U.S. NUCLEAR REGULATORY COMMISSION

REGION II

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

Report Nos: 50-335/99-08, 50-389/99-08

Licensee: Florida Power & Light Co.

Facility: St. Lucie Nuclear Plant, Units 1 & 2

Location: 6351 South Ocean Drive
Jensen Beach, FL 34957

Dates: November 14, 1999 - January 1, 2000

Inspectors: T. Ross, Senior Resident Inspector
D. Lanyi, Resident Inspector
G. Warnick, Resident Inspector
G. Wiseman, Regional Inspector (Sections F8.1, F8.2, F8.5 - F8.7, F8.10-F8.11)
N. Merriweather, Regional Inspector (Sections F8.2, F8.4 - F8.7, F8.12, and F8.13)
P. Fillion, Regional Inspector (Sections F8.3, F8.8, and F8.9)
G. Hopper, Regional Inspector (Section O3.1, O5.1, and O3.2)
R. Aiello, Regional Inspector (Section O5.1 and O5.2)
L. Hayes, Regional Inspector (Section S1.2)

Approved by: L. Wert, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Enclosure

EXECUTIVE SUMMARY

St. Lucie Nuclear Plant, Units 1 & 2
NRC Inspection Report 50-335/99-08, 50-389/99-08

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a 6-week period of resident inspection; in addition, it includes the results of inspections by several regional engineering inspectors, two licensing examiners, and a safeguards inspector.

Operations

- Significant problems were identified with maintenance of the Emergency Operating Procedures. Licensee reviews concluded that Operations supervision was not sufficiently involved in the Emergency Operating Procedure revision process and personnel did not follow administrative requirements. The licensee and NRC inspectors identified instances where Emergency Operating Procedure revisions were issued that contained errors. A Non-Cited Violation was identified for inadequate implementation of the program requirements for revising Emergency Operating Procedures. The licensee concluded that the Emergency Operating Procedures could adequately mitigate accidents, and has initiated comprehensive measures to identify and correct all Emergency Operating Procedure discrepancies. These efforts include an Emergency Operating Procedure recovery action plan which will reprocess Emergency Operating Procedure revisions in accordance with governing procedures, establish proper documentation, and reverify the adequacy of the Emergency Operating Procedures (Section O3.1).

- The conduct of the annual requalification examination met regulatory requirements. Remedial training packages were satisfactory and re-evaluation testing appropriately addressed identified operator deficiencies. The inspector concluded that these portions of the licensee's operator requalification training program met the requirements of 10 CFR 55.59 (Section O5.1).

- One instance of poor Job Performance Measure administration and one instance of poor exam security practices were observed (Section O5.1).

- The licensee was making progress towards the resolution of the deficiencies noted in inspection report 50-335,389/99-09. Six of sixteen identified items still have pending resolutions. Inspector Followup Item (IFI) 50-335,389/99-09-01 remains open pending the results of future inspection(s) (Section O5.2).

Plant Support

- A Non-Cited-Violation was identified in the area of Appendix R cable separation problems inside containment (Section F8.4).

- An unresolved item was identified in the area of Appendix R electric circuit analysis (Section F8.8).

- A Non-Cited-Violation was identified for having an incorrect Appendix R cable tray fire stop assembly (Section F8.12).

- A Non-Cited Violation was identified for the licensee's failure to obtain a negative drug test result for one individual prior to granting unescorted access (Section S1.2).

- Unit 1 vital areas were devitalized per procedure at the beginning of the outage. Although allowed by the Physical Security Plan and security procedures, it was not necessary to devitalize all of the areas. Management was not involved in the decision. (Section S2.1).

Report Details

Summary of Plant Status

Unit 1 power was reduced to 98% on November 18 due to turbine valve position fluctuations. Power was restored to 100% on November 22 following adjustments to the digital electro-hydraulic control system, and remained at full power for the rest of the report period.

Unit 2 operated at essentially full power for the entire report period.

I. Operations

O1 Conduct of Operations

O1.1 Routine Observations of the Conduct of Operations (71707)

The resident inspectors observed control room activities, examined plant parameters, reviewed logs and clearance orders, and attended regular briefings and meetings. The inspectors also accompanied Auxiliary Building and Turbine Building operators on daily rounds. Non-licensed operators performed thorough tours, were familiar with the status of equipment in their areas, and took accurate logs. They were knowledgeable of the systems and component operation in their areas of responsibility.

Control room operators continued to closely monitor plant parameters and communicate effectively. They were attentive to changes in plant conditions and promptly responded to annunciator alarms. Operators effectively used their equipment knowledge to detect and assess abnormalities or changes in equipment operation. When equipment deficiencies were identified, appropriate actions were taken to address the problem in a conservative manner.

Numerous personnel errors occurred during the report period that the licensee attributed to a lack of attention and focus to the task at hand by licensed operators. A condition report (CR) was initiated for each personnel error event. Other significant personnel errors have been made by Operations since June 1999 (see NRC Inspection Reports 50-335,389/99-04, 05, 06, and 07). Operations management recognized that these recent personnel error events constituted a continuing negative trend regarding operator performance. Consequently, Operations management, with full support of senior site management, has undertaken several initiatives to improve the human performance of plant operators. The Operations Manager initiated CR 00-0046 to formally request a comprehensive evaluation of all the personnel error events that have occurred since June 1999. This evaluation will try to identify any additional contributing cross-cutting causes that previous root cause analyses have not identified. The inspectors concluded that licensee management has initiated appropriate actions to address this issue.

The inspectors noted that the operator work around (OWA) process was not being actively applied. Although control board deficiencies and other equipment problems that impacted the operator's abilities to operate the plant were entered in the work control process, they were not routinely addressed from an OWA perspective. Delays and shifting priorities have delayed development and implementation of a new OWA policy. Operations management has indicated that an OWA program would be beneficial and has recently renewed efforts to issue the new policy. No significant concerns were identified regarding existing OWAs.

O2 Operational Status of Facilities and Equipment

O2.1 Routine Tours and System Walkdowns (71707)

Inspectors toured safety-related areas to observe the condition of plant equipment and structures and verify the alignment of selected, risk significant safety systems. The inspectors also performed specific walkdowns of accessible portions of the following systems:

- Containment Isolation Valves - Unit 1
- Unit 2 Boration Flow Path
- Unit 1 High Pressure Safety Injection Systems
- Unit 1 Vital AC Distribution System
- Unit 2 Auxiliary Feedwater System

Equipment alignment, material condition, and housekeeping were acceptable in all cases. Several minor discrepancies were brought to the licensee's attention and were corrected. The inspectors identified no significant concerns as a result of these walkdowns or during routine tours.

O3 Operations Procedures and Documentation

O3.1 Emergency Operating Procedures

a. Inspection Scope (71707)

The resident inspectors met several times with licensee management regarding the large number of Condition Reports (CRs) related to Emergency Operating Procedures (EOPs). Resident and regional inspectors also conducted a limited scope inspection of the licensee's program for maintaining, revising, and upgrading EOPs. Specific areas of this inspection involved reviewing numerous Condition Reports related to EOP issues, a Quality Assurance self-assessment of the EOP Program, an interim operability assessment of current EOPs by Operations, and the root cause analysis report of EOP program deficiencies. Additionally, the inspectors independently verified a number of selected EOPs and Off-Normal Operating Procedures, and examined various EOP process documents.

b. Observations and Findings

On November 17, 1999, a resident inspector met with the Operations Manager to discuss several recent CRs related to EOPs, and the large number of CRs written through the year. During this meeting, the Operations Manager indicated that he had also recognized the frequent and persistent issuance of EOP related CRs. He informed the inspector that the Site Quality Department had been requested during the previous week to conduct a quality review of EOP Program implementation.

