



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

Report Nos.: 50-335/90-22 and 50-389/90-22

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 1 and 2

Inspection Conducted: September 10-14, 1990

Inspectors: McKenzie Thomas 9/27/90
M. Thomas Date Signed
L. R. Moore 9/27/90
L. R. Moore Date Signed

Accompanying Personnel: F. Jape (September 13-14, 1990)

Approved by: F. Jape 9/27/90
F. Jape, Section Chief Date Signed
Quality Performance Section
Division of Reactor Safety

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of Quality Verification and Engineering. This inspection included; a review of the impact of Revision 16 of the QA Program description (FPL TQAR 1-76A) on plant quality oversight activities; assumption of QC procurement functions by Procurement Engineering; and review of engineering self assessment activities.

Results:

In the areas inspected, violations or deviations were not identified. Review of QA/QC activities indicated no reduction in the effectiveness of quality oversight functions. The licensee independent quality oversight program was well rounded. The QC functions transferred to procurement engineering have the potential to increase the efficiency of the procurement process. Examples were noted which demonstrated the effectiveness of self assessment activities by the engineering organization.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *A. Bailey, QA Supervisor
- *J. Barrow, Operations Superintendent
- *R. Church, Chairman ISEG
- *T. Coste, QA Supervisor
- D. Culpepper, Site Engineering Supervisor
- A. DeRoy, Procurement Engineering Supervisor
- *J. Dyer, QC Supervisor
- *R. Englmeier, Site Quality Manager
- *J. Geiger, Vice President, Nuclear Assurance
- *T. Geissinger, Quality Control Supervisor, Construction
- *M. MacLeod, Nuclear Lead Engineer
- *G. Madden, Licensing Engineer Supervisor
- *L. McLaughlin, Plant Licensing Superintendent
- *R. Miller, QC Supervisor
- *J. Riley, Information Services Superintendent
- T. Roberts, Nuclear Engineering Project Manager
- *D. Sager, Plant Vice President
- R. Simpson, Juno Beach QA Supervisor
- *R. Symes, Quality Manager, Juno Beach
- J. Walls, Senior Analyst Juno Beach QA
- *K. Wiecek, QC Supervisor
- R. Winnard, Acting Nuclear Discipline Manager, Juno Beach

Other licensee employees contacted during this inspection included engineers, and administrative personnel.

NRC Resident Inspectors

- 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. Quality Verification Activities (35702)

The licensee quality assurance program description, Topical Quality Assurance Report, (FPL TQAR 1-76A), Revision 16, dated June 12, 1990, implemented changes to the quality oversight organization. The NRC Region II review of this revision identified no reduction in QA program commitments, however the reorganization provided a potential impact on the effectiveness of quality oversight activities. A primary aspect of the revision was the consolidation

of all quality oversight functional groups within the Nuclear Assurance organization. For example, the construction QC group previously reported to Construction Services management. The Plant QC group previously reported to the Plant Manager. The Topical revision reorganization placed all quality monitoring groups in a single reporting chain within the Nuclear Assurance Organization.

This inspection reviewed quality oversight activities to assess the reorganization impact on effectiveness. The nominal transition date for this review was May 1, 1990. QA oversight performance before and after this date was reviewed. Quality oversight activity reviewed included; performance monitoring, audits, quality control, and vertical slice audits. Activity levels were identified by frequency of performance and schedules. Audit reports, inspection reports and findings demonstrated the quality of oversight activity. The indicator to assess impact on quality oversight effectiveness was a change in the activity levels or quality of performance following the May 1, 1990, transition date.

Performance Monitoring:

Performance monitoring was an audit function providing a mechanism for real time in-plant monitoring of the performance of activities affecting quality. PMONs verify activities are performed in compliance with technical and quality related requirements. A secondary function of performance monitoring was providing visibility of the independent oversight organization which enhanced proper use of procedures. PMONs applied to the full spectrum of quality related activities on site, e.g. operational evolutions, maintenance, surveillance, construction activity, HP, fuel handling and fire protection. PMON focus was determined from daily activities and evaluated the targeted activity against the procedure used for accomplishment. Each PMON was documented in a PMON summary and these were compiled each month in a performance monitoring audit report. Findings were documented and tracked as audit findings.

Program guidance and staffing for the performance monitoring group was adequate for the assigned responsibilities. Program guidance was provided by QI 18 QAD4, Performance Monitoring Program, Revision 5. The group was established in 1986 with a staff of 1 supervisor and 6 auditors. Staff background includes operations (2 previous SROs), maintenance, construction, quality assurance, and NDE.

