



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

FEB 05 1985

Report No.: 50-302/84-35

Licensee: Florida Power Corporation
 3201 34th Street, South
 St. Petersburg, FL 33733

Docket No.: 50-302

License No.: DPR-72

Facility Name: Crystal River 3

Inspection Conducted: December 17-21, 1984, and January 15, 1985

Inspector: G. R. Jenkins
 for T. R. Collins

2/1/85
 Date Signed

Approved by: G. R. Jenkins
 G. R. Jenkins, Section Chief
 Division of Radiation Safety and Safeguards

2/1/85
 Date Signed

SUMMARY

Scope: This routine, unannounced inspection entailed 35 inspector-hours onsite during regular hours inspecting: radiation protection program including instruments and equipment used for radiation protection of personnel; posting, labeling, and control of radiological control areas; radiation work permit controls; shipment of radioactive materials; internal and external exposure controls; training and qualification of personnel; 10 CFR 61 requirements; ALARA program; and previously identified inspector followup items. An Enforcement Conference was held at the Region II Office on January 15, 1985, to discuss concerns regarding an incident involving the potential for an overexposure of 10 CFR 20 limits.

Results: No violations or deviations were observed.

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REPORT DETAILS

1. Licensee Employees Contacted

E. Morris Howard, Director, Site Nuclear Operations
G. L. Boldt, Plant Operations Manager
V. R. Roppel, Manager Plant Engineering and Technical Services
W. L. Rossfeld, Nuclear Compliance Manager
R. Clark, Radiation Protection Manager
P. J. Skramstad, Chem/Rad Superintendent
J. R. Kraiker, Operation Superintendent
D. A. Fields, Nuclear Reliability Supervisor
W. Thomass, Chief Nuclear Chemistry Technician
R. E. Fuller, Supervisor, Radiological Support Services
C. E. Davis, Health Physics Technician
J. R. Wright, Nuclear Support Specialist
A. Kazemfar, ALARA Specialist
R. E. Carbiener, Nuclear Compliance Specialist
D. G. Green, Licensing Specialist
M. W. Culver, Senior Nuclear Reactor Specialist
W. A. Clemons, Nuclear Compliance Specialist

Other licensee employees contacted included three construction craftsmen, three technicians, one operator, two mechanics, two security force members, and two office personnel.

Other Organizations

Applied Radiological Controls, Inc. (ARC)

NRC Resident Inspectors

T. F. Stetka
J. Tedrow

Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 20, 1984, with those persons indicated in paragraph 1 above. The inspector discussed the apparent violation of failure to perform an adequate evaluation of the radiation levels in the makeup pre-filter room prior to work commencing. Licensee management disagreed with the inspector's findings based on the fact that they felt having a Health Physics Technician in the work area was sufficient.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Organization and Management Controls (83722)

Technical Specification 6.2.2 describes the licensee's organization. Detailed responsibilities and lines of authority are specified in plant procedure AI-022, Organization and Responsibility.

The inspector reviewed the licensee's organization, staffing level and lines of authority as they related to radiation protection, radioactive material control and plant chemistry, and verified that the licensee had not made organizational changes which would adversely affect the ability to control radiation exposures, radioactive material or plant chemistry.

The inspector reviewed the licensee's program for self-identification of weaknesses related to radiation protection, control of radioactive material and plant chemistry and the appropriateness of corrective action taken.

No violations or deviations were identified.

5. Training and Qualification (83723)

Technical Specifications 6.3 and 6.4 require that each member of the facility staff meet or exceed the minimum qualification of ANSI N18.1-1971 for comparable positions, except for the Chemistry and Radiation Protection Manager (Radiation Protection Manager) who shall meet or exceed the qualification of Regulatory Guide 1.8, September 1975.

Paragraph 4.5.2 of ANSI N18.1 states that technicians in responsible positions shall have a minimum of two years of working experience in their specialty. The inspector reviewed the experience and training records for selected Health Physics and Chemistry technicians currently working at the station. The inspector discussed radiological controls for specific jobs with Health Physics technicians. The inspector observed Health Physics technicians during implementation of radiological controls for selected activities.

10 CFR 19.12 requires the licensee to instruct all individuals working in or frequenting any portion of the restricted area in the health protection problems associated with exposure to radioactive material or radiation, in precautions or procedures to minimize exposures, and in the purpose and functions of protective devices employed, applicable provisions of Commission regulations, individual responsibilities and the availability of radiation exposure data.