In parallel with the ongoing quality review, the inspector reviewed a list of all EOP related CRs written in 1999. This list identified about 45 CRs, some of which were indicative of programmatic deficiencies, while others appeared to call into question the adequacy of existing EOPs and the operators' abilities to use them. On November 24, the inspector met with the site Vice President to discuss the current state of the program, and the

apparent adverse impact upon the quality of EOPs. On November 29, 1999, CR 99-2369 was initiated to conduct an in-depth, broad-scope root cause evaluation of the EOP program, and verify operability of the existing EOPs. The inspector also met with the corrective action program supervisor and management to discuss the observation that the trending process had not identified the EOP issue earlier. (See NRC Inspection Report 335,389/2000-03 for additional NRC review of CR trending issues).

On December 2, 1999, the Quality Assurance group completed its assessment of the licensee's implementation of the EOP program and issued Nuclear Assurance Quality Report 99-5077. In summary, this report documented the following significant issues, most of which were the subject of previously initiated CRs:

- Changes to the EOP source document (i.e., CEN-152, Emergency Procedure Guidelines) were not properly controlled, nor adequately incorporated into the EOPs;

- Plant Specific Technical Guidelines (PSTGs) were not updated concurrently with EOP revisions, and the Facility Review Group (FRG) was unaware of this requirement when they approved changes to the EOPs;

- Verification and validation records were improperly stored and some were incomplete. Some records lacked adequate review by Operations;

- Pre-implementation training of EOP changes was not always performed, and communication of some EOP changes to support licensed operator requalification training was untimely;

- Several deficiencies and discrepancies in existing EOPs have been identified;

- Corrective actions were not effective and did not prevent recurrence of EOP problems. Also the biennial Quality Assurance audit requirement of the EOP program was deleted in 1996; and;

- Operations supervision responsible for implementing the EOP program exhibited a lack of involvement, ownership, and oversight of the revision process.

On December 3, 1999, the Operations department completed their three-day operability determination which concluded current the EOPs could be employed to mitigate the scope of accidents for which they were designed and no operability concern existed. As part of their initial assessment, the Operations department also acknowledged that basic procedural processes for governing changes to the EOPs had not been followed for recently issued EOPs. Therefore, EOP revisions needed to be re-processed to establish compliance with governing program requirements and to confirm there were no unknown operability concerns.

The resident inspectors independently reviewed several of the condition reports regarding EOP issues. Twenty-seven condition reports described instances where the licensee had not followed EOP developmental program requirements, or had issued procedures with inaccurate or inadequate technical content. These findings were consistent with the conclusions made in Quality Report 99-5077.

In addition, regional and resident inspectors independently reviewed several EOPs to determine if any significant usage problems existed with the current procedures. The only finding identified by the inspectors involved certain EOP changes made as a part of a recent NP-9000 reactor coolant pump seal replacement modification. In particular, the changes made to some sections of EOP-3, Loss of Coolant Accident, lacked clarity and detail. The inspectors also noted several human factors problems within the procedure. These deficiencies were discussed with the licensee, who indicated that operator training could have compensated for the lack of clarity within EOP-3. However, the licensee agreed that training was not a suitable long-term substitute for clear written guidance and issued CR 99-2407 to address the NRC findings. To resolve CR 99-2407, the licensee assembled a dedicated group of Operations, Training, and Procedure Group personnel to immediately address the specific EOP deficiencies identified by the inspectors and to make the necessary changes. Correcting these specific EOP deficiencies was given a high priority and resulted in an EOP revision issued a couple of weeks after the report period. The inspectors subsequently verified that these specific deficiencies were corrected.

Regional and resident inspectors also interviewed licensed operators regarding EOP usage, and observed several simulator scenarios (see report Section O5.1). Based on these interviews, observations, and the above findings, the inspectors concluded that it was unlikely the identified EOP problems would have prevented the safe mitigation of any design basis accident. However, the identified problems could have caused some confusion or delayed actions during an actual emergency.

With regard to compliance with EOP program requirements, the following is a list of the significant procedural violations that were identified:

- Quality Instruction (QI) 5-PR/PSL-6, Requirements for Development and Revision of Emergency Operating Procedures (Procedure Generation Package (PGP)), as augmented by ADM-09.02, Plant Specific Technical Guidelines, required the PSTGs to be updated, and approved by the FRG, prior to issuing the associated EOP revision. Since 1997, the licensee had not maintained the PSTGs up to date, and the FRG failed to ensure the PSTGs were updated prior to approving changes to the EOPs. Although the PSTGs were not being formally updated concurrently with applicable changes to the EOPs, a contract EOP writer was maintaining an informal electronic file system of PSTG updates for each change to each EOP. This system included a justification for any deviation from CEN-152. However, the updates being made to the file system did not receive peer and supervisory review, nor were they approved by responsible authorities (FRG). As part of the EOP Recovery Plan, the licensee will verify and update as required, the entire PSTGs by doing a page by page comparison between the EOPs, CEN-152, and the PSTGs.

- QI-5-PR/PSL-4, Validation Guide for EOPs, requires validation documentation to be maintained in accordance with QI-17-PR/PSL-1, Quality Assurance Records. QI-5-PR/PSL-3, Verification Guide for EOPs, requires verification documentation to be maintained in accordance with QI-17-PR/PSL-1. Since mid-1996, the licensee did not properly store and maintain these documents as required. Almost no validation and verification documentation for EOPs had been transmitted or stored as QA records for the past several years. Subsequent search efforts by the licensee were able to locate almost all of the missing

validation and verification documents in and around the desk areas of the EOP writers. An examination of these documents indicated that most of them were incomplete. They were primarily missing the required review and sign-off by the Operations Support Supervisor.

- QI-5-PR/PSL-6 and QI-5-PR/PSL-3 required all licensed operators to be trained on EOP changes prior to issuance. There were several instances where this training did not occur. For example, on March 6, 1999, a change to EOPs was issued due to an equipment change on the Emergency Diesel Generator. Although the changes were minor in nature (instructions on using a new watt meter), the operators were not trained prior to issuing the change (CR 99-335). On November 16, 1999, the standard post trip actions of Appendix X to EOP-99, Appendixes/ Figures/ Tables, were issued with changes prior to any training (CR 99-2315). The inspectors noted that the changes were minor enough that the operators would have been able to follow the procedures as written without confusion. By March 11 and November 19, 1999, respectively, training briefs were prepared and distributed to address these two instances.

- QI-5-PR/PSL-6 required that all EOP changes be verified for technical accuracy. On November 3, 1999, revisions to 2-EOP-3, Loss of Coolant Accident, and 2-EOP-4, Steam Generator Tube Rupture, were issued with references to appendices in 2-EOP-99, Appendixes/Figures/Tables, that did not yet exist (CRs 99-2215 and 2315). Although the revised appendices of 2-EOP-99 were not issued in a timely manner, the previous revision was still available to the operators had they been needed. The revised appendices of 2-EOP-99 were promptly issued on November 5, only two days later.

