



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-250/82-39 and 50-251/82-39

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33101

Facility Name: Turkey Point

Docket Nos. 50-250 and 50-251

License Nos. DPR-31 and DPR-41

Inspection at Turkey Site site near Homestead, Florida

Inspector: *C. M. Hosey* 12/20/82
C. M. Hosey Date Signed

Approved by: *K. P. Barr* 12/20/82
K. P. Barr, Section Chief Date Signed
Operational Programs Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on November 29 - December 3, 1982

Areas Inspected

This routine, unannounced inspection involved 40 inspector-hours on site in the areas of Radiation Protection for Unit 4 Steam Generator Replacement, including Procedures Review, Radiological Surveys, Radiation Work Permits, Effluent Releases, Training, Posting, Labeling and Control of Radiological Areas and Followup on Previous Inspector Identified Items.

Results

Of the two areas inspected, no violations or deviations were identified in one area; one apparent violation was found in the other area (Failure to Post Radiation Areas).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- H. E. Yaeger, Site Manager
- *J. K. Hays, Plant Manager Nuclear
- P. W. Hughes, Health Physics Supervisor
- W. C. Miller, Training Supervisor
- J. R. Bates, HP ALARA Supervisor
- *R. M. Brown, HP Operations Supervisor
- H. T. Young, Assistant Project Manager

Other licensee employees contacted included ten construction craftsmen, five technicians, two operators, five mechanics, and two office personnel.

Other Organizations

- J. Basten, Westinghouse Electric Co.
- M. McCauley, Hittman Nuclear and Development Corp.

NRC Resident Inspector

- *R. Vogt-Lowell, Senior Resident Inspector
- *J. Agles, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 3, 1982, with those persons indicated in paragraph 1 above. The inspector stated that failure to post, as a minimum, all entrances to the Radiation Controlled area as a radiation area as required by 10 CFR.203(b) would be considered a violation of NRC requirements. The plant manager acknowledged the inspector's comments.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Followup on Previous Inspector Identified Items (IFI)

- a. (Closed) IFI (250/82-31-03) Revision of RWP Procedure. The inspector reviewed the revision of Health Physics Procedure HP-1, Radiation Work Permit. The procedure changes were reviewed by the plant nuclear safety committee on December 2, 1982 and approved. The inspector had no further questions.
- b. (Closed) IFI (250/81-17-02) Procedure for Operation of Gamma Spectroscopy System. The inspector reviewed the revision of procedure HP-12, Operation of the ND6650 GeLi Spectrometer. The procedure was reviewed by the plant nuclear safety committee on December 2, 1982 and approved. The inspector had no further questions.
- c. (Closed) IFI (250/82-31-01) Liquid Scintillation Counter for Tritium Analysis. The licensee has established provisions for obtaining offsite analysis of tritium samples in the event the in-house analyzer is out-of-service. The inspector had no further questions.

6. External Exposure Control

During tours of the plant, the inspector observed workers wearing personnel monitoring devices (pocket dosimeter and/or TLD). The inspector discussed the dose monitoring program with licensee representatives. The inspector also reviewed computer printouts for several plant departments and verified that the radiation dose recorded for 1982 appeared to be well within NRC limits. The licensee was maintaining the records of radiation exposure required by 10 CFR 20.401. In review of the exposure reports for the steam generator replacement project (SGRP), the inspector noted that the methods used by the licensee to maintain exposures ALARA appeared to be effective. Exposure received during various task were well below the estimates made for the Unit 4 SGRP and the exposure required for similar task on the Unit 3 SGRP. The inspector selectively reviewed the results of beta dose measurements and multiple TLD badging used for monitoring personnel performing the modifications to the reactor vessel head and upper internals.

No violations or deviations were identified.

7. Internal Exposure Control

The inspector selectively reviewed general in plant air sample results for November 1982 and results of air samples taken to support work covered by Radiation Work Permits 496 and 498 associated with modifications made to the Reactor Head and Upper Internals. The inspector also observed health physics technicians collecting and analyzing air samples. By review of records, observations and discussions with licensee representative, the inspector evaluated the licensee's respiratory protection program, including engineering controls, MPC-hour controls, issue, use and storage of respirators and the plant Bioassay program.

The licensee has expanded their bioassay program to include performing whole body counts on personnel who have had facial contamination when there is a possibility of inhalation or ingestion of radioactivity. In addition, selected individuals who have been involved in special work (e.g. spent fuel movements) and individuals who have the highest MPC-hour values for a period are given special whole body counts.

The inspector reviewed the MPC-hour records for the head modification work and selectively reviewed whole body counts performed in association with the SGRP. During the review of the MPC-hour records, the inspector noted a number of minor discrepancies in data recorded on Form HP-94, Personnel Respirator/MPC-Hour Accountability Logsheet. Each individual who is issued a respirator has a HP-94. Discrepancies noted included the calculation of MPC-hour values using noble gas concentrations, math errors, calculation of wrong MPC fractions. The inspector stated that most discrepancies could be attributed to vague instructions on how to complete the form. A licensee representative stated that the form and instructions would be reviewed and appropriate modifications made. The inspector stated that this area will be reviewed during a subsequent inspection (82-39-01).

