



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W., SUITE 2900
 ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-335/95-05 and 50-389/95-05

Licensee: Florida Power and Light Company
 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 Plant Units 1 and 2

Inspection Conducted: March 20-24, 1995; April 10-14 and 24-28, 1995

Lead Inspector: M. Thomas 5-25-95
 M. Thomas Date Signed

Accompanying Inspectors: G. MacDonald
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Approved by: M. Shymlock 6-5-95
 M. Shymlock, Acting Chief Date Signed
 Test Programs Section
 Engineering Branch
 Division of Reactor Safety

SUMMARY

Scope:

This routine, announced inspection was conducted in the areas of engineering and technical support and followup on previous inspection findings.

Results:

In the areas inspected, one Severity Level IV violation, one non-cited violation, and two unresolved items were identified.

- One violation was identified when the inspectors found (during field verification) that the overload heaters in the motor control center for battery charger 2AA were not installed in accordance with the plant change/modification (PC/M) package.
- One non-cited violation was identified for failure to document a nonconforming condition involving apparent wiring errors for some of the incore instruments in Unit 2.

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- One unresolved item was identified pending licensee inspection during the next Unit 2 refueling outage to determine the nature and cause of the incore instrument wiring errors.
- One unresolved item was identified pending further NRC review and evaluation of licensee correspondence in order to determine whether the licensee made a commitment to upgrade the non-safety related power supplies for the existing steam generator wide range level transmitters.

The inspection resulted in the following assessments:

- The overall quality and technical content of the PC/M packages reviewed were adequate and sufficiently documented to verify closure. The 10 CFR 50.59 safety evaluations reviewed provided adequate bases for determining that an unreviewed safety question was not involved.
- The jumper and lifted lead (J/LL) procedure did not provide clear guidance for how control room critical drawings would be annotated to show that they were affected by an active J/LL.
- Engineering was involved in site activities and generally provided timely support to operations and maintenance.
- Probabilistic Risk Assessment results were being utilized by engineering to provide support to the plant.
- The closure was weak for one nonconformance report (NCR) reviewed where the basis for closure of the NCR lacked adequate detail.
- There was a weakness noted in Engineering's procedural guidance for handling NCRs/St. Lucie Action Requests (STARs) where the guidance for operability evaluations did not address past operability; and there was no procedural guidance for handling STARs that were determined not to be N-STARs (i.e., STARs that did not meet the criteria for a NCR).
- There were aspects of the licensee's motor rewind process which warrant increased management attention.
- Evaluations reviewed that supported the licensee's preventive maintenance (PM) basis program and on-line maintenance process were considered adequate.
- Engineering involvement in the licensee's backlog reduction efforts was considered a strength.
- Engineering self assessment activities and Quality Assurance audits/assessments were effective in identifying areas for increased management attention. These efforts were considered a strength.
- Unresolved Item 50-335, 389/93-01-01, concerning two check valves that were not being tested in accordance with ASME Section XI, was reviewed and closed.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *W. Bladow, Quality Manager
- *W. Bohlke, Vice President, Nuclear Engineering and Licensing
- *L. Bossinger, Electrical Maintenance Supervisor
- C. Burton, Plant General Manager
- *D. Culpepper, Manager, Engineering Assurance
- *R. Dawson, Licensing Manager
- *W. Dean, Supervisor, Electrical Maintenance Technical Support
- *D. Denver, St. Lucie Engineering Manager
- *R. Dietz, Licensing
- *J. Fulford, Operations Engineer
- *S. Hale, Staff Engineer
- *J. Holt, Licensing Engineer
- J. Hoge, Lead Procurement Engineer
- J. Luke, Manager, Component Support & Inspections
- *J. Marchese, Maintenance Manager
- *C. Marple, Acting Operations Supervisor
- *K. Mohindroo, Acting St. Lucie Engineering Manager
- *L. Motley, Preventive Maintenance Supervisor
- *L. Neely, Acting Supervisor, I&C Technical Support
- *R. Olson, Acting Supervisor, I&C Maintenance
- *H. Paduano, Manager, Licensing and Special Programs
- *W. Parks, Reactor Engineering Supervisor
- *C. Pell, Outage Manager
- *D. Sager, Site Vice President
- *B. Sculthorpe, Predictive Maintenance Supervisor
- *D. Stewart, Technical Manager
- *S. Valdes, Supervisor, Design Control Section
- *C. Wasik, Licensing Engineer, Site Engineering
- *R. Wellen, Nuclear Plant Supervisor
- *D. West, Site Engineering Manager
- *D. Wolf, Manager, St. Lucie Production Engineering Group
- *C. Wood, Acting Operations Manager

Other licensee employees contacted included engineers, operators, QA personnel, craft personnel, and administrative personnel.

NRC Employees

- *G. MacDonald, Region II
- *R. Mathew, NRR
- *M. Miller, Resident Inspector
- *R. Prevatte, Senior Resident Inspector
- *M. Thomas, Region II

*Attended exit meeting

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

2.0 Engineering and Technical Support Activities (37550, 37551)

The inspectors reviewed the activities performed by the various engineering and technical support departments at the site and the corporate offices in an effort to assess whether effective and timely support were being provided to plant operations and maintenance.

2.1 Plant Modifications to Improve Plant Safety

The inspectors reviewed licensee initiatives to implement modifications to improve plant safety. Documentation reviewed included: Administrative Procedure 0005745, Request for Engineering Assistance (REA), Revision 12; plant Quality Instruction QI 3-PR/PSL-1, Design Control, Revision 33; list of modifications completed since January 1994; list of open PC/M packages; Management Review Board tracking log; schedule of budgeted non-outage projects; and, the schedule for the Top 10 projects. This documentation provided guidelines for identifying, prioritizing, and scheduling plant modifications. Prioritization was based on nuclear safety, regulatory, operability, and budget concerns.

The inspectors reviewed the listed documentation and concluded that the licensee had demonstrated the use of an acceptable prioritization process for identifying and implementing plant modifications.

2.2 Planning, Development, and Implementation of Plant Modifications

The inspectors reviewed various licensee procedures which established and described the responsibilities, requirements, and guidelines for developing, processing, implementing, and controlling design changes and modifications for St. Lucie Units 1 and 2. The following procedures were reviewed:

QI 3-PR/PSL-1	Design Control, Revision 33
ENG-QI 1.1	Engineering Packages, Revision 0
ENG-QI 1.2	Minor Engineering Packages, Revision 0
JPN-AP 4.9	Nuclear Engineering Update of Design Documents for the Drawing Update Group, Revision 0
JPN-QI 6.3	Drawing Control, Revision 7

Based on review of the above procedures, the inspectors concluded that the licensee's procedures provided adequate guidelines and requirements for controlling the design changes and modifications.

2.2.1 PC/M Implementation

The inspectors reviewed the PC/M packages listed below to ascertain that the modifications were performed in accordance with regulatory requirements and the licensee's administrative procedures. The review included verification of compliance with licensee procedures; adequacy of technical reviews, interface reviews, and 10 CFR 50.59 evaluations; verification of installation in accordance with the applicable PC/Ms; adequacy of post modification testing (PMT); and completeness of closeout activities.

