (See page 3)

Enclosure: Inspection Report 05000335/2003006 and 05000389/2003006
w/Attachment - Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-335, 50-389
License Nos.:	DPR-67, NPF-16
Report Nos.:	05000335/2003006 and 05000389/2003006
Licensee:	Florida Power & Light Company (FPL)
Facility:	St. Lucie Nuclear Plant, Units 1 & 2
Location:	6351 South Ocean Drive Jensen Beach, FL 34957
Dates:	June 29 - September 27, 2003
Inspectors:	T. Ross, Senior Resident Inspector S. Sanchez, Resident Inspector R. Baldwin, Senior Operator License Examiner (Section 1R11.2) S. Rose, Operator License Examiner (Section 1R11.2)
Approved by:	Joel Munday, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000335/2003-06, 05000389/2003-06; 06/29/2003 - 09/27/2003; St. Lucie Nuclear Plant, Units 1 & 2; Personnel Performance During Non-Routine Plant Evolutions.

The report covered a three month period of inspection by resident inspectors and an inspector from Region II. One Green non-cited violation (NCV) was identified. The significance of most findings is identified by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC 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

Cornerstone: Mitigating Systems

Green. A self-revealing finding was identified as a non-cited violation of Technical Specification 6.8.1.a for failing to properly implement Off-Normal Operating Procedure (ONOP) 2-0700030, Main Feedwater, during a loss of feedwater event.

This finding is greater than minor because if left uncorrected could result in more significant safety consequences and it also affected an attribute and objective of the Mitigating Systems Cornerstone. Failure to follow an ONOP could affect the capability to mitigate abnormal plant conditions and to prevent undesirable consequences in response to initiating events. The finding is of very low safety significance in accordance with the SDP Phase 1 worksheet because no actual loss of safety function occurred. (Section 1R14)

B. Licensee-Identified Violations

None.

Report Details

Summary of Plant Status

Both units operated at essentially full power for the entire period, with the exception of a Unit 2 downpower to 90% on September 4, 2003, due to steam generator level oscillations caused by the 2B main feedwater (MFW) regulating valve. The unit returned to 100% power on September 6.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment

Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted four partial alignment verifications of the safety-related systems listed below to review the operability of required redundant trains or backup systems while the other trains were inoperable or out of service (OOS). These inspections included reviews of applicable Technical Specifications (TS), plant lineup procedures, operating procedures, piping and instrumentation drawings (P&ID) which were compared with observed equipment configurations to identify any discrepancies that could affect operability of the redundant train or backup system.

- 1B Emergency Diesel Generator (EDG) per OP-1-2200020, EDG Standby Lineup, While 1A EDG OOS For Scheduled Maintenance
- 1A EDG per OP-1-2200020 While 1B EDG OOS For Scheduled Maintenance
- 1A Component Cooling Water (CCW) Train per P&ID 8770-G-083 While 1B CCW OOS For Scheduled Maintenance
- 2B High Pressure Safety Injection (HPSI) per 2-NOP-03.11, HPSI System Initial Alignment, While 2A HPSI OOS For Scheduled Maintenance

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Routine Inspections

a. Inspection Scope

The inspectors conducted tours of the following nine fire areas and/or witnessed associated activities listed below during the inspection period to verify if they conformed with Administrative Procedure AP-1800022, Fire Protection Plan. The inspectors specifically examined any transient combustibles in the areas and any ongoing hot work or other potential ignition sources. The inspectors also assessed whether the material

condition, operational status, and operational lineup of fire protection systems, equipment and features were in accordance with the Fire Protection Plan. Furthermore, the inspectors evaluated the use of any compensatory measures being performed in accordance with the licensee's procedures and the Fire Protection Plan.