- QI-2-PR/PSL-2, Indoctrination and Training of St. Lucie Plant Personnel, required that personnel performing activities affecting quality receive training commensurate with the work being performed. According to training records, Information Services personnel were not adequately trained on the requirements of ADM 09.02 or in some cases QI-5-PR/PSL-6. This resulted in the personnel responsible for changing the EOPs having inadequate knowledge to successfully complete their task. A new "Operations Support Departmental Training Program" was being developed by the licensee to ensure EOP writers and supervision are well versed regarding program requirements for EOP development and revision.

Criterion V of Appendix B to 10 CFR 50, Instructions, Procedures, and Drawings requires that "Activities affecting quality shall be prescribed by documented instructions ... and shall be accomplished according to these instructions ...." Maintenance of the EOPs is an activity affecting quality. The licensee did not accomplish EOP maintenance according to their procedures, specifically the Quality Instructions addressing EOPs. The incidents described above constituted examples of a violation of Criterion V. None of the examples caused the EOPs to become ineffective in implementing accident mitigation strategies. This violation is being treated as a Non-Cited Violation (NCV) in accordance with Section VII.B.1 of the NRC Enforcement Policy and is identified as NCV 50-335,389/99-08-01, Inadequate Program Implementation For Revising Emergency Operating Procedures. The violation was addressed in the licensee's corrective action program by condition reports as described in the specific above paragraphs.

By December 20, 1999, the licensee had completed their root cause analysis for CR 99-2369, and had developed a comprehensive EOP Recovery Action Plan. The root cause analysis report concluded that the multiple EOP Program deficiencies described above were the consequence of two principal underlying causes: Inadequate management and supervisory oversight of EOP maintenance and upgrade process, and; ineffective change management.

c. Conclusion

Significant problems were identified with maintenance of the Emergency Operating Procedures. Licensee reviews concluded that Operations supervision was not sufficiently involved in the Emergency Operating Procedure revision process and personnel did not follow administrative requirements. The licensee and NRC inspectors identified instances where Emergency Operating Procedure revisions were issued that contained errors. A Non-Cited Violation was identified for inadequate implementation of the program requirements for revising Emergency Operating Procedures. The licensee concluded that the Emergency Operating Procedures could adequately mitigate accidents, and has initiated comprehensive measures to identify and correct all Emergency Operating Procedure discrepancies. These efforts include an Emergency Operating Procedure recovery action plan which will reprocess Emergency Operating Procedure revisions in accordance with governing procedures, establish proper documentation, and reverify the adequacy of the Emergency Operating Procedures.

O5 Operator Training and Qualification

O5.1 Licensed Operator Requalification Program Evaluation

a. Inspection Scope (71001)

The inspectors conducted a routine, announced inspection of the licensed operator requalification program during the period December 6-10, 1999. Specific areas of review included assessment of the licensee's requalification annual operating examination, remedial training program, feedback system, and observations of simulator and in-plant exercises. The inspectors observed the licensee's conduct of annual simulator exercises, and simulator and in-plant job performance measures (JPMs). The inspection served to measure the licensee's compliance and effectiveness in conducting operator requalification training and testing in accordance with 10 CFR 55.59, Requalification.

b. Observations and Findings

Requalification Examinations

The inspectors observed two crews perform simulator scenarios, and numerous JPMs that were administered by licensee evaluators to individuals on both crews. The examination materials that were administered met the guidelines of the licensee's examination development procedures.

The inspectors found that the licensee evaluators adequately identified operator performance issues. Specific individual and crew strengths and weaknesses were discussed in detail during the post scenario critiques. The inspector noted operations management support during the administration of the simulator scenarios. During the

administration of simulator JPMs, the inspector noted, on one occasion, that the instructors were instantaneously silencing annunciators prior to the operator acknowledging or recognizing that the alarms were due to his own manipulations. This practice reinforced the operator to be inattentive to annunciator alarms because the alarm noises were conveniently eliminated without any operator effort. The inspector discussed this practice immediately following the JPM with the evaluators to ensure it would not be repeated.

On another occasion, the inspector walked into the simulator while an administrative JPM was in progress. The simulator door was open and four individuals, who were not on the security agreement, were conducting a rather loud briefing with the exam in progress. In addition to being a distraction for the operator taking the test, this practice did not conform to the requirements of Training Guideline 22, Security Provisions for licensed Operator Examinations. The simulator door should have been closed, locked and posted. Everyone inside the simulator during exam administration was required to be on the security agreement. Although the licensee's procedures for administration of training were not being properly implemented, this issue was not a violation of regulatory requirements. The potential for compromise of examination material did not exist since this particular JPM was only being administered to this one operator. However, the apparent lack of attention to detail in following written procedural guidelines could have resulted in a compromise of examination material if additional operators were to receive the same JPM. A Condition Report was initiated to address this issue.

Remedial Training Program

The inspectors reviewed results of examinations including remediation and re-evaluation material for examination failures. Overall examination failures were appropriately remediated and re-evaluated in accordance with licensee training program procedures.

Feedback System

The inspectors reviewed observation/evaluation feedback documentation. The inspectors concluded that the comments were reviewed and screened by the licensee for both necessary corrective actions and for program enhancements that were implemented into the requalification training program.

c. Conclusion

The inspector determined that the conduct of the annual requalification examination met regulatory requirements. Remedial training packages were satisfactory and re-evaluation testing appropriately addressed identified operator deficiencies. The inspector concluded that these portions of the licensee's operator requalification training program met the requirements of 10 CFR 55.59. One instance of poor JPM administration and one instance of poor exam security practices were observed.

O5.2 Training And Qualification Effectiveness Follow-up

a. Inspection Scope (41500

The inspectors reviewed the licensee's corrective actions which resulted from a licensee self assessment and from NRC identified weaknesses documented in Inspection Report

50-335,389/99-09. The report identified implementation weaknesses in the systems approach to training process. In addition to the licensee identified weaknesses, additional systems approach to training weaknesses were identified with the changes to the program schedule for the licensed operator's requalification program; the loss of lesson material configuration control; the adverse effect of the schedule change to on-shift time; and the effect of discounting trainee feedback. These weaknesses were tracked as Inspector Followup Item (IFI) 50-335,389/99-09-01.

b. Observations and Findings

The inspectors reviewed numerous licensee Condition Reports and Plant Management Action Items to determine if corrective actions were sufficient to preclude repetition of the noted weaknesses. The inspectors found that the licensee had satisfactorily resolved ten of sixteen issues. Corrective actions dealing with the loss of configuration control; inadequate exam development, validation and grading; the evaluation process used to assess program changes; and on-shift training and mentoring are still pending and will be reviewed at a later date.

c. Conclusion

The inspectors determined that the licensee was making progress towards the resolution of the weaknesses noted in Inspection Report 50-335,389/99-09. Six of sixteen identified items still have pending resolutions. IFI 50-335,389/99-09-01 remains open pending the results of future inspection(s).

O8 Miscellaneous Operations Issues (92901)

O8.1 (Closed) LER 50-335/99-07: Manual Reactor Trip Due to Low Steam Generator Levels During Start Up. This event and associated corrective actions were discussed in detail in Inspection Report 50-335,389/99-07. All short term corrective actions have been completed. The licensee continued to address long term corrective actions. This LER is closed.

O8.2 (Closed) LER 50-389/99-06 and 99-06-01: Subcritical Reactor Trip Due To Inadvertent MSIV Opening. This event and associated corrective actions were discussed in detail in Inspection Report 50-335,389/99-04. The original LER was subsequently revised to include additional information the licensee did not identify during their initial investigation. Inspectors verified implementation of corrective actions. This LER, as supplemented, is closed.