PC/M 65-287	Replace 17 nuclear safety related pressure switches in the Intake Cooling Water System with Meriam Instrument Model No. 1226-2 differential pressure Switches.
PC/M 134-289	Change out of all Agastat Series 7000 Relays with Series E7000 relays in safety related equipment.
PC/M 132-293	Replace existing undervoltage relays with solid state relays manufactured by ABB type 27N and miscellaneous changes in test circuits.
PC/M 141-194	Modify the automatic start circuits of the 1C CCW and 1C ICW pumps.
PC/M 298-292	Install Individual Cell Equalizers for 125 Vdc batteries.
PC/M 131-194	4.16 kV switchgear 1AB undervoltage relay setpoint change.
PC/M 039-294	Replacement of 480 Volt supply breakers for battery chargers 2AA and 2BB.
PC/M 012-194	EQ Upgrade for LT 9012 and 9022
PC/M 148-293	Replace a portion of cable and wiring for the PORV position indication reed switches and solenoids.
PC/M 090-193	Replacement of latching GE HFA relays with ASEA Brown Boveri.
PC/M 161-290	Replacement of Thermal Overload Heaters for MOVs.
PC/M 340-289	Replacement of 480 Volt switchgear overcurrent devices.
PC/M 210-193M	EQ Documentation Package Update For Containment Reanalysis - St. Lucie Unit 1
PC/M 211-293M	EQ Doc Pac Update For Containment Reanalysis - St. Lucie Unit 2
PC/M 197-288	Replacement of Unit 2 Containment Purge/Hydrogen Purge Flow Control Valve Limit Switches.

The inspectors identified two issues during review of the PC/M packages. The two instances where discrepancies were noted are discussed in greater detail below.

- (1) PC/M 039-294 was written to allow the use of 480 Volt, 100 amperes rated supply breakers for the 2AA and 2BB battery chargers installed in motor control centers (MCC) 2A5 and 2B5, respectively. This PC/M was developed as a result of Nonconformance Report (NCR) 2-585. The NCR was issued to document the discrepancy between the as-built conditions and the design drawings. The PC/M drawings were revised to reflect the as-built condition of the breakers. The PC/M instructions also required that the existing overload heaters (model number 123F118C) be replaced with model number 123F114C in MCC 2A5 for 2AA battery charger. During the field walkdown on April 13, 1995, to verify the as-built condition of this PC/M, the inspectors noted that the overload heaters installed in MCC 2A5 for the 2AA battery charger were model number 123F104C instead of the required model number 123F114C. The inspectors also noted that no post modification test requirements were specified in the PC/M package to verify the adequacy of the overload heaters after installation. Therefore, no tests were performed by the plant staff. However, the licensee performed adequate tests to verify the trip settings of the breakers. The inspectors questioned the adequacy of the installed overload heaters to support the operation of the 2AA battery charger. The licensee produced documents showing the trip current characteristics of the subject overload heaters. A review of the trip curve showed that the battery charger could trip in 900 seconds for full load conditions and could trip in 300 seconds if the battery charger is operated in current limiting range. The installed overload heaters were determined to be less conservative than the model number specified in PC/M 039-294. The licensee documented the nonconforming condition in St. Lucie Action Report (STAR) No. 950442. This STAR was determined to meet the criteria for a N-STAR, and thus, required an operability evaluation. A work request (No. 95007525) was written to correct this condition. During further review of this issue, the inspectors noted that subsequent battery surveillance testing (Battery Charger Load Test), which was performed several months after implementation of the PC/M, did verify the adequacy of operation of the battery charger and the power supply. Engineering had not completed the operability evaluation of this N-STAR at the end of the inspection. The inspectors informed the licensee that failure to implement the design requirement as specified in PC/M 039-294 was a violation of 10 CFR 50, Appendix B, Criteria III and V. This item will be identified as violation 50-389/95-05-01, Failure to Implement the Design Requirement Specified in PC/M 039-294. Licensee management stated during the exit meeting on April 28, 1995, that the correct overload heaters had been installed earlier that morning.
- (2) During the review of PC/M 012-194, regarding the upgrade of the steam generator (S/G) wide range (WR) level instruments (post accident monitoring instrumentation) to meet the environmental qualifications, the inspectors noted that the S/G WR level instruments did not meet the design and qualification criteria for Category 1 instrumentation as

shown in Table 1 of Regulatory Guide (R.G.) 1.97, Revision 3. R.G. 1.97 recommends that the S/G WR level instrumentation meet the criteria for Type D, Category 1, variables. The NRC safety evaluation report (SER), dated July 29, 1986, stated that the licensee did not meet the Category 1 requirements for this variable and concluded that the licensee shall install and have operational, instrumentation which meets the guidelines of R.G. 1.97, Revision 3 for this variable. The inspectors noted that, subsequent to the SER, there were several letters of correspondence between the NRC and the licensee regarding this issue. Additional actions to meet the R.G. 1.97, Category 1 recommendation were discussed in the NRC letter dated February 10, 1992, and the licensee's letter dated February 12, 1992. The inspectors questioned licensee personnel during this inspection regarding the status of the actions for the S/G WR level instruments. The licensee indicated that they were in the process of developing a PC/M package to meet the rest of the commitments made in the above letter. The inspectors did not have any questions regarding the proposed modifications and schedules to meet the commitments. However, the inspectors questioned whether the existing S/G WR level channels met the R.G. 1.97 recommendations because PC/M 012-194 only upgraded the environmental qualification for level transmitters (LT 9012 and LT 9022). It was noted that the channel equipment were non-safety related and the power supply for both steam generator instruments were fed from a non-safety related vital power source. Specifically, the criteria for the power source and the equipment qualification for the existing channel were not met as specified in R.G. 1.97. The licensee stated that they were not committed to upgrade the existing channel to meet all the provisions of R.G. 1.97 Category 1 requirements for this variable. However, during further review of the various correspondence regarding this issue, the inspectors noted that, in a letter dated June 17, 1987, FPL committed to upgrade the environmental qualification and power supply requirements of the existing S/G WR level instrumentation in accordance with the qualification standards set forth in R.G. 1.97. The inspectors discussed the June 17, 1987 letter with licensee personnel who indicated that they did not consider there to be a commitment in their June 17, 1987, letter to upgrade the power supply for the existing S/G WR level instruments. Licensee personnel indicated that, subsequent to the July 1986 SER, there had been (at one time) a commitment to upgrade the power supply for the S/G WR level instruments because there was only one WR channel per S/G. However, that commitment to upgrade the power supply was superseded by the commitment in their February 12, 1992 letter to add a second WR channel (which will be safety related) to each S/G. The inspectors did not find documentation in any of the correspondence which relieved the licensee from their prior commitment to upgrade the power supplies for the existing S/G WR level instruments. This item is unresolved pending further review by the NRC regarding the acceptability of the existing wide range channel to meet the R.G. 1.97 recommendations for Category 1, type D variable. This issue will be identified as unresolved item (URI) 50-335, 389/95-05-02, Power Supply Upgrade for the Existing Steam Generator Wide Range Level Instruments.

