UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-335/91-19 and 50-389/91-19

Licensee: Florida Power & Light Co
9250 West Flagler Street
Miami, FL 33102

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

Facility Name: St. Lucie 1 and 2

Inspection Conducted:

Inspectors: _____ 11/14/91
for S. A. Elrod, Senior Resident Inspector Date Signed

_____ 11/14/91
for M. A. Scott, Resident Inspector Date Signed

Approved by: _____ 10/14/91
K. D. Landis, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope:

This routine resident inspection was conducted onsite in the areas of plant operations review, maintenance observations, surveillance observations, review of preparations for refueling, and review of fire protection.

Results:

Unit 1 tripped due to a personnel error when the two control element assembly motor generator sets were paralleled out of phase, causing six of the eight scram breakers to open on overcurrent. Extensive licensee corrective action was being taken. In another case, preplanning and quick response on the licensee's part averted a potential trip of Unit 2 due to a main turbine electrohydraulic control oil leak. One violation was identified for failure to protect an operable emergency diesel generator (EDG) from dust and debris caused by room painting preparation activities.

VIO 335,389/91-19-01, Degraded EDG due to failure to follow a painting and coating procedure, paragraph 2a.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

* K. Harris, Senior Vice President, Nuclear
* D. Sager, St. Lucie Site Vice President
  J. Geiger, Vice President, Nuclear Assurance
  G. Boissy, Plant Manager
  J. Barrow, Fire Prevention Coordinator
  H. Buchanan, Health Physics Supervisor
* C. Burton, Operations Superintendent
* R. Church, Independent Safety Engineering Group Chairman
  R. Dawson, Maintenance Superintendent
* R. Englmeier, Nuclear Assurance Manager
  R. Frechette, Chemistry Supervisor
  J. Holt, Plant Licensing Engineer
  C. Leppla, I&C Supervisor
* L. McLaughlin, Plant Licensing Superintendent
  A. Menocal, Mechanical Maintenance Supervisor
* H. Mercer, Health Physics Supervisor
  T. Roberts, Site Engineering Manager
* L. Rogers, Electrical Maintenance Supervisor
  N. Roos, Services Manager
  C. Scott, Outage Management Supervisor
* D. West, Technical Staff Supervisor
* J. West, Operations Supervisor
  W. White, Security Supervisor
* D. Wolf, Site Engineering Supervisor
* G. Wood, Reliability and Support Supervisor
  E. Wunderlich, Reactor Engineering Supervisor

Other licensee employees contacted included engineers, technicians, operators, mechanics, security force members and office personnel.

NRC Employees

S. Elrod, Senior Resident Inspector
* M. Scott, Resident Inspector

* Attended exit interview

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. Review of Plant Operations (71707)

Unit 1 began and ended the inspection period at power. On September 18, the unit tripped due to a personnel error when the 1A CEDMCS MG set was

paralleled out of phase with the operating set. The full length CEA exercise of the 20 "old style" assemblies was performed prior to restarting the unit. Unit 1 ended the inspection period at power - day 25 of power operation.

Unit 2 began and ended the inspection period at power - day 313 of power operation.

a. Plant Tours

The inspectors periodically conducted plant tours to verify that monitoring equipment was recording as required, equipment was properly tagged, operations personnel were aware of plant conditions, and plant housekeeping efforts were adequate. The inspectors also determined that appropriate radiation controls were properly established, critical clean areas were being controlled in accordance with procedures, excess equipment or material was stored properly, and combustible materials and debris were disposed of expeditiously. During tours, the inspectors looked for the existence of unusual fluid leaks, piping vibrations, pipe hanger and seismic restraint settings, various valve and breaker positions, equipment caution and danger tags, component positions, adequacy of fire fighting equipment, and instrument calibration dates. Some tours were conducted on backshifts. The frequency of plant tours and control room visits by site management was noted to be adequate.