The inspector discussed the radiation protection aspects of the general employee training program with licensee representatives, selectively reviewed the training records of personnel from various plant organizations and attended portions of the training classes. During tours of the plant, the inspector interviewed workers to assess their knowledge and understanding of radiation protection requirements.

The inspector reviewed changes in the licensee's training policies, goals, program and methods, related to radiation protection, radioactive material control and plant chemistry, discussed the changes with licensee representatives and verified that the changes should not adversely affect the licensee's program.

Technical Specification 6.4 states that a retraining and replacement training program for the facility staff shall be in accordance with ANSI N18.1-1971. Paragraph 5.5 of ANSI N18.1 states that a training program shall be established which maintains the proficiency of the operating organization through periodic training exercises, instruction periods and reviews.

Plant procedure TDP-303 and 305 establishes the training/retraining program for Chemistry and Health Physics personnel.

The inspector discussed the replacement training and refresher training program for Chemistry and Health Physics personnel with licensee representatives and reviewed selected training records.

No violations or deviations were identified.

6. External Exposure Control and Personal Dosimetry (83724)

10 CFR 20.101 specifies the applicable radiation dose standards. The inspector reviewed the computer printouts (NRC Form 5 equivalent) for the period January to October 1984 and verified that the radiation doses recorded for plant personnel were well within the quarterly limits of 20.101.

10 CFR 20.101(b)(3) requires the licensee to determine an individual's accumulated occupational dose to the whole body on an NRC Form 4 or equivalent record prior to permitting the individual to exceed the limits of 20.101(a). The inspector reviewed selected occupational exposure histories for individuals who exceeded the values in 10 CFR 20.101(a). The exposure histories were being completed and maintained as required by 10 CFR 20.102.

10 CFR 20.202 requires each licensee to supply appropriate personnel monitoring equipment to specific individuals and require the use of such equipment.

The inspector reviewed plant procedure RP-201, Personnel Exposure Control, which established the licensee's program for personnel monitoring of external dose in accordance with 10 CFR 20.202.

During tours of the plant, the inspector observed workers wearing appropriate personnel monitoring devices.

10 CFR 20.201(b) requires each licensee to make or cause to be made such 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.

Technical Specification 6.8 requires the licensee to have written radiation protection procedures, including the use of radiation work permits. The inspector reviewed plant procedure RP-106, Radiation Work Permit which provided detailed instructions on the preparation and processing of Radiation Work Permits (RWPs).

The inspector reviewed selected active RWPs for appropriateness of the radiation protection requirements based on work scope, location, and conditions. During tours of the plant, the inspector observed the adherence of plant workers to the RWP requirements and discussed the RWP requirements with plant workers at the job site.

On December 19, 1984, the inspector reviewed an event that occurred on November 6, 1984, which lead to an individual apparently exceeding administrative dose limit of 300 millirem for one week. In review of this event the inspector discovered that an operator was authorized to receive up to 600 millirem to inspect new o-rings in the makeup prefilter room. Upon entry into the make-up prefilter room the Health Physics (HP) Technician performing job coverage for the operator to conduct his assigned task determined that the radiation levels in the room were higher than expected (up to 1200 R/hr at contact with a filter). The operator had only entered the area for approximately 10-15 seconds and by the time the H.P Technician indicated the higher than expected radiation levels, the operator had completed his task and exited the area. It was discovered that the operator had received 790 millirem by pocket dosimeter, which is 190 millirem above the authorized dose of 600 millirem. The licensee immediately sent the operator's TLD badge to a vendor for processing and restricted the operator from access to the RCA until official TLD results were known. The inspector concluded from the chain of events that an apparent violation of 10 CFR 20.201 had occurred for not evaluating the radiation hazards present in the room prior to allowing the operator to enter the area.

During the exit interview the inspector informed licensee management that an apparent violation of 10 CFR 20.201 had occurred. Licensee management disagreed with the inspector stating that they felt having a H.P. Technician with the operator performing radiation surveys when entering the area was sufficient. The inspector acknowledged the licensee's comments and informed licensee management that this issue would be reviewed further by the NRC Region II Office.

On January 15, 1985, the NRC held an enforcement conference (Paragraph 13) with Florida Power Corporation management to discuss and review the issue of allowing an individual to enter a locked high radiation area with dose rates of 200 R/hr to 1200 R/hr. It was determined during the enforcement conference that radiation surveys of the work area within the make-up prefilter room had been conducted prior to entry to perform his assigned

task. Therefore, NRC personnel concluded that a violation of 10 CFR 20.201 had not occurred and a Notice of Violation would not be issued.