- Unit 2 CCW Building
- Unit 2 Main Control Room
- 1B EDG Hot Work
- Unit 1 Electrical Penetration Rooms
- Unit 2 Electrical Penetration Rooms
- Unit 2 Fuel Handling Building Hot Work
- Unit 1 Cable Spreading Room
- Unit 1 Vital Switchgear Rooms
- Unit 2 Reactor Auxiliary Building -0.5ft Elevation and Emergency Core Cooling System (ECCS) Pump Room

b. Findings

No findings of significance were identified.

.2 Fire Brigade

a. Inspection Scope

On August 13, the inspectors observed an unannounced fire drill in the Unit 2 turbine switchgear room. The inspectors verified that fire brigade protective clothing and gear were properly worn and used; and that fire hose lines were capable of reaching all necessary fire hazard locations, were laid out without flow restrictions, and were simulated being charged with water. The inspectors monitored communications between the fire brigade leader, other fire fighters and plant operators. The inspectors also verified that sufficient fire fighting equipment was brought to the scene, effective smoke removal operations were simulated, and members of the fire brigade checked for victims and fire propagation into other plant areas. The inspectors attended the post-drill critique and verified that the drill objectives and acceptance criteria were met.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

On September 4 and 5, the inspectors observed the cleaning and repair of the 1A CCW heat exchanger in accordance with MMP-14.01. The inspectors examined the before and after physical conditions of the 1A CCW heat exchanger and verified the total number of plugged tubes were within analyzed limits for both the 1A and 1B CCW heat exchangers. The inspectors also interviewed the system engineer; reviewed UFSAR Section 9.2.2; and, reviewed applicable work records and documentation to determine

whether the heat exchangers flows, pressures, and temperatures were within pre-established acceptance criteria. In addition, the inspectors review of the records and documentation indicated that the frequency of inspection was sufficient to detect degradation to ensure TS operability prior to loss of heat removal capabilities below design basis values.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

.1 Routine Licensed Operator Requalification Program Inspection

a. Inspection Scope

On August 25, 2003, the inspectors observed and assessed licensed operator performance during a simulator evaluation. During this simulator evaluation the operating crew responded to a failure of critical equipment (e.g., loss of instrument air, failed open steam bypass control system valve), followed by an excess steam demand event (stuck open main steam safety valves). The inspectors specifically evaluated the following attributes related to the operating crew's performance:

- Clarity and formality of communication
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms
- Correct use and implementation of Emergency Operating Procedures (EOP), including EOP-01, Standard Post Trip Actions, and EOP-15, Functional Recovery
- Timely and appropriate Emergency Action Level declarations per Emergency Plan Implementing Procedure (EPIP) - 01, Classification of Emergencies
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by Operations supervision, including ability to identify and implement appropriate TS actions, regulatory reporting requirements, and emergency plan actions and notifications
- Effectiveness of the post training critique

b. Findings

No findings of significance were identified.

.2 Biennial Licensed Operator Requalification Program Inspection

a. Inspection Scope

During the week of September 21, 2003, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of simulator operating tests and simulator Job Performance Measures (JPMs) associated with the licensee's operator requalification program. Each of the activities performed by the inspectors was

done to assess the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR 55, "Operators' Licenses." The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and Inspection Procedure 71111.11, "Licensed Operator Requalification Program." The inspectors also reviewed and evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations. The inspectors observed two operator crews during the performance of the operating tests. Documentation reviewed included written examinations, JPMs, simulator scenarios, licensee procedures, on-shift records, licensed operator qualification records, watchstanding records, simulator discrepancy report records and performance test records. Licensee documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the risk assessments for the following structures, systems, and components (SSCs) that were OOS for planned emergent work. The inspectors also walked down and/or reviewed the scope of work to evaluate the effectiveness of licensee scheduling, configuration control, and management of online risk in accordance with 10 CFR 50.65(a)(4) and applicable program procedures such as ADM 17.16, Implementation of the Configuration Risk Management Program. Furthermore, the inspectors interviewed responsible SROs on-shift, verified actual system configurations, and specifically evaluated results from the on-line risk monitor (OLRM) for the combinations of OOS risk significant SSCs listed below. The inspectors also reviewed problems associated with the maintenance risk assessments to ensure that they were correctly identified and appropriately entered into the corrective action program.