The inspectors periodically conducted partial walkdowns of ESF, ECCS, and support systems. Valve, breaker, and switch lineups and equipment conditions were randomly verified both locally and in the control room. The following accessible-area ESF system walkdowns were made to verify that system lineups were in accordance with licensee requirements for operability and equipment material conditions were satisfactory:

- Unit 1 Fuel Handling Building and Associated Rigging,
- Unit 2 HPSI/ LPSI Rooms,
- Unit 2 EDG (maintenance activities), and
- Unit 1 Steam Trestle Spaces (SRVs, AFW pumps, Atmospheric Steam Dumps, MSIVs, and associated instrumentation).

On September 24, during a general area tour of the 2A EDG room, a contractor was observed preparing the room floor for recoating. Safety-related equipment located in the room was not covered or protected. Masking of components for protection was not noticeable. There was no filter media on the control panel or the electrical generator air flow paths. The needle guns being used did not have vacuum attachments. Mechanical abrasion had resulted in

loosened/powdered paint and concrete on the floor and a dust coating on components in the room. The EDG was not operating at the time and there was no wind outside (the rooms can have breezes with outside air movement) so the dust was not being blown around.

This condition was brought to attention of the NPS who indicated that the 2A EDG was in service and he would evaluate the condition. The licensee stopped the work in progress and determined that since the EDG had not operated with the dust present, no damage had occurred in that dust had not entered the components through cooling paths. The debris was cleaned from the diesel room components.

Review of the available information revealed the following:

The painters had indicated to operations that they were going to prepare the 2A EDG room floor, but the extent was not detailed.

No specific work process sheet was issued by the contractor for the 2A EDG room preparation and paint job. No specific construction instructions were in effect for the evolution.

An engineering specification for painting and coating was invoked for the job by the plant via Construction Work Order 8759 dated April 18, 1991. The specification was CN-2.27, Furnishing and Application of Service Level II and Balance-of-Plant Maintenance, dated January, 1991. This specificatiion, although otherwise revised in March, 1991, contained instructions that would have prevented the dust and debris contamination problem in the diesel room. Additionally, a paint check list that discussed and required signatures for various preparatory steps had been generated but not included in a procedure or used during the 2A EDG room project.

Inspection report 50-335,389/90-08 of March 1990 discussed a similar event where dust from paint preparation had been generated in the Unit 2 ECCS spaces. The vendor/contractor at that time performed some corrective actions. Since then, the painting vendor/contractor had changed and the lessons learned were no longer in effect.

The difference between the two dust generating events in safety-related rooms was noteworthy. In the ECCS spaces, no ventilation was moving the dust/debris. In the case of the 2A EDG, had the diesels started, the large cooling fans at either end of the diesel room would have stirred the material. The fans are driven by take-off shafts on the two diesels and expel the air drawn into the room through the associated radiators. Part of the air drawn into the room would be drawn into the diesel combustion intake filters and part would be drawn into the electrical generator for cooling. There are several EDG control panels in the room with passive air flow

paths. Since there was no filter media on the control panel or the electrical generator air flow paths, this debris could have entered.

Procedure CN-2.27, Rev 1, contained the following requirements:

> Paragraph 5.1 states in part "The contractor shall protect his work at all times and shall also protect walls, floors, equipment and all adjacent work and material as necessary by suitable covering or other methods. (See Appendix B)."
>
> Appendix B, Protection Guidelines For Coating Related Work, states in part:
>
> > "3.1.3 Assuring that the items identified for special protection and noted include but are not limited to the following as applicable:
> > 3.1.3.1 Diesel generator - Exciter commutator ring, fuel rack pivots & injection pump metering rods, etc.
> > 3.1.3.22 Electric motors/air intakes
> > 3.1.3.12 pump shafts
> > 3.1.3.15 machined surfaces/rubber seals
> > 4.1.1.1 Air filter covers shall be used in any area where machinery is in the immediate vicinity and the surface preparation will cause dust and dirt to become airborne. This especially applies to machine tool preparation work on concrete surfaces and oxidized carbon steel surfaces requiring extensive surface preparation. Where feasible, the use of needle guns shall be with vacuum attachments.
> > 4.1.2.1 Items such as sight windows, indicator lights, tags, etc., shall be protected by masking tape as necessary.
> > 4.1.3.1 Larger objects and areas may be protected by wrapping, shielding, or enclosing....."