10 CFR 20.408(b) requires that when an individual terminates employment with a licensee, or an individual assigned to work in a licensee's facility but not employed by the licensee completes the work assignment, the licensee furnish the NRC a report of the individual's exposure to radiation and radioactive material incurred during the period of employment or work assignment, containing information recorded by the licensee pursuant to 20.401(a) and 20.108. 20.409 requires that the licensee send a report to the individual if the report is sent to the NRC in accordance with 20.408. 20.401(a) requires each licensee to maintain records showing the radiation exposure of all individuals for whom personnel monitoring is required under 20.202 of the regulations. Such records shall be kept on Form NRC-5 or equivalent.

The inspector discussed the reporting requirements with licensee representatives and reviewed selected individual exposure records maintained by the licensee and copies of exposure reports sent to the NRC and to individuals during the period January to October 1984.

10 CFR 20.402, 20.403, and 20.405 establish reporting requirements in the event of the loss or theft of licensed material, personnel overexposures, excessive concentrations and radiation levels and excessive releases of radioactive material.

The inspector discussed the reporting requirements of 10 CFR 20.402, 20.403 and 20.405 with licensee representatives and determined that the licensee had not had an event which required reporting in accordance with these sections of 10 CFR 20.

The inspector discussed the planning and preparation for the upcoming refueling outage with licensee representatives. Specific areas discussed included increased staffing, special training, equipment and supplies, health physics involvement in outage planning, licensee control over contractor health physics technicians, dose reduction methods to be employed and radioactive waste reduction activities.

10 CFR 20.203 specifies the posting, labeling and control requirements for radiation areas, high radiation areas, airborne radioactivity areas and radioactive material. Additional requirements for control of high radiation areas are contained in Technical Specification 6.12.

Plant procedure RP-202, Radiological Surveys contains additional information on the posting and control of radiological areas.

During tours of the plant, 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.

10 CFR 19.11 requires that each licensee post current copies of 10 CFR 19 and 10 CFR 20 or if posting of the documents is not practicable, the licensee may post a notice which describes the document and states where it may be examined. 10 CFR 19.11 further requires that copies of any Notice of Violation involving radiological working conditions be conspicuously posted within two working days after receipt of the documents from the Commission. The inspector observed the posting of notices required by 10 CFR 19.11 during tours of the plant.

No violations or deviations were identified.

7. Internal Exposure Control (83725)

10 CFR 20.103(a) establishes the limits for exposure of individuals to concentrations of radioactive materials in air in restricted areas. This section also requires that suitable measurements of concentrations of radioactive materials in air be performed to detect and evaluate the airborne radioactivity in restricted areas and that appropriate bioassays be performed to detect and assess individual intakes of radioactivity.

The inspector reviewed selected results of general in-plant air samples taken during the period October and November 1984 and the results of air samples taken to support work authorized by specific radiation work permits.

The inspector reviewed selected results of bioassays (whole body counts/urinalyses) and the licensee's assessment of individual intakes of radioactive material performed during the period October and November 1984.

10 CFR 20.103(b) requires the licensee to use process or other engineering controls, to the extent practicable, to limit concentrations of radioactive material in air to levels below that specified in Part 20, Appendix B, Table I, Column 1 or limit concentrations, when averaged over the number of hours in any week during which individuals are in the area, to less than 25 percent of the specified concentrations.

The use of process and engineering controls to limit airborne radioactivity concentrations in the plant was discussed with licensee representatives and the use of such controls was observed during tours of the plant.

10 CFR 20.103(b) requires that when it is impracticable to apply process or engineering controls to limit concentrations of radioactive material in air below 25% of the concentrations specified in Appendix B, Table 1, Column 1, other precautionary measures should be used to maintain the intake of radioactive material by any individual within seven consecutive days as far below 40 MPC-hours as is reasonably achievable. By review of records, observations and discussions with licensee representatives, the inspector evaluated the licensee's respiratory protection program, including training, medical qualifications, fit-testing, MPC-hour controls, quality of breathing air, and the issue, use, decontamination, repair and storage of respirators.

The inspector reviewed the following plant procedures which established the licensee's internal exposure control and assessment program and verified that the procedures were consistent with regulations, Technical Specifications and good health physics practices:

RP-102, Respiratory Equipment Manual
FP-230, MPC Hour Calculation

The inspector discussed planning and preparation for the upcoming refueling outage with licensee representatives. Specific areas discussed included use of auxiliary ventilation systems, decontamination of equipment prior to maintenance and availability of respiratory protection equipment.

No violations or deviations were identified.