- 2A Charging Pump, Fan HVE-9A, and 2C Intake Cooling Water (ICW) Pump
- 1B EDG and 1C ICW Pump
- 2AA Battery Charger, 2D Instrument Air (IA) Compressor, and 2C ICW Pump
- 1B Auxiliary Feedwater (AFW) Pump, 1C ICW Pump, and 1B Containment IA Compressor
- 2B EDG, 2C ICW Pump, and 2AA Battery Charger
- 1B Containment IA Compressor, 1C ICW Pump, 1C IA Compressor, and 1BB Battery Charger
- 1A EDG, 2C ICW Pump, and 2A CCW Heat Exchanger (HX)
- 1A EDG and 1A ICW Header OOS (Valve MV-21-3)
- 2B EDG, 2B Shutdown Cooling (SDC) HX, and Valve HCV 14-8B
- 1B CCW HX, 1C CCW Pump, 1B ICW Pump, 1B SDC HX, and 1B Containment IA Compressor
- 1A CCW Pump, 1C CCW Pump, and 1A CCW HX OOS

- 2A Emergency Core Cooling System (ECCS) Critical Maintenance Management (CMM)
- 2B ECCS CMM
- 2C ICW Pump, 2B EDG, 2B AFW Pump, and Valve HCV-14-8B OOS
- 1C AFW Pump, Valve MV 21-3, 1B Containment IA Compressor

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions

a. Inspection Scope

On June 11, 2003, an automatic reactor trip of Unit 2 occurred. This event was described by the licensee in Licensee Event Report (LER) 50-389/2003-003, Unit 2 Reactor Trip. Following the event, an inspector responded to the control room to interview operators, review applicable logs, and examine computer data and strip charts (see also Section 4OA3.2 of IR 50-335, 389/03-05). The inspector also met with the Event Response Team leaders and Operations management. Furthermore, the inspector reviewed the LER, and the completed CR 03-2327 (see also Section 4OA3.4). Both the CR and LER identified equipment and human performance issues. The inspector verified completion of various corrective actions to repair secondary equipment and improve operator performance.

b. Findings

Introduction. A Green self-revealing non-cited violation (NCV) was identified for failing to properly implement Off-Normal Operating Procedure (ONOP) 2-0700030, Main Feedwater, as prescribed by TS 6.8.1.a.

Description. On June 11, 2003, Unit 2 was at 22% power with steam generator (SG) water level being controlled by the low power main feedwater (MFW) flow control system when the 15% MFW bypass valve for the 2A SG (LCV-9005) suddenly failed close due to a sheared stem. As water level for the 2A SG began to rapidly decrease, operators promptly throttled open the 100% MFW bypass gate valve (MV 09-03) in accordance with ONOP 2-0700030. However, the amount of MFW flow thorough MV 09-03 was excessive due to the existing low power level which resulted in a rapid, uncontrollable increase in SG water level. The MV 09-03 valve was not designed for low power operation, and was really only effective at power levels greater than 50%. As 2A SG water level increased, operators attempted to close MV 09-03 but the valve failed to go full closed; consequently, SG water level continued to rise. The Assistant Nuclear Plant Supervisor (ANPS) then shut the 2A MFW isolation valve (MFIV) HCV 09-1A, action which was not directed by ONOP 2-0700030. Once HCV 09-1A went closed, all MFW flow was terminated. The 2A SG water level peaked at 83% and then began to decrease again.

As the 2A SG water level continued to decrease, operators re-opened HCV 09-1A and then MV 09-03 to re-establish MFW flow. However, the operators were again unable to control SG water level due to the excessive flow through MV 09-03 which resulted in another rapid increase in SG level. The operators attempted to shut MV 09-03 but the valve failed partially open due to thermal overload. The ANPS then re-closed the 2A MFIV (HCV 09-1A) to isolate MFW flow. However, even with MFW flow isolated the SG water level continued to swell beyond the high-high level trip setpoint of 88% which then tripped the main turbine and reactor.