Appendix B of CN-2.27 contained a signature sheet which stated that, by signing it, the responsible contractor superintendent understood the requirements of the appendix. Procedure CN-2.27 is important in the prevention of equipment degradation and maintaining equipment in a state where it could perform its intended safety function.

The failure to implement the requirements of Procedure CN-2.27 as required by TS 6.8.1 is violation 50-335,389/91-19-01, Degraded EDG due to Failure to Follow a Painting and Coating Procedure.

b. Plant Operations Review

The inspectors periodically reviewed shift logs and operations records, including data sheets, instrument traces, and records of equipment malfunctions. This review included control room logs and auxiliary logs, operating orders, standing orders, jumper logs, and

equipment tagout records. The inspectors routinely observed operator alertness and demeanor during plant tours. They observed and evaluated control room staffing, control room access, and operator performance during routine operations. The inspectors conducted random off-hours inspections to assure that operations and security performance remained at acceptable levels. Shift turnovers were observed to verify that they were conducted in accordance with approved licensee procedures. Control room annunciator status was verified. Except as noted below, no deficiencies were observed.

During this inspection period, the inspectors reviewed the following tagouts (clearances):

1-9-49 CVCS Purification Ion Exchanger (associated RWPs: 91-264, 91-265, and 91-266).

On September 17, the Unit 2 DEH fluid system developed a leak. This system provided hydraulic control power for the main turbine control valves. If the leak had not been halted, the turbine, and then the reactor, could have tripped. Prior to receiving a low level pump lock out on the operating 2B DEH pump, I&C personnel, strongly supported by operations, found the source of the leak and valved it out.

The licensee had a 55 gallon drum of DEH fluid and an electric pump staged by the Unit 2 DEH platform for just such a contingency. Unit 1 did not yet have such contingency material due to ordering problems. The licensee has re-requested the material.

The 2B DEH pump in-line discharge filter differential pressure switch (63D MP-2, shown on drawing EH Fluid System Lube Diagram 8770-116) had leaked approximately 40 gallons of hydraulic control fluid. The pressure switch was initially thought to have failed due to cyclic fatigue. The DEH system's pumps, coupled with a pressure unloader, cycle between about 1700 and 2100 psig every minute or so. This pressure change was believed to have induced stress in the switch's body. This is the only such switch to have failed during the life of both units. The Custom Control Sensor, Inc. model 674D158 switch was made of block aluminum. A threaded access port on the bottom of the switch had a 180 degree circumferential hair line crack approximately 1/8 inch beyond the major diameter of the female threads.

The licensee took positive actions to remedy the problem. The failed switch was being sent to the licensee's material laboratory for evaluation to determine the cause of the failure. The licensee changed out the defective switch and all similar switches on both units. I&C has requested that both engineering and Westinghouse, who had provided the switches with the DEH system skid, look at the problem and provide suggestions for improving the system.

On September 18, Unit 1 tripped from 100 percent power due to an operator error. While returning the 1A CEDMCS MG set to service, a non-licensed operator paralleled the 1A set onto the CEDMCS bus out of phase with the operating 1B set. The resultant power surge opened the cross tie breaker and seven of eight TCBs on overcurrent, tripping the reactor. The main turbine trip circuitry sensed the CEDMCS bus undervoltage and tripped the turbine. All safety-related reactor auxiliaries and turbine equipment reacted normally.

The primary cause for the trip was readily apparent. The licensee determined that the primary root cause was that the non-licensed operator was not following procedure OP 1-0110020, Rev 9, CEDM MG Set Operation. The operator was using a procedure section that was intended for putting a single MG set on-line prior to plant start up. The licensee also determined that there was no operational supervisory oversight when the 1A MG set was paralleled with the bus. The licensee found several secondary causes:

- The procedure did not clearly delineate that the procedure section used was only useable with the reactor plant shut down;

- The procedure lacked proper guidance in MG set synchronization with the CEDMCS bus using the synchroscope; and,

- Both the Unit 1 and Unit 2 MG set synchronizing controls lacked certain interlocks found, for example, on the EDG synchronizing controls. One of the EDG interlocks would prevent EDG-to-bus paralleling if the synchroscope pointer rotation rate were excessive. A second interlock would prevent EDG-to-bus paralleling if the phase angle difference were excessive.