O8.3 (Closed) LER 50-335/99-06:Turbine/Reactor Trip Due To Ruptured Turbine Low Bearing Oil Trip Diaphragm. This event and associated corrective actions were discussed in detail in Inspection Report 50-335,389/99-07. No new issues were revealed by the LER. This LER is closed.

II. Maintenance

M1 Conduct of Maintenance

M1.1 Routine Observations (61726, 62707)

The inspectors observed various portions of several corrective maintenance tasks and surveillance tests, evaluated the scheduling and coordination of the work, and reviewed associated documentation. Maintenance tasks continued to be well controlled, accurately scheduled, and closely supervised. The following Operations Procedures (OPs), Operations Surveillance Procedures (OSPs), Instrumentation and Controls Maintenance Procedures (IMP), and Work Orders (WOs) were observed by the inspectors:

• 2-OP-0410021	Filling 2A2 Safety Injection Tank
• WO 99009011	Charging Pump 2B - Replace Suction and Discharge Valves
• WO 99014187	Charging Pump 2B - Replace Crosshead Seals/Gaskets
• Various WOs	Auxiliary Feedwater Pump 2C - Critical Maintenance Management Outage
• OP 2-0700050	Auxiliary Feedwater Periodic Test
• 1-OSP-66.01	Control Element Assembly (CEA) Quarterly Exercise
• WO 99019103	CEA #33 Bad Trace Upper Gripper Coil
• OP 3200051	At Power Determination of Moderator Temperature Coefficient and Power Coefficient
• WO 29025224	Analog Display System Failure
• 2-IMP-26.35	Spent Fuel Pool Radiation Monitor Functional Test

Work was performed consistent with the established work control processes. Maintenance supervision was closely involved in the work activities. The tasks were competently performed by knowledgeable workers actively using the work packages and procedures. The inspectors also observed that work activities were properly documented. Additionally, problems encountered during the performance of the work activities were appropriately resolved and/or condition reports were written. No significant findings or noncompliances were identified.

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Cold Weather Preparations (62707)

The inspector verified that the licensee had completed appropriate portions of procedure ADM-04.03, Cold Weather Preparations. The inspector walked down all sensitive equipment areas and verified pertinent preparations had been completed. All required materials were properly staged or identified for cold weather. The inspector discussed the cold weather procedures with various department supervisors and determined that all organizations were cognizant of their responsibilities if freezing weather threatened the site.

III. Engineering

E8 Miscellaneous Engineering Issues

E8.1 (Closed) Temporary Instruction (TI) 2515/142, Draindown During Shutdown And Common -Mode Failure (NRC Generic Letter 98-02)

The inspector reviewed the subject TI and the licensee's response to Generic Letter (GL) 98-02, Loss of Reactor Coolant Inventory and Associated Potential for Loss of Emergency Mitigation Functions While in a Shutdown Condition. The inspector determined that corrective actions implemented to address the reactor coolant system drain down vulnerabilities identified were adequate. This assessment was discussed in detail in NRC Inspection Report 50-335,389/99-07. The TI is closed.

IV. Plant Support

F8 Miscellaneous Fire Protection Issues (92904)

F8.1 (Closed) VIO 335,389/98-14-01: Failure to Follow Combustible Control Procedures to Manage the Use and Temporary Storage of Transient Combustibles in Safety-Related Areas. This issue involved an instance in which plant personnel failed to follow combustible control procedures to manage the use and temporary storage of transient combustibles in safety-related Unit 1 "B" train Electrical Penetration Room of Fire Area C, Zone 78. The inspectors reviewed the corrective actions identified by the licensee in Condition Report (CR) 98-0442 initiated to address the issue. The Health Physics Department's evaluation determined that the cabinet had been located in the area for several years and had not been identified in violation of the Fire Protection Program during numerous previous walkdowns and inspections. The inspectors verified that training on control of combustibles for all the workers in the Health Physics Department had been satisfactorily completed. This violation is closed.

F8.2 (Closed) VIO 335,389/98-14-02: Failure to Maintain the Fire Fighting Strategies to Reflect the Requirements of the Approved Fire Protection Program and 10 CFR Part 50, Appendix R. This issue involved the failure of the fire fighting strategies to reflect the requirements of the approved Fire Protection Program and 10 CFR Part 50, Appendix R for identification of vital heat sensitive system components and procedural directions for ventilation system operations, smoke clearing operations, or fire protection water drainage.

The inspectors reviewed the corrective actions identified by the licensee in Plant Management Action Items (PMAI) 98-04-008 and 98-10-104. The actions included revision of Administrative Procedure 1-18000023. The inspectors reviewed procedure 1-18000023, Fire Fighting Strategies, and confirmed that Sections 3.0 and 4.0 of the fire strategies had been updated to identify to the fire brigade any heat sensitive equipment that need cooling and fire water drainage precautions while fighting a local fire. Also Section 6.0 was added to the fire strategies to provide procedural directions to the fire brigade for ventilation system operations and smoke clearing operations. The inspectors concluded that the corrective actions associated with this item have been satisfactorily completed. This violation is closed.

F8.3 (Open) EEI 335,389/98-14-07: Failure to Implement and Maintain in Effect Provisions of the NRC Approved Fire Protection Program as Described in the UFSAR and 10 CFR Part 50, Appendix R, Sections III.G.1.a and III.L.7. This EEI was discussed at an open predecisional enforcement conference on January 7, 1999. The EEI included three issues:

- Failure to evaluate for and design against the possibility that more than one spurious equipment actuation could occur (i.e. multiple concurrent) as a result of fire damage to electric cables.

- Licensee identified problem where fire induced cable to cable "hot-shorts" could cause intersystem LOCA at high/low pressure interface boundaries.

- Inadequate analysis for the problem described in NRC Information Notice 92-18, Potential for Loss of Remote Shutdown Capability During a Control Room Fire. The analysis was inadequate in that the licensee only considered hot-shorts that could bypass the thermal overloads occurring in the control room, not in other fire areas.

The first two issues were determined to be violations, however, enforcement discretion was exercised and no violation was issued for reasons stated in a letter from the NRC to Florida Power & Light Company, dated March 31, 1999. The third issue was left unresolved.

During this inspection, the inspectors reviewed the licensee's analysis for spurious equipment actuation (i.e. multiple concurrent) as a result of fire damage to electric cables. The analysis was contained in PSL-ENG-SEMS-98-035, Rev 0, Appendix R Validation Effort Safe Shutdown Analysis, dated June 30, 1998. The corresponding analysis for Unit 2 was dated October 31, 1998. The inspectors observed that multiple spurious actuations were considered. The inspectors reviewed an example of the auxiliary feedwater system and a fire in Fire Area A, which includes battery room 1A, switchgear room 1A, electrical penetration room (east) and other zones. The new analysis indicated that Train B equipment would be used to achieve and maintain safe shutdown conditions in case of fire, but Train A must be isolated since spurious actuation of Train A equipment could defeat the strategy. The inspectors then reviewed Off-Normal Operating Procedure, 1-ONP-100.01, Response to Fire, dated November 5, 1999, Appendix 44A. Step 4H directed the operator to lock closed valve V09120 to isolate Train A of auxiliary feedwater. The inspectors walked down the route from the control room to the valve, observed that the valve was readily accessible, and there was fixed emergency lighting in place at the valve. The route crossed the turbine building where there was no emergency lighting, but the licensee demonstrated that eight-hour portable emergency lighting was available. Thus the inspectors verified that the corrective action associated with the first issue was implemented.

