



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

APR 25 1989

Report Nos.: 50-335/89-08 and 50-389/89-08

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: March 27-31, 1989

Inspector: Fred N. Wright
 F. N. Wright

4/24/89
 Date Signed

Approved by: J. P. Potter
 J. P. Potter, Chief
 Facilities Radiation Protection Section
 Emergency Preparedness and Radiological
 Protection Branch
 Division of Radiation Safety and Safeguards

4/24/89
 Date Signed

SUMMARY

Scope

This routine, unannounced inspection was conducted to evaluate radiation protection activities during extended outages. The review included: licensee organization and management controls; maintaining occupational exposures as low as reasonably achievable (ALARA); training and qualifications; control of radioactive material and surveys; and licensee action on previously identified inspection findings.

Results

No violations or deviations were identified. The inspection was conducted during the completion of Unit 2's refuel cycle. The licensee was in day 55 of the 62 day Unit 2 outage Cycle 5 and was approximately two days behind schedule when the inspection began.

The inspector reviewed the status of five open items, one unresolved item (URI) and four inspector follow-up items (IFI). The inspector was able to close two IFIs concerning the use of finger rings in extremity monitoring and shielding of the Unit 2 fuel transfer tube. Corrective action for two IFIs concerning criteria used to initiate Radiological Incident Reports (RIRs) and training for contract general employee training (GET) instructors had not been completed. The unresolved item concerning the control and storage of health physics

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records was a quality assurance finding. The item will be reviewed again after the quality assurance staff closes out the item.

One new IFI was opened concerning the documentation of training given to vendor dosimetry technicians.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. Barrow, Fire Protection Supervisor
- *J. Barrow, Operations Superintendent
- *G. Boissy, Plant Manager
- *S. Brain, Independent Safety Evaluation Group
- *H. Buchanan, Health Physics Supervisor
- *L. Croteuo, Training Supervisor
- *J. Danek, Corporate Health Physics
- *B. Dawson, Maintenance Supervisor
- *D. DeBoch, Lead Health Physics Instructor
- M. Groom, Instructor Development Specialist
- *K. Harris, Site Vice President
 - L. Jacobus, Health Physics ALARA Coordinator
 - B. Johnson, Health Physics Administrative Supervisor
- *C. Leppla, I&C Supervisor
 - R. McCullers, Health Physics Operations Supervisor
- *B. McGavic, Quality Assurance
- *H. Mercer, Health Physics Technical Supervisor
- *B. Parks, Quality Assurance
- *D. Sipos, Services Manager
- *H. Ware, Technical Training Coordinator
- *D. West, Technical Supervisor
- *C. Wilson, Mechanical Maintenance Supervisor

Other licensee employees contacted during this inspection included technicians, mechanics, and office personnel.

NRC Resident Inspector

*M. Scott

*Attended exit interview

2. Organization and Management Controls (83750)

Through interviews with the licensee's staff and review of licensee procedures, the inspector reviewed the licensee's radiological protection organization, staffing levels, qualifications, and its methods and degree of interaction with other plant sections in the Unit 2 refueling outage. The inspector determined that the licensee's radiation protection organization was adequately structured to support the refueling and modification work.

No violations or deviations were identified.

3. ALARA (83750)

10 CFR 20.1(c) states that persons engaged in activities under licenses issued by the NRC should make every reasonable effort to maintain radiation exposure as low as reasonably achievable (ALARA). The recommended elements of an ALARA program are contained in Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposure at Nuclear Power Stations will be ALARA," and Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposures ALARA." The licensee had completed two jobs in which the licensee had placed considerable resources to maintain exposures ALARA; viz., the resistance temperature detector (RTD) manifold removal and reactor coolant pump removal. The licensee's exposures approached the dose estimate for each job. Of the nine jobs discussed with the licensee the inspector determined that the licensee was above the estimate on three jobs by about 13 person-rem. The licensee's estimate for the Unit 2 outage was 344 person-rem.

In 1990, the licensee plans to have the section supervisors more involved in the station person-rem goal setting process. The licensee believes that involving the section supervisors will result in further person-rem exposure reductions.