Corrective actions regarding the trip were extensive with more to follow. Prior to the 1A MG set being brought back on-line, the subject procedure was changed per temporary change 1-91-192 to enhance human factors aspects. Long term permanent procedure changes were planned outside of this inspection report period. Extensive testing, discussed in the maintenance section of this report, was performed to clearly eliminate the MG set as a possible causative agent prior to tieing it on the bus. The personnel involved were counselled on the causes and applied corrective actions. Additional training was planned for the non-licensed operators. Also, the presence of operational supervision during such critical evolutions was made mandatory by an operational night order dated October 7. OP 0010120, Duties and Responsibilities of Operators on Shift, will be changed regarding the long term augmentation of the requirements. As discussed in paragraph 4 below, an SRO was present for the paralleling of 1A MG set. A HPES review of the event was performed. At the end of the inspection reporting period, operations was considering an REA that would allow the provision of at least one of the above mentioned interlocks on the MG sets in the future.

The licensee stated that one other Unit 1 improper synchronization of the MG sets occurred in 1984 (LER 335-84-003), resulting in a trip.

Prior to Unit 1 restart, full length exercising of the 20 "old style" CEAs was initiated per LOI-40, Rev 1. During the test, CEA 43 dropped from 120 inches. Following the replacement of a control card, CEA 43 worked properly and the full length exercise was completed.

Unit 1 was restarted on September 19 with the 1A MG set not in operation. The startup went smoothly. Due to mechanical balance problems and testing discussed below, the MG set was not tied on the CEDMCS bus until September 28.

In preparation for the the upcoming outage, spent resin from various Unit 1 ion exhangers and the spent resin tank was transferred to shipping casks. Operational work and support of health physics activities during these evolutions were good. This work is discussed in the maintenance section of this report.

c. Technical Specification Compliance

Licensee compliance with selected TS LCOs was verified. This included the review of selected surveillance test results. These verifications were accomplished by direct observation of monitoring instrumentation, valve positions, and switch positions, and by review of completed logs and records. Instrumentation and recorder traces were observed for abnormalities. The licensee's compliance with LCO action statements was reviewed on selected occurrences as they occurred. The inspectors verified that related plant procedures in use were adequate, complete, and included the most recent revisions.

During this inspection period, the licensee reported that the Unit 2 SIT pressure and level monthly gage functional surveillance (I&C procedure 1400172) was performed two days beyond the allowed 25 percent of TS 4.0.2.

When the surveillance was performed by the licensee, the SIT gage "as found" conditions were within tolerance. The details of the missed surveillance will be examined upon issuance of a licensee LER.

d. Physical Protection

The inspectors verified by observation during routine activities that security program plans were being implemented as evidenced by: proper display of picture badges; searching of packages and personnel at the plant entrance; and vital area portals being locked and alarmed.

During this period, there was a violation, a missed surveillance, a Unit 1 reactor trip, and near trip of Unit 2. The events appear to be unrelated. Each occurrence involved a different site group, or in the case of the

Unit 2 DEH problem, a failing piece of equipment. The remainder of the period was filled with normal operation and preparation for the Unit 1 outage which begins October 18.