Review of monthly PMON audit reports from 1988 to August 1990, indicated no reduction in quality or activity level of this activity following May 1, 1990. Audit findings were adequately documented, tracked, and resolved. Performance monitoring provided a flexible, effective quality oversight resource. No change in this activity was currently evident as a result of the reorganization. Incorporation of the QC organization may facilitate a more efficient resource utilization due to the potential elimination of redundant oversight activities previously performed by performance monitoring and the QC groups.

Quality Assurance Audits:

The inspectors reviewed selected QA audits to determine if there was a reduction in the quality oversight functions. The following QA audit reports and accompanying checklists were reviewed:

QSL-OPS-88-631, Criterion VII Control of Purchased Items and Services
 QSL-OPS-88-624, Emergency Diesel Generator System (Vertical Slice)
 QSL-OPS-88-645, Design Control
 QAS-JPN-88-1, Nuclear Plant Engineering
 QAS-QC-90-2, Quality Control Activities at St. Lucie

Audit QAS-QC-90-2 was still in progress at the conclusion of this inspection. This audit was being performed by the corporate QA staff to verify implementation of the QA program by the QC staff at St. Lucie. Auditing of site QC activities had previously been a function of the site QA staff. The reorganization of the site QA/QC resulted in site QC reporting to the site QA Manager. Site QA no longer will perform audits of site QC due to the conflict of interest. Licensee personnel stated that future audits of the site QA/QC will be performed by the Joint Utility Management Audit Group.

In addition to the above audits, the inspectors also reviewed the audit plans for audits QSL-OPS-90-756, Control and Acceptance of Items and Services; and QSL-OPS-90-761, Design Control-PSL. These audits are scheduled to be performed prior to the end of this calendar quarter.

After reviewing the above audit reports, the inspectors concluded that there was no reduction in quality oversight activities for those audits performed prior to the reorganization, and those performed or scheduled to be performed subsequent to the reorganization.

Quality Control:

The primary reorganization impact was the realignment of the two groups providing onsite quality control support, construction QC and Plant QC, into the Nuclear Assurance Organization. Staff and responsibilities for both groups remained generally the same with the following exceptions:

1. Plant QC (renamed maintenance QC) responsibility and supporting staff for the vault and document control was reassigned to the Administrative Services Organization.
2. All Receipt Inspection activity was assigned to the construction QC group.

The licensee developed and implemented an adequate reorganization schedule to facilitate the transition of the QC groups. QC procedures have not been revised. Technical guidance for activities was provided by existing procedures. Utilization of the same procedures minimized the impact on activities.

Maintenance QC, previously titled Plant QC, continued to consist of a maintenance subsection staff of seven inspectors and an operations subsection of three inspectors. Duties included surveillance of maintenance and operations activities including line review of plant work orders and independent verification of performance of Technical Specification required surveillances. QC activities were documented on Quality Control Reports (Form 3900). Specific line items within the report designated the aspect of the surveilled activity to be evaluated. Review of QC Reports for 1989 and 1990 indicated no reduction in the frequency or scope of QC activity. Findings identified on the 3900 reports were generally resolved in a timely manner. There was no apparent change in Maintenance (plant) QC activity or effectiveness, following May 1, 1990.

Construction QC provided the standard quality control functions for the construction services (back fit) organizations. Generally, the difference between maintenance and construction QC activities was in the scope of work reviewed and personnel performing the work. Maintenance QC overviewed FPL craft and technical personnel trained to FPL procedures and standards. Construction QC overviewed non-FPL personnel on large scale maintenance and modification activity, including more civil and structural work. Therefore, construction QC technical guidance was considerably more detailed and task specific. The results were that both QC groups continue to work to their existing procedures. Although some QC activities can be consolidated, technical guidance procedure changes were not anticipated in the near term.

The construction QC staff of 11 included nine inspectors. During staff inflation to meet outage demands these inspectors become supervisors of QC subgroups. Inspection reports, technique sheets, and receipt inspection forms provided detailed documentation of construction quality control activities. Review of this documentation demonstrated no reduction in construction QC activity or effectiveness since May 1, 1990.

In summary, although the reorganization provided a potential negative impact on quality control activities, no negative impact was identified. The reorganization provided potential advantages such as increased flexibility of QC resources, elimination of redundant oversight performance, and consistent receipt inspection activity.

Vertical Slice Audits:

An additional quality verification activity reviewed was the Vertical Slice Audits performed biannually by the Quality Assurance group. VSAs used the SSFI methodology and were effective quality verification activities, however they are not equivalent to SSFIs. The VSA determines whether the quality program was or was not adequately implemented in activities affecting the targeted system. The SSFI determines whether the targeted system is or is not capable of performing its required design safety function.