Review of the above PC/Ms revealed that they were closed out with appropriate drawing revisions and procedure updates were conducted in accordance with established procedures. Appropriate materials were selected and procurement specifications were documented properly for the design changes reviewed. The number of field change requests included in the packages were few in number, which was an indication of good quality in the design work. Field walkdown verifications were performed (where possible) for the PC/Ms. These field verifications showed that, except in one instance, the design changes were incorporated in accordance with the design drawings and descriptions provided in the design change packages. In general, adequate PMT was performed to verify the acceptability of the design changes.

The inspectors concluded that, except for the two issues identified and discussed above, the PC/M packages reviewed were technically adequate and appropriately reviewed and approved in accordance with licensee's procedures. The inspectors also found that the 10 CFR 50.59 evaluations provided an adequate basis for determining that an unreviewed safety question was not involved with the modification.

One violation and one unresolved item were identified in the areas inspected.

2.2.2 Engineering Calculations

In addition to the above review, the inspectors reviewed some calculations which were revised in support of plant modifications. The purpose of this review was to determine whether the design inputs and assumptions were properly justified and referenced, appropriate methodologies were used, conclusions were reasonable, and calculations were reviewed and approved in accordance with applicable procedures.

The inspectors concluded that the licensee's calculations were technically adequate, and the assumptions and design inputs used in the calculations were appropriately referenced and justified. For the calculations reviewed, the inspectors also found that the licensee followed the applicable requirements from industry standards and regulations, and performed proper design verifications and independent reviews.

2.2.3 Drawing Update

The inspectors also reviewed the licensee's process for controlling drawings and vendor manuals. Revisions to drawings and vendor technical manuals (VTMs) for the PC/Ms reviewed appeared to be adequate and were generally revised within the time frames specified by licensee procedures JPN-QI 6.3 and JPN-AP-4.9, respectively. The inspectors noted that controls for VTM updates were previously reviewed by the NRC and concluded as being weak. The licensee indicated that presently the outstanding vendor manual revisions were tracked and controlled by engineering staff at the corporate office to address the VTM revision discrepancies. The licensee had formed a Vendor Technical Manual cross-functional team to evaluate the changes needed to address the program weaknesses. It was noted that a working instruction procedure was issued by the Engineering Group to provide additional guidelines. This team had made

several recommendations and requested implementation of the recommendations by August, 1995. The inspectors determined that the licensee was handling this issue adequately.

The inspectors concluded that revisions to the drawings and VTMs reviewed were performed adequately and in accordance with licensee administrative controls. Weaknesses previously identified in the VTM revision process were being addressed by the licensee.

2.2.4 Design Basis Documentation

The inspectors reviewed the licensee's design basis documentation (DBD) efforts and noted that the DBD is scheduled to be completed this year. To date, 31 DBDs were issued for each unit. Eleven of the remaining DBDs were in different stages of review. A discussion with the licensee revealed that the engineers frequently use the information for safety evaluations and operability determinations. A sample review of three safety systems revealed that they provided good references such as design input, major design features, component features, operating limitations and precautions, system interactions and modification history. The inspectors noted that the licensee had not revised the DBDs to incorporate the modifications that were completed after the issue of the DBDs. The licensee indicated that they were in the process of developing a program to update the DBDs on a periodic basis in order to maintain the DBDs as a living document.

The inspectors concluded that the licensee's DBD program provided useful information that aided engineering in their efforts to provide timely support to the plant. Good management support was evident in the scheduling and completion efforts of the design basis documentation for St. Lucie.

2.3 Temporary Modifications

The temporary modification process was reviewed to verify that installed modifications did not degrade the function of plant safety systems. The inspectors reviewed administrative procedures for the control of temporary modifications. While the licensee had no program that was specifically entitled "temporary modifications," the inspectors found that the control of temporary modifications was affected under two procedures:

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|---------------|---|
| AP 0010124 | Control and Use of Jumpers and Disconnected Leads, Revision 34 |
| QI 5-PR/PSL-1 | Preparation, Revision, Review/Approval of Procedures, Revision 60 |

In essence, the licensee's programs allowed temporary modifications to existing plant configuration through the use of the Jumper/Lifted Lead (J/LL) program or by a procedure specifically developed for the modification. The inspectors reviewed the procedures detailed above for attributes including appropriate levels of review and approval, testing prior to and after



installation of the temporary modification, control room drawing updates and field identification methods. The inspector found that the two processes differed in some areas, as depicted below.

Procedure	Title	Review/Approval Level	Independent Verification	Pre/Post Modification Testing	Control Room Drawing Update	Field Identification Method
AP 0010124 Rev 34	Control and Use of Jumpers and Disconnected Leads	FRG	Yes for Safety-Related	Designated by Maintenance Supervisor	Marked up drawing attached to J/LL request in control room log	Orange Tag
QI-5PR/PSL1 Rev 60	Preparation, Revision, Review/Approval of Procedures	FRG	Shall be included in procedure for temporary modification	No	No	No requirement

The inspectors noted that both methodologies included appropriate consideration of 10 CFR 50.59. While modifications made in accordance with procedures developed under QI-5PR/PSL-1 did not necessarily require pre and post-installation testing requirements to be documented in the procedure, the inspector found that procedure AP 0010432, revision 79, "Nuclear Plant Work Orders," which would be used to authorize the physical installation of a modification, contained requirements for determining required testing as a part of the nuclear plant work order (NPWO) preparation. Consequently, the areas of programmatic disagreement were reduced to control room drawing updates and field identification methods.

In addition to minor programmatic inconsistencies between modifications made under a J/LL request and a specifically prepared procedure, the inspectors found that inconsistencies existed within the J/LL procedure (AP 0010124) itself. Specifically:

- Step 3.1, "Purpose," stated that the procedure provided instructions for the control and use of jumpers and disconnected leads. However, step 8.1 stated that the J/LL process was to be applied, additionally, for gagging relief valves or otherwise altering a system/circuit to permit operation.
- Step 3.2, "Discussion," stated in part:

"To ensure control of all jumpers, disconnected leads and temporary piping in circuits and systems, one of the following methods shall be used:

1. Control by procedure - The documentation in a procedure shall be used when the procedure specifies the alteration and restoration of a circuit or system.
2. Control by the Jumper/Lifted Lead Request Log..."

However, step 8.1 stated:

"When necessary to lift leads, install electrical jumpers, install mechanical jumpers, gag relief valves or otherwise alter a system/circuit to permit equipment operation...approval/authorization of a Jumper/Lifted Lead request shall be obtained."

The inspectors discussed these inconsistencies with members of the licensee's staff, who indicated that the site's management had directed a review of the processes involved in temporary modifications to the plant. Upon completion of the review, a revamping of the program was planned. The licensee further indicated that the review process was scheduled to be complete by June, 1995.