3. Surveillance Observations (61726)

Various plant operations were verified to comply with selected TS requirements. Typical of these were confirmation of TS compliance for reactor coolant chemistry, RWT conditions, containment pressure, control room ventilation, and AC and DC electrical sources. The inspectors verified that testing was performed in accordance with adequate procedures, test instrumentation was calibrated, LCOs were met, removal and restoration of the affected components were accomplished properly, test results met requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel. The following surveillance tests were observed:

- OP 2-0700050, Rev 24, Auxiliary Feedwater Periodic Test - 2C pump,

- OP 1-1400059, Rev 17, Reactor Protection System - Periodic Logic Matrix Test, and

- I&C 2-1400052, Rev 18, Engineered Safeguards Actuation System - Channel Functional Test.

a. The 2C AFW pump periodic test listed above was performed following several PMs. Procedure 2-IMP-09.01, Rev 0, Instrument and Control Auxiliary Feedwater Pump Governor Oil Change Instruction, was performed just prior to the code pump run per NPWO 6311/64. The governor oil change instruction sequence had the pump started at least four times during governor filling and venting. On the sixth start, the pump remained running for the surveillance test. The instructions involved did not require the surveillance start from cold, idle conditions. The two instructions were interfaced to limit out of service time. The governor oil change occurred every six months while the surveillance was performed monthly, providing for ample cold starts.

   The licensee's reason given for running the test without letting the pump and driver a chance to cool down prior to starting the surveillance was that an additional start would be detrimental to the equipment and the up to six hours required for a cool down would cause excessive out of service time. The first start following the oil change PM was performed while the pump, driver, and governor were cold but the oil level was not correct and governor performance could not be predicted. The reasons given were appropriate and the inspector accepted the explanation.

b. The logic matrix test indicated above went smoothly. The SRO supervising the test at the eight TCBs had a non-licensed trainee.

The SRO took the time to clearly demonstrate not only proper operational testing but related TCB idiosyncrasies and the unit-to-unit TCB differences.

c. The performance of I&C 2-1400052, Rev 18, Engineered Safeguards Actuation System - Channel Functional Test, was observed. The controlling document was NPWO 6412/64. The test was performed by two technicians, one reading and recording the complex steps and the other positioning switches, etc. This test resulted in numerous control board annunciator alarms. Coordination with the control room operators was excellent. During section 9.3, Block Matrix Functions, the SIAS Block Permissive lights were not checked at the HSP. When checked following an operator query, the lights did not illuminate. The technicians stopped the test and notified the supervisor. Immediate licensee review determined that the technicians had been in the incorrect procedure section during the check of HSP lights. The data point was promptly confirmed by the licensee with the expected results and demonstrated for the inspector the next day under NPWO 6486/64.

The licensee found that the procedure contained, within a paragraph on one page, specific information concerning rerunning a specific data point to check the HSP lights. The performance steps, at the end of a section on the next page, were technically accurate, but not well marked such that the performer, unless quite experienced, might overlook the desired actions. The licensee is making a procedure change to move the data point specific directions to the performance step.

The inspector considered that the technicians encountered a condition adverse to quality, stopped the activity, notified licensee management, and promptly resolved the equipment performance and human factors issues. The inspector had no further questions on this area.

Aside from the missed surveillance discussed in paragraph 2.c and the above mentioned procedural/human factors issues, the surveillance testing went smoothly. The test performers were knowledgeable of tests performed. The SRO performing the training of a future test personnel did a commendable job.

4. Maintenance Observation (62703)

Station maintenance activities involving selected safety-related systems and components were observed/reviewed to ascertain that they were conducted in accordance with requirements. The following items were considered during this review: LCOs were met; activities were accomplished using approved procedures; functional tests and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; and radiological controls were implemented as

required. Work requests were reviewed to determine the status of outstanding jobs and to assure that priority was assigned to safety-related equipment. Portions of the following maintenance activities were observed:

a. Paragraph 2 of this report discussed a Unit 1 trip due to improper operator action while paralleling the 1A MG set out of phase with the CEDMCS bus that was being powered by the 1B MG set at the time. The below paragraphs discuss some of the resultant licensee actions following that event.

   NPWO 4368/65 provided the work control document for the test of the proper operations of 1A MG set synchroscope. On September 24, with proper sensitive systems paperwork (in accordance with AP 0010142, Rev 7, Unit Reliability - Manipulation of Sensitive System) and management (electrical department head and plant manager) on hand, the synchroscope tested out satisfactorily. The correct section from procedure OP 1-0110020, not specifically utilized during the plant trip, was applied during the testing.