No violations or deviations were identified.

4. Training and Qualifications (83750)

a. Vendor Health Physics Training and Qualifications

Technical Specification (TS) 6.3.1 requires that each member of the facility staff meet or exceed the minimum qualification of ANSI/ANS-3.1 - 1978 for comparable positions, except for the Health Physics (HP) Supervisor who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975.

The inspector reviewed the licensee's procedure for evaluating vendor HP qualifications in order to comply with the licensee's TS requirements. Licensee procedure Number 05737, "Radiation Protection Man Training Program," dated November 9, 1988, requires that resumes and experience be reviewed to determine if the HP technician meets the requirements of ANSI 3.1. The inspector determined through interviews with licensee representatives that approximately 50 percent (%) of the vendor HP technicians had failed a licensee examination given to evaluate technicians capabilities as an ANSI 3.1 HP technician. A similar examination, that did not include scenarios, was given three days later and six people failed to obtain a test score greater than 80%. One of the technicians who failed the second test was unable to calculate stay-times and was dismissed. The remaining five employee's scored between 70 and 80%, and were waived from further testing requirements and given reduced responsibilities. The inspector reviewed both examinations and

determined that the questions were generally clear and applicable for a senior HP technician. The questions covered knowledge of personnel exposure limits, posting requirements, radiological units, shielding and activity calculations, use of survey instruments, scenarios, knowledge of radiation fields, respiratory protection factors for respirators, maximum permissible exposure (MPC), inverse square law and federal regulations. The training department found a few questions that a large number of personnel failed to answer correctly and was evaluating those questions to see if they could be stated more clearly.

The licensee also agreed to review the waiver clause in the Radiation Protection Man Training Program to see if its removal would strengthen the licensee's radiation protection program.

No violations or deviations were identified.

b. Dosimetry Group Training

The licensee is required by 10 CFR 20.101 and 102 to maintain workers' doses below specified levels. 10 CFR 20.202 requires each licensee to supply appropriate personnel monitoring devices to specific individuals and require the use of such equipment. During tours of the plant, the inspector observed workers wearing appropriate personnel monitoring devices.

The licensee has a dosimetry section that is responsible for operating the whole body counter (WBC), determining personnel exposure histories, and issuing dosimetry to radiation workers. At the time of inspection, the station dosimetry section included a supervisor, and three dosimetry technicians. A fourth technician position was vacant. During outages, the group provides continuous support to the plant radiation workers.

In order to provide continuous coverage, the licensee supplements the station dosimetry group with 16 contract dosimetry technicians and two drivers. The drivers are utilized to transport thermoluminescent dosimeters (TLDs) from the site to the corporate dosimetry lab. All dosimetry analysis is performed offsite in Juno Beach, Florida.

The licensee utilizes a series of training modules for training dosimetry technicians. The modules provide specific instructions for the various tasks performed by the group. The inspector reviewed the training records of the station dosimetry personnel and verified that the technicians were qualified as required by licensee procedures.

The licensee reviews the resumes of contract dosimetry candidates and selects dosimetry technicians based upon worker experience in dosimetry programs. Through interviews with licensee representatives, the inspector determined that contract dosimetry technicians were generally brought onsite a couple of weeks prior to

the start of the outage and received on-the-job training in licensee procedures. The inspector determined that the licensee was using the dosimetry training modules, prepared for the plant staff, in training the contract workers. However, the licensee was not maintaining training records for contract dosimetry technicians. Licensee representatives agreed to document the training of contract dosimetry technicians used in future outages. The inspector stated that procedural requirements or the training records for vendor dosimetry technician training records would be reviewed in a future inspection as an inspector follow-up item (IFI) (50-335/89-08-01).

No violations or deviations were identified.

5. Surveys, Monitoring, and Control of Radioactive Material (83750)

10 CFR 20.201(b) requires each licensee to conduct surveys as (1) may be necessary for the licensee to comply with the regulations and (2) are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present.

10 CFR 20.203 specifies the posting, labeling and control requirements for radiation areas, high radiation areas, airborne radioactivity areas and radioactive material.