The inspectors reviewed selected temporary modification packages as listed below, verified the control room log that documented the temporary modification, and verified the affected control room drawings. The inspectors reviewed a number of temporary modifications, both historical and current. The following J/LLs were reviewed:

- 1-94-048 Eliminate nuisance alarm in the control room
- 1-94-046 Ground on RTD T-1122CD
- 2-93-31 Ground on pressurizer heater
- 1-2-1 Eliminate nuisance alarm
- 1-94-030 Temporary power from MCC 1A3
- 2-94-052 Ground on pressurizer heater
- 2-94-014 Failed containment level channel sensor
- 1-94-014 Noise on RTD and temperature transmitter output
- 2-94-017 Reroute output for incore instrument detector strings 12 and 33
- 2-94-033 Reroute output for incore instrument detector strings 19 and 26
- 2-94-028 Install a temporary clamp on valve TCV-14-4B for the B component cooling water heat exchanger

In general, the jumpers reviewed had adequate technical evaluations, appropriate reviews were performed in accordance with 10 CFR 50.59 and proper approvals were obtained in accordance with the above administrative procedure. The inspectors observed that the administrative procedure neither provided any

requirements for attaching marked-up drawings with jumper packages nor provided any control for identifying the affected critical control room drawings that are affected by the J/LL. The inspectors pointed out to the licensee that the control room drawings could be used by plant staff without knowing that a temporary alteration existed. During the control room log review, the inspectors pointed out to the licensee that only some of the J/LL packages had marked-up drawings attached. The licensee took prompt actions to assure that the required marked-up drawings were attached to the J/LL packages. The licensee stated that they were presently reviewing the J/LL program for additional improvements and any discrepancies will be addressed during that time. The inspectors identified the following issues during review of the J/LL packages:

- (1) J/LLs 2-94-17 and 2-94-33 were prepared to provide "software jumpers" in the Digital Data Processing System (DDPS) to reroute the outputs of two incore instrument (ICI) detector strings. The ICIs were employed in TS surveillance tests for flux tilt and power densities. J/LL 2-94-17 swapped the outputs of ICIs 12 (core position W4) and 33 (core position R13). J/LL 2-94-33 swapped the outputs of ICIs 26 (core position R9) and 19 (core position W6). The swaps were the result of apparent errors in reterminating leads for ICIs penetrating reactor head flange 8 during the Unit 2 refueling outage in the spring of 1994. The apparent errors were identified during power ascension testing by Reactor Engineering (RE) when unacceptable flux tilt data was indicated for the core quadrant serviced by ICIs from flange 8. Reactor Engineering concluded, based on other ICI and ex-core nuclear instrumentation (NI) data, that the tilt was the result of miswired ICIs.

The inspectors reviewed the maintenance package and procedure for the ICI work conducted during the outage and discussed the issue with the I&C Supervisor involved in the work. The I&C Supervisor stated that, in accordance with I&C Procedure 140023, "Incore Instrumentation (ICI) Outage Tasks," I&C personnel had marked both sides of each ICI disconnect with color-coded tie-wraps prior to disconnection (the tie-wraps were to aid in proper reconnection). Interviews conducted after the fact indicated that the tie-wraps had either fallen off or had been removed prior to retermination of the leads, requiring the attachment of new tie-wraps.

Following the refueling, the leads were reconnected for the ICIs. The inspector reviewed the subject procedure and found that Appendix K, "ICI Flange Assembly," required two reverifications of proper ICI connections. No sign-off was required for the verification. The I&C supervisor indicated that the procedure was to be upgraded prior to the next refueling. The as-left condition of the six ICI detector string connections terminating through flange 8 could not be determined at power, thus it could not be concluded whether or not the miswiring was the result of oversight and improper verification, or mislabeled/misrouted cable. Consequently, this aspect of the issue will remain unresolved pending inspection during the upcoming Unit 2 outage. This item will be tracked as URI 50-389/95-05-03, Incore Instrument Wiring Discrepancies.

- (2) The inspectors discussed the issue of problem identification and resolution with the RE Supervisor. The inspector was informed that the first J/LL was prompted due to flux tilt anomalies detected during the Unit 2 power ascension test program. Through the use of consistency testing available through CECORE (a core analysis software package), RE was able to compare predicted incore power levels to indicated and was able to determine that ICI 33 was indicating a power level more in line with that expected from ICI 12. The inspector reviewed the methodology employed to make this determination and found it acceptable. Consequently, J/LL 2-94-17 was prepared to exchange the affected ICIs' variables in the DDPS computer. The inspector found the J/LL request properly prepared and indicating the required FRG review and Plant General Manager approval. However, no justification (e.g. engineering analysis) was provided in the package. The J/LL was implemented April 22, 1994, and the RE Supervisor indicated that acceptable results were obtained, although some asymmetric flux tilt was noted and expected to burn out as power operation continued.

J/LL 2-94-33 was implemented on June 22, 1994, after extended power operation failed to bring about the expected reduction in tilt. As in the first case, the J/LL request was properly reviewed and approved and, unlike J/LL 2-94-17, it included an internal RE memorandum justifying the action technically. RE analysis of the ICI data at the time indicated that another pair of ICIs appeared to be reversed and that the two were in the same quadrant, and rose out of the same ICI flange, as the two addressed in the first J/LL. As a result, a review was performed of all ICIs rising out of flange 8, and minor discrepancies were noted between predicted and measured values. The RE Supervisor stated that, of the six ICIs rising out of flange 8, only two ICI outputs could be clearly established as to where, geometrically, they belonged. One was ICI 12, addressed in the first J/LL, and the other was ICI 19, covered in the second J/LL. The balance of the flange 8 ICIs (ICIs 18, 26, 27, and 33) were declared inoperable.

The inspectors found the decisions made by RE to be technically justifiable. The predicted detector outputs for ICIs 12 and 19 were sufficiently different, numerically, from the balance of the flange 8 ICIs, and from one another, to make identification possible. The methodology employed to predict ICI power levels was found to be sound. Through discussions with both the RE and I&C Supervisors, the inspectors concluded that a number of corrective actions will be required during and after the upcoming Unit 2 outage, including:

- A determination of the actual ICI flange 8 wiring prior to determination for vessel disassembly. The inspectors discussed this action with the I&C Supervisor, who acknowledged that I&C Procedure 1400023 had not been revised since its last use and that no documentation existed to ensure that the as-left condition of the flange 8 ICI wiring was determined/corrected prior to disassembly color-coding. The I&C Supervisor subsequently generated Work Request 95007142 to determine the configuration prior to disassembly.

- A reconstitution of the fuel cycle relative to ICI burnup when the actual wiring alignment is known. The RE Supervisor acknowledged that no documentation existed to ensure that the as-left wiring configuration would be factored into ICI burnup calculations or the development of new ICI sensitivity values. The RE Supervisor subsequently initiated STAR 950445 to document the condition and track corrective actions.