   Further testing of the 1A MG set output breaker was performed on September 26 to ensure that this breaker did not contribute to a MG set-to-bus synchronization difficulty. Had the 1A output breaker been slow closing at the time of the trip, the phase difference between the bus power and the 1A set being brought on line could have increased. NPWO 4375/65 and the appropriate sensitive system paperwork per AP 0010142, Rev 7, provided the work control. The SRO on shift conducted a tailboard meeting with the personnel involved in the test and provided management overview during the test. The 1A MG set output breaker tested satisfactorily. With the appropriate test conditions, breaker closure was instantaneous. Breaker performance did not contribute to the 1A MG set power phase difference seen by the Unit 1 CEDMCS bus.

   The 1A MG set was satisfactorily closed onto the CEDMCS bus on the morning of September 28. The dual MG set arrangement remained operable through the end of the inspection period.

b. NPWO 0989/61 provided work control for the preparation to resin discharge from the CVCS purification ion exchanger, waste ion exchanger, and the spent resin tank. The mechanics were under the control of the HP staff during this work. The entire evolution was well controlled with the mechanics providing good real-time work support.

   Health physics, with the support and cooperation of operations and mechanical maintenance, transferred highly radioactive resin from the purification ion exchanger to a shipping cask. The applicable procedures used were:

   - HP 49A, Rev 4, Transfer of Radioactive Bead Resins,
   - HP 49, Rev 3, Dewatering Radioactive Bead Resins, and

- HP 40, Rev 36, Shipment of Radioactive Material.

This evolution was well controlled and minimized radiation exposure. Prior to resin transfer from the purification ion exchanger, primary water was flushed through the entire flow path to the receiving cask. Some low specific activity resin beads were present in the line. This flush ensured a clear path for the highly radioactive beads to follow. Adequate radioactive control posting occurred during the evolutions. Both prior to and after the purification resin transfer, low activity level resins were transferred to provide cask shielding.

Per OP 1-0520020, Rev 29, Radioactive Resin Replacement, Appendix I, Resin Transfer/Replacement for 1A Purification I.X., operations non-licensed personnel replaced the CVCS purification ion exchanger resin. The evolution was highly dependent upon the skill of the personnel involved and required a high degree of on-the-job-training that would be difficult to reduce to a procedure form.

The resin was loaded from the open back deck of the RAB via an open funnel into the interior of RAB to reach its exchanger. Primary water was used to wash the dry resin into the exchanger. The operators were careful to not back burp the ion exchanger and expel possibly contaminated material onto the open deck. The evolution was well controlled with up to two HP technicians present.

c. NPWO 5875/61 provided work control for the replacement of emergency sequencing relay 2S/308 (AKA) for the HVS 1B containment cooling fan. The relay was shown on drawing 8770-B-327, sheet 308. The relay replacement, which occurred near the end of the existing relay's life, was being done in accordance with PCM 132-189D as an enhancement that replaced 84 commercial grade relays with QL-1 (safety-related) relays having a 40-year life expectancy. The work was well coordinated between operations and the electrical department. Testing, performed per a test sheet in the NPWO package, was satisfactory.

d. NPWO 6378/62 provided the work control for the repair of Sigma gage FI 08-1B. The gage indicated steam flow from the 2B steam generator. The I&C technicians replaced several components in the gage, tested it, and returned it to service without incident. The paperwork and repair methodology were excellent.

The trip recovery MG set work and ion exchanger work both exhibited good work practices and control characteristics.