No violations or deviations were identified.

8. Radiation Work Permits

The inspector reviewed active radiation work permits (RWP) for the SGRP for appropriateness of the radiation protection requirements based upon work scope, location and conditions. During a tour of the plant, the inspector observed the adherence of plant workers to the RWP requirements.

No violations or deviations were identified.

9. Radiological Surveys

The inspector selectively reviewed the records of radiation and contamination surveys performed in conjunction with Unit 4 Head modifications, internals modifications and steam generator channel head entries and discussed the survey results with licensee representatives. The inspector performed independent radiation and loose surface contamination surveys in the auxiliary building and in the restricted areas outside the Auxiliary Building and verified that the areas were properly posted, except as discussed in paragraph 10.

No violations or deviations were identified.

10. Posting, Labeling and Control

The inspector reviewed the licensee's posting and control of radiation areas, high radiation areas, airborne radioactivity areas, contamination areas, radioactive material areas and the labeling of radioactive material

during tours of the plant. 10 CFR 20.203(b) requires that each radiation area be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words CAUTION-RADIATION AREA. 10 CFR 20.202(b)(2) defines a radiation area as any area, accessible to personnel, in which there exist radiation at such levels that a major portion of the body could receive in any one hour a dose in excess of 5 millirem or in any 5 consecutive days a dose in excess of 100 millirem. During a tour of the plant, the inspector observed that the vehicle gates south of Unit 4 containment and north of Unit 3 containment were not posted as radiation areas, as were other entrances into the radiation controlled area (RCA). The licensee has elected to post the entrances into the RCA, rather than each specific radiation area within the RCA, although areas that are significantly above 5 mrem/hour are roped off and posted with signs warning personnel not to loiter in the area. A licensee representative stated that personnel taking a vehicle through the vehicle gates should pick up their pocket dosimeter, pass through the personnel access gate into the RCA and then exit through the vehicle gate to pick up their vehicle. If this procedure is followed the individual would pass a radiation area sign upon entering the RCA. On December 3, 1982, the inspector accompanied by a licensee representative, observed that plant personnel picked up their dosimetry devices and then drove their vehicle into the RCA without first going through the personnel access gate. The inspector also observed that the ground level entrance into the auxiliary building (double doors on east side of auxiliary building) and the stairs leading from the auxiliary building roof to the ground level of the building were not posted as a radiation area. A review of recent plant radiation surveys indicate that radiation levels in some accessible areas of the auxiliary building (e.g. charging pump rooms) exceed 5 millirem per hour. The inspector stated that failure to conspicuously post radiation areas is a violation of 10 CFR 20.203(b) (82-39-02).

12. Effluent Releases

During a tour of the plant, on December 2 the inspector observed that the constant air monitor sampling the air being exhausted through the auxiliary ventilation system from Unit 4 containment was not running. The exhaust fans for the ventilation system were running. A licensee representative stated that the pump on the monitor failed on December 1, 1982, and at the time the failure was found, the exhaust fans were not running. He further stated that another type of monitor would be temporarily installed as soon as possible. The auxiliary exhaust system (fans & HEPA filters) was connected to the containment purge inlet duct after a section of the inlet duct was removed. This system takes suction from the upper area of containment. The normal containment purge exhaust system takes suction from the major work areas of the containment. Health physics maintains a constant air sampler on each level of containment, in addition to taken grab samples. The normal exhaust system radiation monitor was functioning properly and indicated that the concentration of radioactive material in air exhausted from Unit 4 containment did not exceed the limits permitted by Technical Specification. General area air samples taken in containment had been in agreement with analysis of results of samples removed from the auxiliary exhaust system radiation monitor when it was functioning.

No violations or deviations were identified.

13. Decontamination of the Steam Generator Channel Heads.

The inspector review the procedures for decontamination (grit blasting) of the Unit 4 steam generators prior to their removal, and observed the vendor set up the grit blasting equipment for "C" steam generator. These procedures had been reviewed by the PNSC and approved. During the review, the inspector ask to see the procedures for the operations of the grit solidification system, which will be used to solidify the used grit prior to shipment to a waste burial facility. A licensee representative stated that the vendor had procedures, however they had not been reviewed by the PNSC and approved. The inspector stated that these procedure should be reviewed by the PNSC and approved prior to their use (82-39-03). The inspector also requested to see the safety analysis performed for the use of the solidification system. A licensee representative stated that an analysis had not been prepared. The inspector stated that a system of waste solidification different from that described in the FSAR was being used and a safety analysis was required by 10 CFR 50.59. The inspector also stated that IE Circular 80-18 provided guidance in this area. Prior to leaving the site, the inspector reviewed the safety analysis for the solidification system and had no further questions.