While a high level of cognizance existed on this issue, both on the part of I&C and RE, the inspectors concluded that the corrective action program in place at the time was not properly implemented. Specifically:

- The Quality Assurance Manual Glossary defined "Nonconformance" as "A deficiency in characteristic, process, service, documentation, or procedure which renders the quality of an item unacceptable or indeterminate..."
- The Florida Power and Light Topical Quality Assurance Report (FPLTQAR) Section 15.0, revision 10, "Nonconforming Materials, Parts or Components," which was in place at the time the conditions were noted, stated:

In Subsection 15.2.2, "All nonconformances shall be documented and reported for corrective action."

In Subsection 15.2.3, "Documentation of the nonconforming item shall: identify the item; describe the nonconformance; show disposition of the nonconformance and inspection requirements; and include the signature of the person approving the disposition."

In Subsection 15.2.4, "Nonconforming items which cannot be made acceptable utilizing existing design documents shall be evaluated by Nuclear Engineering for disposition."

The inspectors concluded that the failure to document the conditions noted in the flange 8 ICIs at the time of the discovery of the nonconforming conditions was a violation of the licensee's Quality Assurance program and of 10 CFR 50 Appendix B, Criterion XV, "Nonconforming Materials, Parts, and Components." The inspector noted that QI 15-PR/PSL-1, revision 15, "Nonconforming Materials, Parts, and Components," which implemented the requirements of Section 15.0 of the FPLTQAR, was not as clear as the FPLTQAR, regarding which conditions warranted an NCR. The current revisions of both QI-15PR/PSL-1 and QI-16-PR/PSL-1, "St. Lucie Action Report (STAR) Program," were of greater clarity in describing conditions to be documented.

This violation will not be cited because the severity of the condition and the licensee's efforts in correcting the violation (namely, the generation of WR 95007142 and STAR 950445) meet the criteria specified

in Section VII.B of the NRC enforcement policy. It will be identified as Non-Cited Violation (NCV) 50-389/95-05-04, "Failure to Properly Document a Nonconforming Condition."

The inspectors concluded that, in general, the J/LLs reviewed had adequate safety evaluations, appropriate technical reviews were performed, and proper approvals were obtained in accordance with administrative procedures. However, there were discrepancies and weaknesses noted in the controls governing the process.

One non-cited violation and one unresolved item were identified in the area inspected.

2.4 Engineering Support Activities

The inspectors reviewed engineering's involvement in site activities and communications with other on-site and off-site organizations. The inspectors conducted interviews with corporate and site engineering staff, and maintenance and system engineers; observed various plant meetings; performed technical reviews of various documents such as PC/Ms, J/LLs, NCRs, STARs, and Work Orders; and reviewed various performance indicators to assess the quality of engineering reviews, interfaces with plant line organizations, and engineering's support of day-to-day plant operations.

2.4.1 Organization, Staffing, and Training

Engineering and technical support were provided by both site and corporate organizations. The inspectors reviewed site support activities provided by Site Engineering (design), the Technical Department (which included systems engineering), Reactor Engineering, and the Maintenance Department (which included the Mechanical Maintenance Engineering group, Predictive Maintenance group, I&C Maintenance Technical Support, and Electrical Maintenance Technical Support). Corporate engineering support activities reviewed included Production Engineering group, Component Support and Inspections group, Reliability and Risk Assessment group, and Engineering Assurance. The duties and responsibilities of the above groups were described in various site and corporate administrative procedures.

The inspectors also reviewed the training certification guides for selected individuals who were involved in some of the activities reviewed by the inspectors. The inspectors verified that the individuals had received training that was applicable to the activities that they were involved in, and training specified in their certification guides.

The inspectors concluded that adequate training was being provided to the various groups providing engineering and technical support to the plant. The licensee engineering staff that interfaced with the inspectors were found to be knowledgeable of their assignments (such as PC/Ms, J/LLs STARs, etc.) and were able to respond with appropriate technical justifications to the inspectors' questions.

2.4.2 Problem Identification and Resolution

The inspectors selected seven STARS, 12 NCRs, and seven NPWOs for review in order to assess the adequacy of engineering evaluations, appropriateness of the dispositions, and completion of action items. The inspectors also verified that any recommendations and corrective actions to preclude recurrence were complete or scheduled. The inspectors found that, except for one or two instances, engineering's overall support for the above activities was good. The quality of the technical evaluations was good and the operability assessments had sufficient basis. The inspectors reviewed these items with various licensee staff such as maintenance engineers, system engineers and design engineers. The licensee staff was knowledgeable in all the issues that were discussed and a good interface between engineering and other departments was observed during the review.

The inspectors also reviewed the NCRs and STARS for conformance to the following procedures:

JPN-QI 15.1	Non-Conformance Reports, Revision 5
JPN-QI 15.1-1	Initial Assessments of Operability, Revision 4
JPN-QI 15.1-3	Dispositioning Nonconformances, Revision 3
ENG-QI 2.4	Non-Conformance Reports, Revision 0,
QI 16-PR/PSL-2	St. Lucie Action Report (STAR) Program, Revision 1

The STARS and NCRs reviewed were found to be processed and implemented in accordance with the above procedures. The inspectors, however, noted weaknesses in the procedural controls in some areas. The inspectors observed that the STAR procedure did not provide any guidance for the threshold for when to perform a root cause analysis. The inspectors also noted that engineering revised the NCR procedure and was evaluating STARS that were determined to be N-STARS (i.e., STARS that met the criteria for a NCR) using the guidance of the NCR procedure. The guidance in the NCR procedure for operability evaluations did not address the question of past operability. The inspectors noted that the STAR procedure guidance did address the question of past operability. The STAR procedure, however, is a plant procedure and not an engineering procedure. Thus, the guidance in the STAR procedure was not being used by engineering. The inspectors further noted that Engineering had no procedural guidance for handling STARS assigned to them that were determined not to be N-STARS. These procedural weaknesses were discussed with Engineering personnel who indicated that engineering was in the process of developing a procedure for handling STARS.

During review of the STARS and NCRs, the inspectors noted examples where the issues were either not resolved in a timely manner or the evaluation and disposition lacked sufficient documentation. These examples included the following:

- NCR 2-614 (initially identified on April 7, 1986, as deficiency report No. 3831), which documented a broken neutral insulator mount for power panel 202, was not yet resolved. This power panel supplies power to various safety related loads. The licensee had written NCR 2-614 and this was later superseded by a STAR No. 2-950017. Engineering personnel

indicated that this issue was brought to their attention via the above NCR on June 21, 1994. The licensee performed an engineering evaluation and concluded that the existing condition was not a safety concern. The licensee is planning to replace the broken support in the next Unit 2 refueling outage. The inspectors concluded that the licensee was slow in resolving this long standing issue.

- NCR 2-610 was judged to have been properly dispositioned. However, the documentation associated with the evaluation of the NCR was judged to be weak. NCR-610 dealt with the replacement of the thermal overload bypass switch for the main steam isolation bypass valve. The plant work order, NPWO 4363, which implemented the switch replacement was intended to perform routine preventive maintenance on the motor control center cubicle and to implement PC/M 161-290D. This PC/M was a large multi-system modification which was part of the St. Lucie motor operated valve program.