Analysis. The principal initiator of this event was the stem failure of LCV- 9005 while the normal MFW regulating valves were OOS for adjustment. In addition, the operators' subsequent attempts to regain control of MFW flow and steam generator water level were further complicated by the failure of MV 09-03 to go fully closed and unclear procedural guidance of ONOP 2-0700030 for mitigating a loss of MFW control at low power levels. Furthermore, several human performance issues of the operating crew were identified by the licensee and included crew communication, crew decision making, and supervisor command and control. Of particular concern was the ANPS' nonconservative decision-making during the event involving the use of the HCV 09-1A in attempting to control steam generator water level. Proper implementation of ONOP 2-0700030 would have led the operators to manually trip the unit once it became apparent SG water level could not be controlled with MV 09-03. Failure to follow approved procedures written to mitigate off-normal or emergency events is a finding considered greater than minor because if left uncorrected could result in more significant safety consequences such as the loss of capability to prevent or mitigate abnormal plant conditions. The finding was also determined to be under the mitigating systems cornerstone and was of very low safety significance according to the SDP Phase 1 worksheet since all safety systems were operable and no actual loss of safety function occurred.

Enforcement. TS 6.8.1.a requires that written procedures shall be established, implemented, and maintained as recommended in Appendix A of Regulatory Guide (RG) 1.33, Revision 2, February 1978. Section 6.j of RG 1.33 specifically identifies "Loss of Feedwater or Feedwater System Failure" as a recommended procedure. Contrary to TS 6.8.1.a, on June 11, 2003, Unit 2 operators failed to properly implement the provisions of ONOP 2-0700030, Main Feedwater. However, because this violation is of very low safety significance and was addressed by the licensee's corrective action program (i.e., CR 03-2327), this violation is being treated as a noncited (NCV) consistent with Section VI.A of the NRC Enforcement Policy - NCV 05000389/2003006-01, Improper Implementation Of Off-Normal Operating Procedure During Loss Of MFW Event.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors witnessed and reviewed nine post maintenance test (PMT) activities of the risk significant SSCs listed below. The following aspects were specifically inspected: (1) Effect of testing on the plant recognized and addressed by control room and/or engineering personnel; (2) Testing consistent with maintenance performed; (3)

Acceptance criteria demonstrated operational readiness consistent with design and licensing basis documents such as TS, UFSAR, and others; (4) Range, accuracy and calibration of test equipment; (5) Step by step compliance with test procedures, and applicable prerequisites satisfied; (6) Control of installed jumpers or lifted leads; (7) Removal of test equipment; and, (8) Restoration of SSCs to operable status. The inspectors also reviewed problems associated with the PMTs to ensure that they were correctly identified and appropriately entered into the corrective action program.

- OSP 2- 100.16, Remote Shutdown Components, and Data Sheet 8A of OP 2-0010125A, Surveillance Data Sheets, for Steam Generator 2A Atmospheric Dump Valve
- EMP-50.12, Periodic Battery Charger Component Replacement, for the 2AA Battery Charger
- OP 1-2200050B, EDG Periodic Test, for the 1B EDG Immersion Heater
- Data Sheet 17 of OP 1-0010125A, Surveillance Data Sheets, for 1C ICW Pump
- OSP 2-62.02, Reactor Protection System Logic Matrix Test, for the Unit 2 Trip Circuit Breaker Relay
- OP 2-0700050, AFW Periodic Test, for the 2C AFW Pump
- EMP-80.05, Post Maintenance Test of Limitorque Motor-Operated Valves, for 2A Containment Sump Suction Isolation Valve (MV-07-2A)
- Data sheet 8A of OP 2-0010125A, Surveillance Data Sheets, 2A ECCS Injection Flow Valves
- OP 2- 0420050, Containment Spray and Iodine Removal System, for the 2B Containment Spray and Hydrazine Injection Pumps

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed all or portions of the following five surveillance tests and monitored test personnel conduct and equipment performance, to verify that testing was being accomplished in accordance with applicable operating procedures (OP), and operations surveillance procedures (OSP). The actual test data was reviewed to verify it met TS, UFSAR, and/or licensee procedure requirements. The inspectors also verified that the testing effectively demonstrated the systems were operationally ready, capable of performing their intended safety functions, and that identified problems were entered into the corrective action program for resolution.