With regard to the second issue, the inspectors reviewed the licensee's corrective actions. Specific inspection activities are discussed in Section F8.8. Issue 3, involving analysis of Information Notice 92-18, remains open pending additional NRC review of the issue.

F8.4 (Closed) URI 335,389/98-201-07: Failure of the Fire Protection Program and the Post-Fire Safe-Shutdown Analysis to Demonstrate Compliance with Appendix R to 10 CFR Part 50.

(Closed) LER 335, 99-05: Pressurizer Pressure Instrumentation Cable Separation Outside Appendix R Design Bases.

(Closed) LER 335, 99-09: Appendix R Exemption Request K1 Not Met Resulting in Plant Outside Design Bases.

These items involve the failure to provide adequate spatial separation between redundant Appendix R train cables or provide for radiant energy shields.

The licensee performed a Safe Shutdown Analysis (SSA) review and re-validation effort in preparation for the NRC Fire Protection Functional Inspection in 1998. During this effort, the basis for Exemption K1 for the Unit 1 containment was reviewed. The licensee was granted Exemption K1 from Section III.G.2.d of Appendix R to the extent that it requires the separation of redundant safe shutdown trains by a non-combustible radiant energy shield or by a horizontal separation of greater than 20 feet with no intervening combustibles. The NRC evaluation and approval of the exemption was documented in Safety Evaluation Reports (SERs) dated February 21, 1985, and March 5, 1987. The SER dated February 21, 1985, stated that " Redundant cable trays are separated from each other by horizontal distance of more than 7 feet. They are installed on separate elevations separated by approximately 25 feet." The SER dated March 5, 1987, stated that "separation of redundant cables was by more than 7 feet horizontally and 25 feet vertically."

While validating the SSA for the containment fire area (Fire Area K), the licensee identified a potential concern that certain essential cables within the Unit 1 containment may not meet the separation requirements of 10 CFR50 Appendix R III.G.2 or approved Exemption K1. A review of the cable raceway drawings for inside containment showed that contrary to correspondence submitted for the exemption, cable trays located between column line 7 and 8 at elevation 23 feet, are located within 3 feet of each other with no radiant energy shield. Additionally, between column line 6 and 7 at elevation 45 feet, redundant cable trays pass directly over penetrations of the opposite train with less than 25 feet of vertical separation and no radiant energy shield. As a result of these findings, the licensee initiated Condition Report (CR) 98-0552 to evaluate and disposition the concern.

The licensee evaluated the cable deficiencies using the guidance of GL 91-18 and concluded that the cables were degraded, but operable. An open action item was assigned to engineering for CR 98-0552 to walkdown containment during the next Unit 1 refueling outage to determine the actual separation requirements for redundant cables inside containment and propose modifications if necessary.

Engineering performed the containment walkdown during the Unit 1 fall 1999 outage (SL1-15). The assessment results showed that pressurizer pressure instrumentation did not meet the required 10 CFR 50 Appendix R cable separation criteria inside containment at the penetration area where the cables for pressurizer pressure transmitters PT-1102B and D pass over the penetrations for PT-1102A and C. The licensee documented the problem in CR 99-1963 and reported it to NRC in LER 99-005,

Pressurizer Pressure Instrumentation Cable Separation Outside Appendix R Design Bases. The licensee justified plant restart with the condition partially on the basis that alternate means of reactor coolant system pressure indication was available. A temporary change to procedure 1-ONP-100.01, Response to Fire, was issued to provide additional means of obtaining pressurizer pressure in the event of an in-containment fire. The licensee concluded that this event was caused by the fact that the original design basis was not adequately documented when the information was submitted to the NRC. The licensee plans to implement modifications for the pressurizer pressure instrumentation cabling during the next scheduled refueling outage for St. Lucie Unit 1.

Operating License Condition 2.C(3) requires that FP&L implement the fire protection program as described in the Updated Final Safety Analysis Report (UFSAR). The UFSAR, Volume 9.5, Section 4K.2, Exemption K1 states the method of spatial separation between redundant Appendix R train cables and the requirements to provide for radiant energy shields. The inspectors concluded that the failure to maintain proper cable separation inside containment for the pressurizer pressure instrumentation is a violation of the St. Lucie Unit 1 approved fire protection program. In accordance with Section VII.B.1.a of the NRC Enforcement Policy, this Severity Level IV violation is being treated as a Non-Cited Violation, and is identified as one example of NCV 50-335/ 99-08-02, Appendix R Cable Separation Problems Inside Containment.

The inspectors reviewed CRs 98-0552 and 99-1963, and LER 99-005, and concluded that the walkdown criteria used by engineering did not verify that there was 25 feet of vertical separation maintained between redundant train cables as specified in the NRC SERs that approved Exemption K1. The inspectors found, based on a review of plant drawings, that contrary to Exemption K1, the vertical separation was approximately 10 to 13 feet in the containment annular area between redundant Appendix R cables. The inspectors concluded that this was a second example of a violation for failure to maintain proper cable separation for redundant Appendix R cables inside containment or provide for radiant energy shields. The licensee initiated CR 99-2513 (dated December 15, 1999), made a 10 CFR 50.72 report to NRC on December 16, 1999, (Event # 36519) regarding the fact that the current separation of redundant circuits for fire protection in containment does not meet design basis as delineated in the NRC SERs and exemptions, and reported it to NRC in LER 99-009. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy, and is identified as the second example of NCV 50-335/99-08-02. As stated above, this violation was addressed in the licensee's corrective action program as CR 99-2513.

Based on the above, the three items are closed.

F8.5 (Closed) URI 335,389/98-201-08: Fire Barriers not Qualified to Meet Plant Licensing Basis Requirements. This issue concerned the adequacy of Thermo-Lag 330 fire barrier wall separating the Unit 1 cable spreading room and the "B" switchgear room. The licensee addressed the corrective actions for the issue through their commitment to replace the cable spreading room barrier wall with a rated 3-hour fire barrier wall material as described in the NRC Confirmatory Order dated July 13, 1998. This NRC Confirmatory Order clarified and confirmed the required actions to complete final implementation of Thermo-lag 330-1 fire barrier corrective action in response to NRC Bulletin 92-01.

The inspectors reviewed the corrective actions identified in Plant Change/Modification (PCM) package 99029, which replaced the Thermo-Lag 330 fire barrier wall with one constructed of a sheet metal and ceramic fibre barrier. The installation consisted of stainless steel sheet metal cladding attached to the steel frame with a thermal ceramic blanket material insulation. The inspectors conducted a walkdown of the barrier wall and observed that the installed sheet metal and ceramic fibre fire barrier wall was continuous with no gaps, cracks, or holes in the barrier material that would indicate the wall was inoperable. The inspectors verified that the licensee's corrective actions were implemented in accordance with the NRC Confirmatory Order. This item is closed.

F8.6 (Open) URI 335,389/98-201-09: Fire Mitigation System Does not Meet Plant Licensing Basis Requirements/Commitments or Minimum Industry Codes and Standards for Systems Design and Testing. This item addressed the design of the Halon 1301 fire suppression system installed in the Unit 1 Cable Spreading Room (CSR). Region II requested the Office of Nuclear Reactor Regulation's (NRR) assistance in Task Interface Agreement (TIA) 99-001, dated January 26, 1999, in evaluating the licensing basis and the design of the Halon system. The NRR technical evaluation was transmitted to Region II and the licensee in a memorandum dated November 17, 1998. The evaluation expressed concerns regarding adequacy of the Halon design parameters (hold time and gas concentration) to provide reasonable assurance that the system could suppress a deep-seated cable fire.