Two VSAs were reviewed in detail. QSL-OPS-90-739, Auxiliary Feedwater System was performed in the second quarter 1990. QSL-OPS-89-697, Plant Instrumentation System, was performed in late 1989. Overall, these were good compliance

audits and provided a different quality verification focus than other licensee quality assurance and quality verification activities. Comparison of the first VSA and subsequent VSAs demonstrated an increasing technical capability of this audit function. Activity level and quality of the VSAs were not impacted by the quality organization changes.

In conclusion, changes to the Topical Quality Assurance Report incorporated by Revision 16 did not reduce quality assurance program commitments or effectiveness. Primary impact of the revision was the realignment of the construction and maintenance QC groups' reportability chains. Based on review of performance before and after May 1, 1990, no impact was noted on the effectiveness of quality oversight activities. Quality organization activities reviewed generally demonstrated a well rounded independent quality oversight program. This review was a snapshot. No negative impact was evident in the short term. The licensee should continue monitoring long term performance to identify potential problems related to consolidations of procedures, responsibilities, and changing relationships between the quality organization and the plant.

3. Engineering Support (3770J)

The inspectors reviewed selected engineering and technical support activities. These activities included QC functions transferred to Procurement Engineering and engineering self assessment activities.

Procurement Engineering:

Prior to the reorganization, all purchase items were reviewed by QC prior to submittal to Procurement Engineering. This QC function and the individuals who performed it were transferred to Procurement Engineering after the reorganization of QC. The procurement reviewers performed the same function following the reorganization. It was recognized that the procurement reviewers also had the capability to screen items that did not require review by the procurement engineers. This screening process was not performed when these reviewers were assigned to QC. Licensee personnel stated that the screening of items by the procurement reviewers has resulted in a reduction in the number of items requiring review by the procurement engineers. Procedure JPN-QI 8.0, JPN Involvement in Procurement Control, has been revised to incorporate the functions of the procurement reviewers into Procurement Engineering.

Licensee personnel also stated that transferring the QC procurement functions and personnel to Procurement Engineering has reduced the amount of time it takes for an item to go from the originator to purchasing.

The inspectors determined from their review that the QC functions transferred to Procurement Engineering have the potential to increase the efficiency of the procurement process.

Engineering Self Assessment:

Licensee personnel stated that various means of self assessment are being utilized by engineering. Some of these methods include engineering cross

functional teams; technical audits performed by engineering staff managers; independent audits by outside technical experts; feedback from various plant groups; and various other surveys and indicators.

The inspectors reviewed several examples where actions were taken to address weaknesses identified through various indicators. The item equivalent evaluation (IEE) was implemented to address the backlog of design equivalent engineering packages (DEEPs) and request for DEEPs. The minor engineering package (MEP) has also been developed to address the backlog of DEEPs. Prior to the IEE and MEP, the DEEP was the method used to implement minor design changes to the plant. Procedure JPN-QI 3.14, Minor Engineering Package, was approved on September 13, 1990, for trial implementation.

An independent contractor performed an assessment of FPL's Commercial Grade Dedication Program. The purpose of the assessment was to evaluate implementation of the EPRI guidelines for commercial grade dedication. Recommendations identified during the assessment have been assigned to various FPL departments for action.

The licensee has a staff engineering group which performs technical audits to ensure that the product supplied by JPN is adequate and technically accurate. In addition to the technical audits of JPN, the licensee also conducts performance assessments of its architect engineers, JPN, and other contractors. Areas reviewed during these assessments include timeliness of PC/M delivery; number of engineering package revisions per closed PC/M package; and review of calculations for errors. These assessments are performed semi-annually.

In summary, engineering activities reviewed demonstrated examples of effective internal self assessment capability.

Vendor Manual Upgrade:

An additional engineering activity reviewed was the development of a vendor manual upgrade program. Engineering has completed the initial development stage of this program. This effort involved reviewing selected vendor manuals to update and assimilate the manual information to be more user friendly, particularly by maintenance. Manuals for upgrade are selected by maintenance organization personnel. Currently, two prototype manuals have been completed, and a program procedure is in draft.

No violations or deviations were identified in the areas inspected.

4. Exit Interview

The inspection scope and results were summarized on September 14, 1990, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

5. Acronyms and Initialisms

DEEP	Design Equivalent Engineering Package
FPL	Florida Power and Light
HP	Health Physics

IEE	Item Equivalent Evaluation
ISEG	Independent Safety Engineering Group
JPN	Juno Plant Engineering
MEP	Minor Engineering Package
NDE	Non Destructive Examination
PC/M	Plant Change/Modification
PMONs	Performance Monitoring (audit inspection)
QA	Quality Assurance
QC	Quality Control
SRO	Senior Reactor Operator
SSFI	Safety System Functional Inspection
VSA	Vertical Slice Audit