- OP 1-2200050B, 1B EDG Periodic Test
- OP 1-0700050, AFW Periodic Test, for 1B AFW Pump Code Run (Inservice Testing)
- OSP 2-62.02, Reactor Protection System Logic Matrix Testing
- Data Sheet 18 of OP 2-001010125A for the 2B ICW Pump Performance Test
- OP 2-2200050A, 2A EDG Periodic Test

b. Findings

No findings of significance were identified.

1REP Equipment Availability, Reliability and Functional Capability - Pilot

a. Inspection Scope

The inspectors reviewed the reliability problems associated with the Unit 1 ECCS Ventilation System, including associated condition reports (CRs 03-2680, 03-0345, and 02-0976). The inspectors verified the licensee's maintenance efforts met the requirements of 10 CFR 50.65 and Administrative Procedure ADM-17.08, Implementation of 10 CFR 50.65, The Maintenance Rule. The inspectors' efforts focused on the licensee's work practices and ability to identify and address common causes, maintenance rule scoping, characterization of reliability issues and assigning unavailability time, determination of a(1) and a(2) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also attended applicable expert panel meetings, interviewed responsible engineers, and observed some of the corrective maintenance activities. Furthermore, the inspectors verified that equipment problems were being identified at the appropriate level and entered into the corrective action program.

The inspectors reviewed the operability evaluations for the following six interim and/or final CR dispositions to ensure that TS operability was properly supported and the affected SSC remained available to perform its safety function with no unrecognized increase in risk. As applicable, the inspectors reviewed the UFSAR, and associated supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim CR disposition.

- CR 03-0116, Furmanite Leak Repair of the 1C AFW steam admission check valve
- CR 03-2356, Erratic Readings on the Unit 1 Reactor Cavity Leakage Flow Recorder
- CR 03-2769, Jacket Water Immersion Heater Leak on the 1B2 EDG Engine
- CR 03-2754, Unit 2 Incore Detector Sensitivity Values Incorrect
- CR 03-3391, 2B EDG Tripped On Reverse Power During Surveillance
- CR 03-1884, 2B EDG Excessive Loading

The inspectors continued to periodically screen active temporary modifications (TSAs) and operator workarounds, especially for risk significant systems.

The inspectors reviewed TSA 2-03-011, Unit 2 Hot Leg Injection Check Valve Leaking. The technical evaluation and associated 10CFR50.59 screening of this TSA was reviewed against the system design basis documentation to ensure that - (1) the modification did not adversely affect operability or availability of other systems, (2) the installation was consistent with applicable modification documents, and (3) did not affect TS or warrant prior NRC approval. The inspectors also walked down the installation of the TSA to verify configuration control was maintained. Furthermore, the inspectors

verified and reviewed required condition monitoring by Operations, and discussed compensatory actions detailed by the TSA with Operations supervision.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation

a. Inspection Scope

On September 12, the inspectors monitored the participation of an operating crew in the simulator, and emergency response organization (ERO) personnel in the Technical Support Center (TSC) during the third quarter emergency preparedness (EP) drill of the site emergency plan. During this drill the inspectors assessed operator actions in the control room simulator and personnel in the TSC to verify whether emergency classification, notification, and protective action recommendations were made in accordance with EPIPs. Additionally, the inspectors evaluated the adequacy of the post drill critiques conducted in the simulator and the TSC.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