The inspector reviewed selected radiation and contamination surveys and verified that areas were properly posted. The inspector reviewed selected radiation work permits (RWPs) and determined that the requirements were appropriate for the work involved.

No violations or deviations were identified.

6. Licensee Actions on Previously Identified Inspection Findings (92701, 92702)

- a. (Open) Unresolved Item (URI) 50-335/89-01-01: This item concerned the control and storage of HP records, a finding identified in licensee Quality Assurance (QA) Audit 88-637. The inspector reviewed the health physics proposed corrective action documented in inter-office correspondence, dated January 23, 1989. The corrective action was scheduled to be completed by April 30, 1989. This item will remain open pending the completion of the corrective action and quality assurance deposition of the audit report finding.
- b. (Open) IFI 50-335/89-01-02: This item concerned the criteria utilized to initiate Radiological Incident Reports (RIRs). The licensee has not established criteria as of the date of the inspection.
- c. (Open) IFI 50-335/89-01-03: This item concerned the training requirements for contract general employee trainers. The inspector determined that the licensee had an administrative procedure TDI-19, "Instructor Qualification," which was being revised. The inspector

determined that the procedure was under review to require the contract instructor to receive the same training as plant trainers. The procedure is expected to be in effect by May 1, 1989. The licensee had one General Employee Training (GET) instructor onsite at the time of the inspection. The instructor is expected to complete the training on May 1, 1989.

- d. (Closed) IFI 50-335/88-19-01: This item concerned the use of finger rings versus wrist dosimeters TLDs in the licensee's extremity monitoring program. The inspector determined that the licensee was utilizing finger TLDs in the extremity monitoring program and closed the item.
- e. (Closed) IFI 50-335/87-04-05: This item concerned the shielding on the Unit 2 fuel transfer tube. The inspector reviewed licensee surveys results on the shielding surrounding the tube when a fuel bundle was positioned in the center of the accessible annulus. The annulus between the Fuel Handling Building and the Reactor Containment Building was surveyed on the north, top, and south shield walls. The normally accessible area (north wall) had dose rates less than 2 mrem per hour on contact and less than 0.3 mrem per hour at 18 inches. The licensee found dose rates up to 500 mrem per hour at contact on top of shielding, however, that area is not normally accessible. The inspector determined that the exposure levels in normally accessible areas with fuel in the tube were less than 2 mrem per hour and closed the item.

7. Exit Interview

- a. The inspection scope and findings were summarized on March 31, 1989, with those persons indicated in Paragraph 1. The inspector reported to management that the attitude of persons interviewed was positive and in all cases the plant staff reported a good working relationship with the radiation protection staff.

- b. New Items

IFI 50-335/89-08-01: The inspector determined that the licensee was providing dosimetry training to vendor dosimetry technicians, however, the licensee was not documenting the training. Licensee representatives agreed that documentation for vendor dosimetry personnel training was appropriate.

The inspector stated that the procedural requirements for the training records for vendor dosimetry technician training would be reviewed in the future as an IFI.

- c. Previously Identified Inspection Findings

The inspector discussed the status of previously identified items discussed in Paragraph 6 with licensee management and reported the

following: URI 50-335/89-01-01 concerning the control and storage of HP records would remain open until the licensee's QA section agreed to the proposed corrective actions and verified that corrective actions were complete.

IFI 50-335/89-01-02: The inspector stated that this item was still open pending the licensee's establishment of criteria utilized to document RIRs.

IFI 50-335/89-01-03: The inspector stated that this item was still open pending the implementation of the vendor general employee trainer qualification and training programs.

IFI 50-335/88-19-01: This item concerned the use of finger rings in the licensee's extremity monitoring program. The inspector verified by reviewing licensee records that finger rings were being utilized. The inspector closed the item.

IFI 50-335/87-04-05: This item concerned the shielding of the Unit 2 fuel transfer tube. The inspector verified by review of licensee records demonstrating that the licensee had secured access to the fuel transfer tube, added shielding and dose rates in accessible areas were approximately 50 mrem per hour whole body, from the shielded tube with a bundle positioned near the shielding. The inspector closed the item.