During this inspection and in telephone conference calls on January 6 and 21, 2000, FP&L indicated their intent to provide the NRC with additional information related to the CSR smoke and thermal detection systems and the vendor's performance tests of the Halon system. Pending receipt and review of this information, this item remains open.

F8.7 (Closed) LER 335,389/98-04: Emergency Lighting Outside Appendix R Design Basis. This issue involved the lack of emergency lighting to support post-fire safe shutdown procedural operator manual actions in certain alternate safe shutdown areas. This issue was previously dispositioned through NRC enforcement and documented as NCV 50-335,389/98-14-04.

The inspectors reviewed documentation associated with the licensee's corrective actions for the issue. The inspectors reviewed the Unit 1 Engineering Evaluation PSL-ENG-SEES-98-039, Evaluation of the St. Lucie 10CFR Part 50 Appendix R, 8-Hour Battery-Pack Emergency Lighting Requirements, that described the emergency lighting upgrades to accomplish compliance with Appendix R. Based on the evaluation, additional lighting units were provided and existing units were redirected to accomplish compliance with Appendix R, Section III.J. The inspectors concluded that the scope of the evaluation was appropriate and sufficiently documented the required lighting upgrades.

The inspectors also reviewed the corrective actions identified by the licensee's evaluation in Plant Change/Modification (PCM) package 98023, Supplement 2, which added twelve new fixed emergency lighting units in the Unit 1 and sixteen new fixed emergency lighting units in the Unit 2 plant areas. The PC/M also added a number of eight-hour portable emergency lighting lanterns to supplement the fixed lighting units in outside plant areas and relocated and re-aimed ten existing light units. The inspectors walked down several post-fire safe shutdown operator routes and observed that there

was sufficient fixed emergency lighting installed to support post-fire safe shutdown procedural operator manual actions. The LER is closed.

F8.8 (Closed) LER 335/98-05: Conditions Identified Outside Appendix R Design Basis. This LER reported that the Unit 1 Power Operated Relief Valve (PORV) V1402 and V1404 and charging pump 1A circuits were not completely in accordance with Appendix R, Section III.G and III.L.

With regard to the PORV circuits, the inspectors verified by inspection of the plant equipment that conduits 13466 and 11256G had been modified at the containment penetrations in the Reactor Auxiliary Building. The corresponding conduits at Unit 2 were also inspected. With regard to charging pump 1A, the inspectors verified by inspection of plant equipment that conduits 10177A, 11318 and 11319 had been enclosed with fire barrier material at the Charging Pump Access Hallway and at the cubical for charging pump 1C. The inspectors reviewed the PC/M package for ampacity considerations given the fact that the charging pump feeder cable was now enclosed in a Thermal-lag barrier. The licensee applied a 0.89 derate factor to account for the fire barrier. The derate factor was supported by testing, and was about the same as used at other sites. The corrective actions for the specific problem were verified complete, and the LER was closed.

As an additional inspection activity, the inspectors reviewed the entire PORV circuits for compliance with Appendix R, Section III.G requirements. The PORV circuits are significant because spurious opening of a PORV creates a loss of coolant accident (LOCA) and there are Appendix R related scenarios where a PORV must be operated. The inspectors identified two problems during this review. First, the cables containing 125 VDC power to the PORV solenoid were routed inside the containment in a cable tray together with cables from other circuits. The inspectors questioned how the PORV was protected from spurious opening due to fire induced hot shorts. In response, the licensee referenced a statement within the Unit 1 UFSAR Section 9.5A, paragraph 6.0, Primary Coolant System Interfaces. This statement is repeated below.

> For all of the above systems [includes PORVs], an analysis of the cables located inside containment demonstrates that no credible fire damage (shorts, grounds or hot shorts, etc.) Is capable of causing a LOCA. For a valve to open, a single exposed conductor of a multi-conductor power cable (exposed by a fire) would have to contact an exposed energized conductor from another cable, also exposed by fire. Thus, a fire induced LOCA is not considered credible.

The above concept is not in accordance with NRC guidance as explained in Generic Letter 83-28. Furthermore, the licensee had not been granted any exemption on the Section III.G requirements as determined by a review of the exemptions listed in UFSAR Section 9.5A. The licensee could not locate the referenced "analysis" nor any correspondence from the NRC granting an exemption. The licensee requested time to locate such documents. Therefore, the inspectors established Unresolved Item 335,389/99-08-03, PORV Cabling May Not be Protected from Hot-Shorts Inside Containment. The licensee initiated CR 99-2521 for this problem.

The second problem with the PORV circuits is that the two trains of cables are not separated by the required distance inside the containment. Separation would be required to protect the redundant equipment for the case where a PORV must operate during certain Appendix R related scenarios. An exemption was granted to St. Lucie with regard to the 20-foot horizontal separation specified in Appendix R, Section III.G inside containment. The exemption allows 7-foot horizontal and 25-foot vertical separation of redundant trains. However, the original Fire Hazards Analysis submitted to the NRC by letter dated September 16, 1983, states that: "The associated cables are routed in separate trays on the 45.00-foot elevation, and the trays are run in parallel, approximately 7 to 11 feet apart horizontally." This separation problem is identified as third example of NCV 50-335/99-08-02 discussed in Section F8.4. This LER is closed.

F8 .9 (Closed) LER 389/98-07: Fire Protection SSA Re-Verification Identified Potential PORV and 2A EDG Cable Failure Modes. This LER reported a problem discovered on September 1998 where the cabling for the Unit 2 PORVs V1474 and V1475 and a portion of the 2A emergency diesel generator did not meet the requirements of Appendix R, Section III.G and III.L.

The problem with the PORV cables was that fire induced damage occurring within the reactor-turbine-generator control board in the control room could affect operation of the PORVs and an isolation switch was not provided to isolate the faulted portions to allow control from the Hot Shutdown Control Panel. The corrective action to be implemented in the spring 2000 refuel outage is to install the requisite isolation switch. The inspectors confirmed this information through reference to PC/M 99104, "Appendix R SSA Circuit Modifications", including the marked-up drawing. The corrective action for the 2A emergency diesel generator problem was to install an isolation fuse, and it was implemented. The inspectors confirmed this through reference to PC/M 98078, Emergency Diesel Generator 2A Appendix R Modification and PWO 98018372. Corrective action for both the problems stated in the LER was being tracked by CR 98-1407.

The inspectors determined that a violation or NCV was not warranted for the problem reported in LER 389/98-07 because the licensee identified the problems and took prompt corrective action as part of the corrective action for the problem described in EEI 335,389/98-14-07 (refer to Section F8.3). This LER is closed.

F8.10 (Closed) IFI 389/97-06-14: UFSAR to be Revised to Provide Justification for the Unsprinkled Enclosures in the Cable Spreading Room. This issue involved the identification by an NRC inspector that the UFSAR did not address the basis for not including automatic fire suppression within enclosures in the Unit 2 cable spreading room. The inspectors reviewed the corrective actions identified by the licensee in Condition Report 97-1482.

The licensee's corrective actions included revision of the Unit 2 UFSAR Section 9.5A, Fire Hazards Analysis, (FHA). The inspectors reviewed the Unit 2 UFSAR, Section 9.5A for the cable spreading room and safety evaluation PSL-SEMS-97-070, Revision 0. They also confirmed that the FHA, Section 4.B.1.5 had been updated to identify the current fire loading in the area due to Thermo-Lag fire barrier material and fire protection and detection features to assure the availability of redundant safe shutdown equipment and components. The inspectors concluded that the corrective actions associated with

this item have been satisfactorily completed. No violation of regulatory requirements was identified. This IFI is closed.