Mitigating Systems Cornerstone

a. Inspection Scope

The inspectors assessed the accuracy of the Unit 1 and 2 Residual Heat Removal system (i.e., CS and Low Pressure Injection Systems) Unavailability Performance Indicator (PI) reported to the NRC in accordance with the criteria specified in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, and ADM-25.02, NRC Performance Indicators. The inspectors reviewed the PI data of Units 1 and 2 for the previous four quarters. Applicable operator logs, condition reports, and Maintenance Rule history, were reviewed to verify the reported PI data was complete and accurate. Furthermore, the inspectors interviewed the responsible system engineers, engineering supervision, and licensing engineer.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

Cross References to PI&R Findings Documented Elsewhere

Section 1R14 describes a finding related to human performance issues identified during the Unit 2 automatic reactor trip on June 11, 2003. These performance issues included inadequate oversight, and command and control; nonconservative decision making; operator actions beyond procedural guidance; and a lack of clear and accurate communications. Of particular concern for this finding was the ANPS' nonconservative decision-making during the loss of MFW event in trying to control SG water level using the Main Feedwater Isolation Valve.

4OA3 Event Follow-up

.1 (Closed) LER 05000335/2002-001-00, As-Found Cycle 17 Main Steam Safety Valve Setpoints Outside Technical Specification Limits.

On September 28, 2002, Unit 1 was in Mode 1 and holding at 68% power when testing of the main steam safety relief valves (MSSV) found that two of the four valves were outside the Technical Specification limit of +1% to -3%. The licensee evaluated the as-found test data and concluded that additional testing of the two MSSVs failing the negative tolerance acceptance criteria may be waived. This conclusion was based on acceptable test results of the other two MSSVs, the absence of recent problems with MSSV seat leakage and premature lift, and the insignificance of the small negative setpoint deviations. This problem was identified and resolved through the licensee's corrective action program as CR 02-2125, with the apparent cause of the deviation as setpoint drift. In addition, the two MSSVs were removed, shipped offsite, reworked, re-certified, and reinstalled during the St. Lucie Unit 1 SL1-18 refueling outage. The inspectors' review concluded no findings of significance were identified and the event did not constitute a violation of NRC requirements. This LER is closed.

.2 (Closed) LER 05000389/2003-001-00, Manual Reactor Scram Due To Decreasing Main Condenser Vacuum

On April 1, 2003, Unit 2 operators initiated a manual reactor trip from 100% power due to low main condenser vacuum caused by degraded performance of the air removal systems. This LER was reviewed and determined to be accurate and consistent with NRC observations following the reactor trip (see Section 4OA3 of IR 50-335, 389/2003-04). The reactor trip event was addressed in the licensee's corrective action program as CR 03-1019. No significant findings were identified and the event did not constitute a violation of NRC requirements. This LER is closed.

.3 (Closed) LER 05000335/2003-002-00, Invalid 4.16KV Bus Undervoltage Condition During Maintenance Caused EDG Start

On February 17, 2003, during an attempt to replace a failed undervoltage relay on the 1B3 4.16KV bus, a load shed signal was unexpectedly generated and stripped the bus, thus starting the 1B EDG and reloading all vital loads on the diesel. The failed relay was subsequently repaired and the 1B3 bus restored to a normal electrical alignment. This LER was reviewed and determined to be accurate and consistent with NRC

observations (see Section 1R14 of IR 50-335, 389/03-04). This event was addressed in the licensee's corrective action program as CR 03-0497. No findings were identified and the event did not constitute a violation of NRC requirements. This LER is closed.

.4 (Closed) LER 05000389/2003-003-00, Feedwater Control Malfunction Led to Automatic Reactor Scram

On June 11, 2003, Unit 2 experienced an automatic reactor trip from 22% power due to a loss of main feedwater flow control that resulted in high steam generator water level which then tripped the main turbine and the reactor. This LER was reviewed and determined to be accurate and consistent with NRC observations following the reactor trip (see Section 4OA3.2 of IR 50-335, 389/03-05). The reactor trip event was addressed in the licensee's corrective action program as CR 03-2327. Several equipment, procedural and human performance deficiencies were determined to have contributed to this event (see Section 1R14). Comprehensive corrective actions were taken to address these issues, several of which were verified by the inspectors. However, the inspectors determined that the operators' failure to properly implement ONOP 2-0700030, Main Feedwater, was a violation of TS 6.8.1.a. The enforcement aspects of the violation are described in Section 1R14 of this report. This LER is closed.