During the routine preventive maintenance portion of the work order, high switch contact resistance was determined on the switch for MV-08-1A, the main steam isolation bypass valve. Electrical maintenance installed a PC-4 commercial grade thermal overload bypass switch in this class 1E circuit. NPWO 4363 was performed in November 1991, and the work order closeout review did not identify the deficiency. The use of the commercial part in the class 1E circuit was not identified until May 1994, during the closeout review for PC/M 161-290D at which time the NCR was written.

Engineering correctly disallowed the requested "Use-As-Is" disposition and required that the commercial switch be replaced. A replacement switch was installed and dedicated. The NCR package did not address the root cause and did not include a discussion of recurrence controls. The NCR package did not address the impact of the nonconformance on past operability. The inspectors considered the documentation associated with the evaluation for this NCR to be weak.

The inspectors also considered that the practice of allowing large PC/Ms to remain open for long periods reduced the possibility for the PC/M closure reviews to identify and correct discrepancies in a timely manner. The inspectors noted during the review of the PC/M closure process that the licensee has enhanced the controls regarding PC/M closure.

The inspectors reviewed the NCR and the associated work orders and determined that the replacement of the switch was due to an isolated component failure which was detected during normal preventive maintenance and did not represent a generic degraded condition. The inspectors performed a walkdown of the control circuit including the thermal overload bypass switch and verified that the field configuration met the requirements of drawing 2998-B-327 sheet 311, revision 10.

The eight work orders (on engineering hold) reviewed by the inspectors were either found to be in the engineering review process or had preliminary engineering evaluations completed. The timeliness of engineering actions were found to be adequate.

The inspectors concluded that the technical evaluations for STARs, NCRs, and NPWOs were found to be good and adequate technical support was provided to the station. However, the licensee was slow in resolving one of the nonconforming conditions (NCR 2-614), and the documentation associated with the evaluation of one nonconforming condition (NCR 2-610) was considered weak. There were weaknesses noted in the procedural guidance for handling STARs and NCRs.

2.4.3 System Engineering

The inspectors interviewed several system engineers to understand their role in providing technical support to the plant. The duties and responsibilities of system engineers were described in licensee's Administrative Procedure No. 0005750, Revision 3. The inspectors noted that the system engineer program has been implemented only for selected systems and the duties and responsibilities do not overlap with other departments. A review of three safety related systems indicated that the system engineers walkdown their assigned system on a periodic basis, trend the system performance using the surveillance test data and operator logs, follow-up on problem areas, perform system interface reviews for PC/MS and technical reviews for STARs and work orders.

The inspectors concluded that system engineers provide adequate support to the plant through increased monitoring of plant system readiness and availability.

2.4.4 Operator Workarounds

The inspectors reviewed the licensee's operator workaround (OWA) program. Within the operations department, the responsibility for tracking, prioritizing and ensuring resolution to OWAs was found to reside with the Operations Engineer. This responsibility was included in the position description contained in AP 0010120, revision 70, "Conduct of Operations," Appendix A, "Positions, Descriptions and Operations organization." OWAs were defined in Appendix B, Shift Operations Policies, to the same procedure.

The licensee's process for documenting OWAs involved the initiation of STARs, which could be coded to identify OWAs for sorting and tracking purposes. As of April 10, 1995, a total of 74 OWA-related STARs had been initiated, and 48 were still open. The OWAs were periodically sorted by the Operations Engineer as either non-nuclear safety, availability, technical specification, or nuclear safety related. Management attention has been focused on OWAs, as 5 positions on the Plant General Manager's Technical Issues list, reviewed weekly, were dedicated to OWAs.

The licensee explained that the methods and thresholds for OWAs were still evolving. It was stated that, as experience is gained in documenting OWAs, the process will be revised to more accurately characterize issues.

2.4.5 Predictive Maintenance

The licensee has a well established Predictive Maintenance group that is staffed with experienced personnel. This group has been actively involved in monitoring, trending, and analyzing plant equipment performance through various diagnostic techniques. These techniques included vibration data trending and analysis; oil sample ferrography and physical analysis; thermography; and bearing failure analysis. Results from predictive maintenance activities were also being used to support the Preventive Maintenance PM Basis program.

Through the predictive maintenance program, the licensee has successfully identified impending equipment problems. Early detection of equipment degradation allowed time for development of corrective action plans, procuring spare parts, scheduling equipment out of service at appropriate plant conditions, and effecting equipment repair before on-line failure which could potentially result in a plant transient or challenge to a safety system.

The inspectors reviewed the results of eight technical analysis and troubleshooting reports for activities performed by the Predictive Maintenance group. The activities were reviewed for conformance to the following Maintenance Department procedures:

- 0930061 Predictive Maintenance - Vibration Data Trending/Analysis Program for Rotating Machinery, Revision 5
- 0930067 Predictive Maintenance - Thermography Trending/Analysis Program, Revision 6
- 0930068 Predictive Maintenance - Preparation and Analysis of Oil Samples, Revision 3

In addition to reviewing the technical reports, the inspectors also observed predictive maintenance personnel during the collection and analysis of a lube oil sample from the main turbine. This was performed in response to a request from operations after the turbine generator thrust bearing high vibration annunciator alarmed in the main control room. In conjunction with taking the oil samples, predictive maintenance personnel also took thrust bearing vibration data. Through review of the oil analysis data and the vibration data, it was determined that there was a defective probe.

Based on the review of the technical reports and observation of predictive maintenance activities in progress, the inspectors concluded that the various diagnostic techniques employed by the Predictive Maintenance group were effective in identifying equipment degradation and failure root causes. This enabled the Predictive Maintenance group to be able to provide timely and effective support to the plant. The inspectors considered the predictive maintenance activities to be a strength in support of plant maintenance and operations.

2.4.6 St. Lucie Preventive Maintenance Basis Program

St. Lucie had developed a project to optimize the preventive maintenance (PM) program and to provide a basis for the existing PM activities. A pilot scope of approximately 250 Unit 1 PM tasks were reviewed during 1994. The plant was scheduled to complete the Unit 2 PM Basis review by December 1995. The Unit 1 PM Basis review was scheduled to begin January 1996 and to be complete by January 1997. The PM Basis program would support implementation of a 24 month refueling cycle and the NRC Maintenance Rule. The PM Basis Program would support outage planning, maintain equipment reliability, and establish a living document to maintain a PM basis.

The inspectors reviewed four of the thirteen PMs which were evaluated to be dropped from the Unit 1 PM Basis pilot program. The evaluations were thorough and considered vendor recommendations, operating experience, predictive maintenance results, equipment failure modes, and regulatory and industry events. The process incorporated reviews by different departments. The evaluations reviewed were completed in accordance with Administrative Procedure 0010431, revision 10, Preventive Maintenance Program. The PM activities which were deleted were adequately compensated for by new condition monitoring PMs.