F8.11 (Closed) VIO 335,389/97-06-15: Failure to Correct Mechanical Fire Barrier Penetration Seal Discrepancies in a Timely Manner.

(Closed) LER 335,389/97-08: Inoperable Mechanical Fire Penetrations Outside Appendix R Design Basis.

The issue involved the identification of degraded and inoperable mechanical fire barrier penetration seals that lacked design documentation to verify that they were bounded by tested configurations. The untimely correction of these licensee identified seal discrepancies was previously dispositioned through NRC enforcement and documented in NRC Inspection Report 50-335,389/97-07. CR 97-1474 was issued on July 23, 1997, to review the mechanical fire barrier penetration seals and to determine the appropriate corrective actions. The LER reported that 15 of the mechanical fire barrier penetration seals had been declared inoperable (outside the design basis) and that 218 penetration seals were not directly bounded by test data.

The inspectors verified that the seal problems were documented in CR 97-1474, Supplement 1, which included evaluations of the causes of the mechanical penetration seal problems and corrective actions to repair the seals. The inspectors' review of the CR, a summary of the fire testing results for fire barrier mechanical penetration seals completed in September 1999, and PC/Ms 96081 and 99031, and visual inspection of seal installations found that the seals were either modified to required design configurations or included in the licensee's fire barrier penetration seal engineering evaluation program for those seals not directly bounded by qualified test data. The inspectors concluded that the corrective actions associated with this item have been satisfactorily completed. Also, the licensee's fire barrier penetration seal engineering evaluation program satisfied the guidance of NRC GL 86-10 and there were no through-barrier openings or gaps identified in the inspection that would have degraded the effectiveness of the fire barrier features.

This violation and LER are closed.

F8.12 (Closed) LER 389/97-04: Incorrect Original Cable Tray Fire Stop Assembly Outside Appendix R Design Basis. The licensee determined that since original construction two sided cable tray fire stop assemblies on Unit 2 lacked the installation of ceramic fiber between cables within the fire barrier which was contrary to the qualified tested configuration and these deviations had not been previously evaluated as being acceptable. The licensee conducted testing of the as-built configurations and determined that they would not provide a qualified 3-hour barrier as required by the approved fire protection program. The licensee put appropriate compensatory measures in place with hourly fire watch patrols as required by plant administrative procedures. The licensee has since completed testing of the proposed different fire barrier repair design configurations and is now completing the evaluations required by GL 86-10 to ensure that deviations in the installed configuration will remain bounded by the qualified tested configuration. The inspectors found that the cable tray fire stop repair redesigns have been tested in accordance with the licensee's approved fire protection program requirements. The inspectors also verified that the tested repair redesign configurations met all required acceptance criteria. The inspectors also confirmed that the licensee has

a schedule for having all the fire stops repaired within a reasonable period of time. The inspectors also noted that this issue affects Unit 1 and was being addressed by the licensee's corrective action program as identified in CR 98-0432. The inspectors concluded that the failure to install qualified 3-hour rated cable tray fire stops is a violation of the licensee's approved fire protection program as described in the UFSAR. This Severity Level IV violation is being treated as a non-cited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy, and is identified as NCV 50-389/ 1999-08-04, Incorrect Cable Tray Fire Stop Assembly. This item is closed.

F8.13 (Closed) VIO 335/98-14-10: Inadequate Fire Protection Procedures. This item involved the failure of the licensee to assure that ventilation system support functions would be capable of providing the process cooling necessary to permit the operation of hot shutdown control panel room equipment used for safe-shutdown functions.

The inspectors reviewed documentation associated with CR 98-0941, initiated for this issue, the Unit 1 post-fire safe shutdown procedures, and PC/M 99010, Revision 2. The inspectors determined that the Unit 1 procedure 1-ONP-100.02, Control Room Inaccessibility, was revised in September 1998, to add Appendix L to provide the ventilation system line up for the ventilation system to provide ventilation to the hot shutdown control panel room. The licensee completed PC/M 99010 which rerouted the power supply cables for the hot shutdown control panel ventilation system fans out of the cable spreading room and through the "B' switchgear room to ensure habitability of the hot shutdown control panel room as required for a fire in the cable spreading room. The inspectors conducted an independent walkdown of the hot shutdown control panel room ventilation system fans' power supply cable routing in the "B" switchgear room and verified that the cables were not routed into the cable spreading room. The inspectors concluded that the corrective actions associated with this item have been satisfactorily completed. This violation is closed.

R4 Staff Knowledge and Performance in Radiation Protection and Chemistry

R4.1 Chemistry Sample Observations (71750)

The inspectors observed chemistry technicians draw and analyze samples of the reactor coolant system and two boric acid makeup tanks. The technicians effectively used procedures while performing the samples and analyses. Good knowledge was displayed with respect to plant equipment and sampling techniques. Analysis results were evaluated by the technicians which verified Technical Specification requirements were satisfied. The technicians confirmed that no adverse chemistry trends were in progress.

P4 Staff Knowledge and Performance in EP

P1.1 Emergency Preparedness Drill (71750)

On December 2, the inspectors participated in a quarterly emergency plan drill conducted by the licensee that also involved state and local officials. During this drill, the inspector observed that the simulator operating crew did not implement several required steps of emergency operating procedure 2-EOP-10, Station Blackout, in a timely manner. Specifically, the operating crew delayed or failed to implement important actions intended to mitigate extended station blackout conditions without informing

emergency response organization management in the Technical Support Center (TSC). Better coordination between the TSC and the simulator operating crew could have ensured adequate resources were assigned to accomplish these actions. The inspectors brought these drill performance problems to the attention of Operations management and Emergency Preparedness supervision to incorporate into their lessons learned. Condition Report 99-2463 was initiated to address the issue.

S1 Conduct of Security and Safeguards Activities

S1.2 Access Authorization

a. Inspection Scope (81700)

The licensee's processes and corrective actions for granting contractors and employees unescorted access identified in Condition Report 99-1555 were reviewed.

b. Observations and Findings

On August 24, 1999, the licensee entered incorrect drug test results for two contract employees into the Nuclear Employee Personnel Access computer database. On August 25, 1999, one individual was granted unescorted access and entered the protected area. The individual was granted access to both protected and vital areas, but only accessed the protected area. Approximately 41 minutes after the individual gained entry, the licensee discovered the error. The individual's badge was temporarily suspended, pending receipt of the correct drug test result. The other individual was not granted unescorted access. Negative drug test results for both individuals were received on August 28, 1999, and the licensee entered the error into the Safeguard Event Log.

The licensee's Physical Security Plan, Section 1.3, requires the licensee to screen all individuals in accordance with the provisions of the Nuclear Division Access Authorization Program and those individuals are subject to the company's Fitness for Duty Program. Additionally, the Physical Security Plan commits that all elements of Regulatory Guide 5.66, Access Authorization Program for Nuclear Power Plants, have been implemented to satisfy the requirements of 10 CFR 73.56. The Regulatory Guide endorses Nuclear Management Resources Council (NUMARC) 89-01, Industry Guidelines for Nuclear Power Plant Access Authorization Programs, with additional clarifications. The provisions of NUMARC 89-01 require individuals applying for unescorted access to have satisfactorily passed pre-access drug and alcohol tests. This Severity Level IV violation is being treated as a Non-Cited Violation consistent with Section VII.B.1.a of the NRC Enforcement Policy, and is identified as NCV 50-335, 50-389/99-08-05, Failure to Obtain a Negative Drug Test Result Prior to Granting an Individual Unescorted Access. This violation is in the licensee's corrective action program as CR 99-1555.

c. Conclusions

One NCV was identified for the licensee's failure to obtain a negative drug test result for one individual prior to granting unescorted access.