4OA6 Meetings

Exit Meeting Summary

The inspectors met with Mr. Bill Jefferson and other members of licensee management on October 2, 2003 to present the inspection results. An interim exit was also held during the report period on September 26 by regional inspectors. The licensee acknowledged the findings presented. No proprietary information was identified.

Supplemental Information

A. PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Calabrese, Emergency Planning Supervisor
J. Carpenter, Licensed Operator Requalification Instructor
C. Costanzo, Operations Manager
B. Dunn, Engineering Manager
R. De La Espriella, Site Quality Manager
G. Hollinger, Acting Manager Nuclear Operations Services
R. Hughes, Site Engineering Manager
W. Jefferson, Site Vice President
E. Katzman, Performance Improvement Department Manager
J. Kirkpatrick, Maintenance Manager
K. Korth, Operations Manager
D. Lauterbur, Operations Training Section Supervisor
G. Madden, Senior Licensing Engineer
C. Marple, Nuclear Plant Supervisor
R. McDaniel, Fire Protection Supervisor
T. Patterson, Licensing Manager
J. Porter, Operations Support Engineering Manager
A. Pell, Training Manager
R. Rose, Plant General Manager
W. Parks, Operations Supervisor
L. Porro, Simulator Engineering Section Supervisor
J. Tucker, Work Control Manager
G. Varnes, Security Manager
J. Voorhees, Corrective Action Group
S. Wisla, Health Physics Manager

Other licensee employees contacted include office, operations, engineering, maintenance, chemistry/radiation, and corporate personnel.

NRC

B. Moroney, NRR Project Manager

B. ITEMS OPEN AND CLOSED

Open and Closed

05000389/200306-01	NCV	Improper Implementation Of Off-Normal Operating Procedure During Loss Of MFW Event (1R14)

Closed

05000335/2002-001-00	LER	As-Found Cycle 17 Main Steam Safety Valve Setpoints Outside Technical Specification Limits (4OA3.1)
05000389/2003-001-00	LER	Manual Reactor Scram Due To Decreasing Main Condenser Vacuum (4OA3.2)
05000335/2003-002-00	LER	Invalid 4.16KV Bus Undervoltage Condition During Maintenance Caused EDG Start (4OA3.3)
05000389/2003-003-00	LER	Feedwater Control Malfunction Led to Automatic Reactor Scram (4OA3.4)

List of documents reviewed

Section 1R11: Licensed Operator Requalification

0005720, Licensed Operator Training Continuing Training Program
1St Quarter 2003 Trend Report
ADM - 18.1, Simulator Configuration Control
Closed Simulator Discrepancy Reports - PSL
Open Simulator Discrepancy Reports
QI-3 PR/PSL-3, Simulator Design Management Configuration Control and Operation
QRNO 03 - 0126, Licensed Operator Continuing Training Surveillance
QSL - TRN - 02-06, Functional Area Audit
SEI-01, Simulator Fidelity and Performance Standard
SEI-02, Simulator Computer Software Control
SEI-04, Simulator Discrepancy Report
SEI-07, Simulator Operability Testing and Evaluation Guideline
SEI-09, Simulator Configuration Control
TG-004, Written Examination Development, Administration and Control
TG-023, Simulator Scenario - Based Testing
TG-024, Conduct of Simulator Training
TRN-001, Reactor Trip, Revision 6
TRN-004, Loss of ALL RCP's from Full Power, Revision 4
TRN-011, Maximum Design Load Reduction, Revision 0
Week 9/22/03 Operating Test (Simulator Scenarios (4) and JPM set)