5. Preparation for Refueling (60705)

During the months of September and October, the inspectors reviewed the preparations for and conduct of refueling operations. Activities observed included fuel receipt and truck inspection; truck unloading; shipping cask operations; fuel unpacking and transfer into dry storage; radiological

activities; fuel inspection; spent fuel machine operation; new fuel loading into the SFP; and procedure maintenance and adherence. Primary procedures in effect during fuel receipt activities were:

- OP 1610020, Rev 6, Receipt and Handling of New Fuel and CEAs,
- OP 1-1630021, Rev 4, New Fuel Elevator Operation,
- OP 1-1630022, Rev 19, Spent Fuel Handling Machine Operation,
- OP 1-1630028, Rev 12, New Fuel Handling Crane Operation, and
- ONOP 1-1600030, Rev 8, Accidents Involving New or Spent Fuel.

A fuel vendor representative was present during many of the observed fuel unloading, unpacking, and handling activities. He and the licensee jointly conducted detailed fuel inspections for fuel warranty purposes. Over a two-week period, the inspectors observed 15 fuel assemblies being moved, unpacked, inspected, stored dry, and transferred to the SFP. The SROs involved in the fuel unloading and inspection were very professional and organized. All associated work was satisfactory.

Work involving transfer of the new fuel to the SFP was well controlled. This movement was being performed prior to unit shutdown to reduce the number of steps during the actual refueling once the containment was breached. Operations personnel were business-like in their approach to the work. Health physics personnel more than adequately supported the ongoing work with appropriate personnel and equipment.

The inspectors noted no deficiencies regarding the new fuel work.

6. Fire Protection Review (64704)

During the course of their normal tours, the inspectors routinely examined facets of the Fire Protection Program. Where specific activity occurred, such as large scale test of fire protection systems, exercises, extensive repairs, or drills, the inspectors would observe. The inspectors reviewed transient fire loads, flammable materials storage, housekeeping, control hazardous chemicals, and ignition source/fire risk reduction efforts.

No violations or deviations were identified.

7. Exit Interview (30703)

The inspection scope and findings were summarized on October 18, 1991, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings listed below. Proprietary material is not contained in this report. Dissenting comments were not received from the licensee.

Item Number	Status	Description and Reference
389/91-19-01	open	VIO - Degraded EDG due to Failure to Follow a Paint and Coating Procedure, paragraph 2.a

8. Abbreviations, Acronyms, and Initialisms

AC	Alternating Current
AFW	Auxiliary Feedwater (system)
AP	Administrative Procedure
ATTN	Attention
CEA	Control Element Assembly
CEDM	Control Element Drive Mechanism
CEDMCS	Control Element Drive Mechanism Control System
CVCS	Chemical & Volume Control System
DC	Direct Current
DEH	Digital Electro-Hydraulic (turbine control system)
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EH	Electro-Hydraulic
ESF	Engineered Safety Feature
ESFAS	Engineered Safety Feature Actuation System
FI	Flow Indicator
FPL	The Florida Power & Light Company
HP	Health Physics
HPES	Human Performance Enhancement Systems
HPSI	High Pressure Safety Injection (system)
HSP	Hot Shutdown Panel
HVS	Heating and Ventilating Supply (fan, system, etc.)
I&C	Instrumentation and Control
LCO	TS Limiting Condition for Operation
LER	Licensee Event Report
LOI	Letter of Instruction
LPSI	Low Pressure Safety Injection (system)
MG	Motor Generator
MSIV	Main Steam Isolation Valve
NPS	Nuclear Plant Supervisor
NPWO	Nuclear Plant Work Order
NRC	Nuclear Regulatory Commission
ONOP	Off Normal Operating Procedure
OP	Operating Procedure
PCM	Plant Change/Modification
PM	Preventive Maintenance
psig	Pounds per square inch (gage)
PSL	Plant St. Lucie
QA	Quality Assurance
QI	Quality Instruction
QL-1	Quality Level 1
RAB	Reactor Auxiliary Building
REA	Request for Engineering Assistance
Rev	Revision
RWP	Radiation Work Permit
RWT	Refueling Water Tank
SFP	Spent Fuel Pool
SIAS	Safety Injection Actuation System
SIT	Safety Injection Tank

SRO	Senior Reactor [licensed] Operator
SRV	Safety Relief Valve
TCB	Trip Circuit Breaker
TS	Technical Specification(s)
VIO	Violation (of NRC requirements)