The inspectors noted the PM basis description for the 1A condensate pump motor was actually the operating and failure history data for the containment spray pump. This discrepancy in the evaluation showed a lack of attention to detail in the preparation and review of this specific package, FYP8465.

The inspectors concluded that, except for the discrepancy noted for the condensate pump motor, adequate controls were in place to ensure that PMs reviewed under the PM Basis Program were thoroughly evaluated.

2.4.7 On-Line Maintenance

On line maintenance was controlled by Administrative Procedure 0010460, Critical Maintenance Management, revision 2. The inspectors reviewed thirteen evaluations performed to assess the risk significance of performing critical maintenance activities during plant operations. The evaluations were performed on site by the Juno Probabilistic Safety Assessment Group. The acceptance criteria for the risk evaluations was based on the EPRI Draft PSA Applications Guide. All the evaluations reviewed were determined to be of low risk significance, the evaluations showed less than a 1E-6 increase in mean core damage probability.

The inspectors concluded that adequate evaluations were performed by the Probabilistic Safety Assessment Group to support the plant's on-line maintenance activities.

2.4.8 Root Cause Evaluations

The inspectors reviewed engineering's involvement in root cause evaluations. The root cause evaluations selected for review included an evaluation of a failure of an electrical penetration assembly as described in St. Lucie Unit 2 LER 93-007, and the St. Lucie Unit 1B Generator Step Up Transformer Replacement.

The 1B Generator Step Up Transformer Evaluation included the FPL Power Delivery and Engineering personnel. Higher than normal combustible gases were noted in an analyzed transformer oil sample. Daily sampling was initiated. During a unit outage the transformer was inspected and the tap lead was burned into the coil. The 1B transformer was replaced with the spare. The evaluation was able to detect a severely degraded condition and replace the transformer prior to transformer failure. This root cause evaluation was judged to be good.

Unit 2 LER 93-007 described a failure in an electrical penetration assembly. The conductors were shifted to spare modules until the outage when the affected feed through assemblies could be removed for evaluation. The onsite evaluation could not determine the root cause. Subsequent failure evaluation by the OEM and a third party could not determine any definite root cause. The inspectors reviewed the reports of the failure analysis and concluded that the evaluation efforts were thorough although no conclusive root cause was found. Pin to pin and pin to ground resistance checks will be performed during the next two refueling outages for Unit 1 and Unit 2 to evaluate the dielectric strength of the control element assembly conductors and the electrical penetration modules.

The inspectors concluded that the above evaluations were good examples of thorough and in-depth root cause evaluations.

2.4.9 EQ Motor Rewind Activity

The licensee performed a test program to qualify several insulation systems to provide a qualified motor rewind system. The testing was performed in accordance with IEEE standard 117-1974. Test Report NTS No. 60286-94N, Report For The Testing Of Motorettes For use at FPL St. Lucie Plant, completed February 22, 1994 documented the testing of the motorettes. FPL prepared a test plan, SPEC-E002, to control the testing activity and a specification, SPEC-E003, for the fabrication of the motorettes to be used as test samples in the qualification testing. Three different insulation systems were tested.

The inspectors reviewed the test plan, the test report, and the applicable IEEE standards. The inspectors also reviewed the environmental qualification (EQ) Guidebooks for Units 1 and 2, to determine that the test environments would envelope the plant required environmental parameters. The testing was to qualify motor rewind systems for the radiation only harsh areas of the plant. The test was not intended to qualify the rewind system for HELB or inside containment applications.

One radiation only harsh motor rewind activity had been performed and the repaired motor was on hold for PC/M 66-194M in the warehouse. A dedication package had been prepared for the commercial grade rewind activity. Separate dedication packages were prepared for the motor bearings. The rewound motor was a spare HVE-6B fan motor for Unit 1. PC/M 66-194M had not been initiated but it was budgeted as a 1995 activity. The EQ Documentation Package (Doc Pac) for 1-HVE-6B was 8770-A-450-28.3. This EQ Doc Pac did not incorporate the test report. The PC/M will evaluate the test report and incorporate the evaluation prior to the use of the motor in the plant. The inspectors verified that the motor in the warehouse had a hold tag for PC/M 66-194M attached.

The EQ testing appeared adequate for the radiation only harsh areas of the plant. Two qualified insulation systems resulted from the testing which will give flexibility to maintain qualified motors for radiation harsh areas in the plant. The testing met the sequence requirements of the IEEE standard and the test plan requirements with minor exceptions. The test plan called for exposure to 100% relative humidity, yet the test report indicated that only 95 % relative humidity had been measured in the test.

The 30 year qualified insulation system was used for the rewind of the spare HVE-6B fan motor for Unit 1. The insulation system was an improvement over the present class B system.

The rewind process and the dedication activity appeared acceptable, however the inspectors identified several areas which warrant increased management attention. The final evaluation of the test failures (four of nine test samples failed) has yet to be completed. Preliminary review of failures was performed. The testing was completed in February, 1994. The inspectors noted a minor difference between the test specimen and the materials used in the dedicated rewind activity. The motor was rewound using a square magnet wire while the motorettes which were tested used round magnet wire. This difference was not identified in the dedication process. The rewind process did not wait for the results of the materials analysis prior to beginning the rewind activity. This resulted in a dedication package open item.

The EQ Doc Pac 8770-A-450-28.3 required specific greases for maintaining qualification of the motors. The rewound motor was reassembled with sealed bearings and dedicated. The dedication process did not require or verify that these specific greases were used. Additionally, the plant lubrication manual, Maintenance Procedure 0010446, revision 2, did not require these specific greases for the fan motor applications. The lubrication manual did not list these motors, 1-HVE-6A/B and 2-HVE-6A/B as being EQ motors.

The inspectors concluded that, in general, the licensee has an acceptable motor rewind process. This process should improve engineering's ability to provide timely support to the plant. Discrepancies were noted during the implementation of this process which warrant increased management attention to ensure effective implementation of this process in the future. Discrepancies were noted in the dedication of the rewound fan motor and differences between the test plan and the test report were identified. All of these discrepancies

will have to be evaluated and dispositioned in the PC/M or other plant documentation prior to the release of the motor from hold in stores for use in the plant.

2.4.10 Backlog Reduction Activity

The inspectors reviewed the status of selected backlogs to assess whether sufficient engineering resources and management attention were being focused to prevent the buildup of a large backlog. Items reviewed in this area included PC/Ms, J/LLs, and NPWOs.

The inspectors reviewed various performance indicators and held discussions with licensee personnel regarding the backlog reduction efforts. The licensee has established teams to provide focus to the backlog reduction efforts. The PC/M backlog team meets weekly to review and disposition backlogged PC/Ms. The number of backlogged PC/Ms has been significantly reduced from 205 in January 1994, to 60 as of February 1995. The inspectors attended one of the PC/M backlog reduction meetings where each of the currently open PC/Ms was discussed and statused.