S2 Status of Security Facilities and Equipment

S2.1 Devitalization of Vital Areas During SL1-16 Refueling Outage (71750)

One of the resident inspectors observed a security door propped open to the Unit 1 vital electrical switchgear room during the last Unit 1 refueling outage to support a maintenance activity. The inspector observed that the expected security compensatory measures were not in place. Licensee personnel were questioned about the condition. Security personnel informed the inspector that this area, and numerous other Unit 1 vital areas, had been devitalized per procedure since the beginning of the outage. Although allowed by the Physical Security Plan and security procedures, the action of devitalizing these sensitive areas did not include management notification or concurrence.

Once informed of the situation, licensee management directed that applicable vital areas be revitalized immediately. Condition Report 99-1973 was written to review plant procedures and re-examine the practice of devitalizing vital areas, especially when it is not needed to support outage activities. Normal key-card access was in effect for the devitalized areas with exception of the switchgear room mentioned above. However, security was not responding to all alarms associated with the devitalized area access doors. There was no evidence that unauthorized personnel entered vital areas inappropriately. Review of the Physical Security Plan and discussions with regional and NRC headquarters security personnel determined that the licensee's actions did not represent a violation of regulatory requirements. As part of the corrective actions, Security procedures were revised to require Senior Managements' authorization prior to devitalizing any vital areas to ensure that the process is only used when necessary. The inspectors concluded that the licensee's actions were prompt and effective to prevent recurrence.

V. Management Meetings and Other Areas

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on January 5, 2000. Interim exit meetings were held on December 3, December 10, 1999, and January 7, 2000 to discuss the findings of Region based inspectors. The licensee acknowledged the findings presented.

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

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Bible, Site Engineering Manager
G. Bird, Protection Services Manager
W. Bladow, Maintenance Manager
R. De La Espriella, Site Quality Manager
W. Guldemond, Operations Manager
C. Ladd, Operations Supervisor
W. Lindsey, Training Manager
A. Stall, St. Lucie Plant Vice President
E. Weinkam, Licensing Manager
R. West, St. Lucie Plant General Manager

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

INSPECTION PROCEDURES USED

IP 41500:	Training and Qualification Effectiveness
IP 61726:	Surveillance Observations
IP 62707:	Maintenance Observations
IP 71001:	Licensed Operator Requalification Program Evaluation
IP 71707:	Plant Operations
IP 71750:	Plant Support Activities
IP 81700:	Physical Security Program for Power Reactors
IP 92901:	Followup - Plant Operations
IP 92904:	Followup - Plant Support

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-335,389/99-08-01	NCV	Inadequate Program Implementation For Revising Emergency Operating Procedures (Section O3.1)
50-335,389/99-08-02	NCV	Appendix R Cable Separation Problems Inside Containment (Section F8.4)
50-335,389/99-08-03	URI	PORV Cabling May Not be Protected from Hot-Shorts Inside Containment (Section F8.8)
50-389/99-08-04	NCV	Incorrect Cable Tray Fire Stop Assembly (Section F8.12)
50-335,389/99-08-05	NCV	Failure to Obtain Negative Drug Test Result Prior to Granting an Individual Unescorted Access (Section S1.2)

Closed

50-335,389/99-08-01	NCV	Inadequate Program Implementation For Revising Emergency Operating Procedures (Section O3.1)
50-335/99-07-00	LER	Manual Reactor Trip Due to Low Steam Generator Levels During Start Up (Section O8.1)
50-389/99-06-00	LER	Subcritical Reactor Trip Due To Inadvertent MSIV Opening (Section O8.2)
50-389/99-06-01	LER	Subcritical Reactor Trip Due To Inadvertent MSIV Opening (Section O8.2)
50-335/99-06-00	LER	Turbine/Reactor Trip Due To Ruptured Turbine Low Bearing Oil Trip Diaphragm (Section O8.3)
50-335,389/2515-142	TI	Draindown During Shutdown And Common-Mode Failure (NRC Generic Letter 98-02) (Section E8.1)
50-335,389/98-14-01	VIO	Failure to Follow Combustible Control Procedures to Manage the Use and Temporary Storage of Transient Combustibles in Safety-Related Areas (Section F8.1)
50-335,389/98-14-02	VIO	Failure to Maintain the Fire Fighting Strategies to Reflect the Requirements of the Approved Fire Protection Program and 10 CFR Part 50, Appendix R (Section F8.2)
50-335,389/99-08-02	NCV	Appendix R Cable Separation Problems Inside Containment (Section F8.4)
50-335/99-05	LER	Pressurizer Pressure Instrumentation Cable Separation Outside Appendix R Design Bases (Section F8.4)
50-335/99-09	LER	Appendix R Exemption Request K1 Not Met Resulting in Plant Outside Design Bases (Section F8.4)
50-335,389/98-201-07	URI	Failure of the Fire Protection Program and the Post-Fire Safe-Shutdown Analysis to Demonstrate Compliance with Appendix R to 10 CFR Part 50 (Section F8.4)
50-335,389/98-201-08	URI	Fire Barriers not Qualified to Meet Plant Licensing Basis Requirements (Section F8.5)
50-335,389/98-04	LER	Emergency Lighting Outside Appendix R Design Basis (Section F8.7)
50-335,389/98-05	LER	Conditions Identified Outside Appendix R Design Basis (Section F8.8)

50-335,389/98-07	LER	Fire Protection SSA Re-Verification Identified Potential PORV and 2A EDG Cable Failure Modes (Section F8.9)
50-335,389/97-06-14	IFI	UFSAR to be Revised to Provide Justification for the Unsprinkled Enclosures in the Cable Spreading Room (Section F8.10)
50-335,389/97-06-15	VIO	Failure to Correct Mechanical Fire Barrier Penetration Seal Discrepancies in a Timely Manner (Section F8.11)
50-335,389/97-08	LER	Inoperable Mechanical Fire Penetrations Outside Appendix R Design Basis (Section F8.11)
50-389/97-04	LER	Incorrect Original Cable Tray Fire Stop Assembly Outside Appendix R Design Basis (Section F8.12)
50-389/99-08-04	NCV	Incorrect Cable Tray Fire Stop Assembly (Section F8.12)
50-335/98-14-10	VIO	Inadequate Fire Protection Procedures (Section F8.13)
50-335,389/99-08-05	NCV	Failure to Obtain Negative Drug Test Result Prior to Granting an Individual Unescorted Access (Section S1.2)

Discussed

50-335,389/99-09-01	IFI	Followup Of SAT Weaknesses (Section O5.2)
50-335,389/98-14-07	EEI	Failure to Implement and Maintain in Effect Provisions of the NRC Approved Fire Protection Program as Described in the UFSAR and 10 CFR Part 50, Appendix R, Sections III.G.1.a and III.L.7 (Section F8.3)
50-335,389/98-201-09	URI	Fire Mitigation System Does not Meet Plant Licensing Basis Requirements/Commitments or Minimum Industry Codes and Standards for Systems Design and Testing (Section F8.6)