The inspectors noted that another aspect of the licensee's program that contributed indirectly to backlog reduction was the rigorous control of PC/Ms to be engineered and issued. A request for engineering assistance (REA) is one of the primary methods for requesting engineering to develop a PC/M. The REAs are screened and prioritized at several levels of management review. As a result, PC/Ms that are considered nice to have but not necessary for reliable, safe plant operation and do not meet the budget restraints, are not engineered. This conserves engineering resources and prevents development of PC/Ms which would become backlogged due to low priority and budget restraints.

The teams for backlogged J/LLs and NPWOs also meet regularly to review the status of the items. These teams have focused on J/LLs and NPWOs that were greater than 18 months old. The number of open J/LLs greater than 18 months old had been reduced to six as of March 1995. The number of NPWOs greater than 18 months old had been reduced from 106 in April 1994 to one as of February 1995. The NPWO team had started to focus on NPWOs that were greater than 12 months old in order to reduce that backlog. That number has been reduced from 90 in November 1994 to 18 as of February 1995.

The inspectors noted that engineering has played a significant role in the backlog reduction efforts. In addition to being key members of the various backlog teams, a majority of the items were assigned to engineering to resolve. Engineering provided timely resolutions for items assigned to them.

The inspectors concluded that licensee management has provided considerable focus and engineering resources to reducing various backlogs. These efforts have been effective in reducing the backlogs. Engineering's involvement and support in the licensee's backlog reduction effort is considered a strength.

3.0 Self Assessments and Audits

The inspectors reviewed various engineering self assessment efforts performed by the Engineering Assurance group within the corporate engineering organization. These assessment efforts covered site engineering, corporate engineering, and contract engineering support. Self assessment efforts reviewed included Report Cards, Technical Alerts, Calculation Quality Indicator, Design Reviews, and the Vice President (engineering) Quarterly Self Assessment Review. The inspectors noted that these efforts identified areas for increased management attention. Engineering was taking actions to address the findings.

In addition to reviewing the above engineering self assessment efforts, the inspectors also reviewed selected audit and performance monitoring efforts conducted by the licensee's quality assurance (QA) organization. The QA efforts reviewed engineering activities which included PC/M design reviews, control of J/LLs and temporary modifications, and configuration management. Actions were being taken by engineering in response to the QA findings.

The inspectors concluded that the engineering selfassessment efforts and the QA audits and performance monitoring of engineering activities were effective in identifying areas for increased management attention. These efforts were a positive indication of licensee management's commitment identify areas in engineering that need improvement in order to provide more timely and effective support to operations and maintenance. The inspectors consider this to be a strength.

3.1 Independent Technical Reviews

The inspectors noted that, in addition to their audit and assessment functions, the QA organization was also performing the independent technical reviews (ITR) that had been previously performed by the Independent Safety Review Group (ISEG). The ISEG function was transferred to the QA organization as a result of a licensee Technical Specification amendment request that was approved by the NRC on December 22, 1994. The inspectors reviewed the following Site Quality Manual (SQM) procedure and St. Lucie Quality Department (SLQD) Quality Instruction (QI) which addressed this added QA responsibility:

SQM-18.0	Nuclear Assurance Review Activities, Revision 0
SQLD QI 18.4	Independent Technical Reviews, Revision 0

In addition to the above procedures, the Site Quality Manager also issued a list of QA personnel qualified to perform ITRs. The inspectors reviewed the list and noted that the QA personnel qualified to perform ITRs had been assigned to ISEG previously and had experience performing the ITRs. The inspectors noted that one ITR had been completed and eight were currently in progress since the ISEG function was transferred to the QA organization.

The inspectors concluded that the ISEG functions had been successfully transferred to the QA organizations and were being effectively implemented. Adequate controls were in place.



4. Licensee Actions on Previous Inspection Findings (92903)

(Closed) URI 50-335, 389/93-01-01, concerning two check valves that were not being tested in accordance with ASME Section XI. The check valves (V-8372 and V-8373) were added to the main steam system by PC/M 541-191. The licensee submitted Relief Request VR-41 to the NRC, requesting relief from the ASME Section XI testing requirements for these check valves. The NRC approved this relief request in a SER dated September 27, 1994. The SER stated that the Relief Request VR-41 was approved in accordance with Position 2 of Generic Letter (GL) 89-04, Guidance on Developing Acceptable Inservice Testing Programs. This GL provides alternatives to the ASME Code requirements determined acceptable to the NRC. This item is closed.

5. Exit Interview

The inspection scope and results were summarized on April 28, 1995, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection findings listed below. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee. The following items were identified:

- Violation 50-389/95-05-01, Failure to Implement the Design Requirement Specified in PC/M 039-294 (paragraph 2.2.1)
- Unresolved Item 50-335, 389/95-05-02, Power Supply Upgrade for the Existing Steam Generator Wide Range Level Instruments (paragraph 2.2.1)
- Unresolved Item 50-389/95-05-03, Incore Instrument Wiring Discrepancies (paragraph 2.3(1))
- Non-Cited Violation 50-389/95-05-04, Failure to Properly Document a Nonconforming Condition (paragraph 2.3(2))

6. Acronyms and Abbreviations

ABB	Asea Brown Boveri
AP	Administrative Procedure
ASME	American Society of Mechanical Engineers
CCW	Component Cooling Water
CFR	Code of Federal Regulations
DBD	Design Basis Documentation
DDPS	Digital data Processing System
Doc Pac	Documentation Package
EPRI	Electric Power Research Institute
EQ	Environmental Qualification
FPL	Florida Power and Light
FPLTQAR	Florida Power and Light Topical Quality Assurance Report
FRG	Facility Review Group
GL	Generic Letter
HELB	High Energy Line Break
I&C	Instrumentation and Controls
ICI	Incore Instrument

ICW	Intake Cooling Water
IEEE	Institute of Electrical and Electronic Engineers
ISEG	Independent Safety Engineering Group
ITR	Independent Technical Review
JLL	Jumper and Lifted Lead
JPN	Juno Plant Nuclear
kV	Kilovolts
LER	Licensee Event Report
LOCA	Loss of Coolant Accident
LT	Level Transmitter
MCC	Motor Control Center
MOV	Motor Operated Valve
NCR	Nonconformance Report
NCV	Non-Cited Violation
NI	Nuclear Instrumentation
NPWO	Nuclear Plant Work Order
OWA	Operator Work-Around
PC/M	Plant Change Modification
PM	Preventive Maintenance
PMT	Post Modification Testing
PORV	Power Operated Relief Valve
PSA	Probabilistic Safety Assessment
QA	Quality Assurance
QI	Quality Instruction
RE	Reactor Engineering
REA	Request for Engineering Assistance
RG	Regulatory Guide
RTD	Resistance Temperature Detector
SER	Safety Evaluation Report
S/G	Steam Generator
SLQD	St. Lucie Quality Department
SQM	Site Quality Manual
STAR	St. Lucie Action Request
TCV	Temperature Control Valve
URI	Unresolved Item
Vdc	Volts Direct Current
VTM	Vendor Technical Manual
WR	Wide Range