8. Surveys, Monitoring, and Control of Radioactive Material (83726)

10 CFR 20.201(b) requires each licensee to make or cause to be made such 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.

The inspector reviewed plant procedure RP-202, Radiological Surveys, which established the licensee's radiological survey and monitoring program and verified that the procedure was consistent with regulations, Technical Specifications and good health physics practices.

The inspector reviewed selected records of radiation and contamination surveys performed during the period of November and December 1984 and discussed the survey results with licensee representatives.

During tours of the plant, the inspector observed health physics technicians performing radiation and contamination surveys.

The inspector performed independent radiation and loose surface contamination surveys in the auxiliary building and in the restricted area outside the auxiliary building and verified that the areas were properly posted.

The inspector discussed with the licensee the method used to release material from the restricted area and observed technicians performing release surveys for material.

The inspector observed personnel using the personnel frisker (RM-14/RM-16 with HP-210 pancake probe) to perform contamination surveys of themselves prior to exiting the controlled area.

No violations or deviations were identified.

9. ALARA Program (83728)

10 CFR 20.1c 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 inspector reviewed plant procedure AI-1600 and RP-108 which establishes the program for keeping occupational exposures ALARA and discussed the administrative aspects of the program with licensee representatives.

The inspector reviewed changes made to plant procedure AI-1600 and RP-108 and verified that the changes did not reduce the effectiveness of the ALARA program.

During tours of the plant, the inspector interviewed workers to determine their knowledge of the ALARA program and their direct involvement in the program.

The inspector discussed the ALARA goals and objectives for the current year with licensee representatives and reviewed the man-rem estimates and results for the current year.

The inspector reviewed the ALARA evaluation for several major jobs performed during the period of October and November 1984.

No violations or deviations were identified.

10. Licensee Audits and Surveillances (83722, 83723, 83723, 83724, 83725, 83726, 83728, 84722, and 86721)

The inspector discussed the audit and surveillance program related to radiation protection, radioactive waste management and transportation of radioactive material with licensee representatives.

No violations or deviations were identified.

11. Solid Waste (84722)

10 CFR 20.311 requires a licensee who transfers radioactive waste to a land disposal facility to prepare all waste so that the waste is classified in accordance with 10 CFR 61.55 and meets the waste characteristics requirements of 10 CFR 61.56. It further establishes specific requirements for conducting a quality control program and for maintaining a manifest tracking system for all shipments.

The inspector reviewed the methods used by the licensee to assure that waste was properly classified, met the waste forms and characteristics required by 10 CFR 61 and met the disposal site license conditions and discussed the use of these methods with licensee representatives.

The inspector reviewed selected manifests prepared for waste shipments made during the period of December 1984 to verify that a tracking system was being used to insure that shipments arrived at the intended destination without undue delay.

No violations or deviations were identified.

12. Transportation of Radioactive Material (86721)

10 CFR 71.5 requires that licensees who transport licensed material outside the confines of its plant or other place of use, or who deliver licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation in 49 CFR Parts 170 through 189.

10 CFR 71.91 specifies records that the licensee is required to maintain for each non-exempt shipment of radioactive material. The inspector reviewed selected records of radioactive waste shipments made during the period of December 1984 and verified that the licensee had maintained the records required by 10 CFR 71.91.

The inspector observed the performance of radiological surveys and the loading of a waste shipment, consisting of primary resin on December 18, 1984. The inspector performed independent radiation surveys and verified that the radiation levels were within the limits specified in 49 CFR. The inspector also reviewed the appropriate records for the shipment and discussed the shipment with licensee representatives.

The inspector reviewed plant procedure WP-101 for the preparation, documentation and shipment of radioactive material and verified that the procedure was consistent with regulations.

The inspector reviewed changes made to procedure WP-101 and verified that the changes were properly made and consistent with regulations.

No violations or deviations were identified.

13. Enforcement Conference

An Enforcement Conference was held at NRC Region II on January 15, 1985, to discuss the potential of an over exposure of 10 CFR 20 limits for an individual while working in the makeup prefilter room. The following personnel were in attendance:

a. Florida Power Corporation

W. S. Wilgus, Vice President Nuclear Operations
E. M. Howard, Director, Site Nuclear Operations
P. McKee, Plant Manager
G. Boldt, Nuclear Plant Operations Manager
G. Westafer, Manager Licensing and Fuel Management
B. Hickle, Chemistry and Radiation Protection Superintendent
P. Havens, Corporate Counsel

b. Nuclear Regulatory Commission

J. P. O'Reilly, Regional Administrator
J. A. Olshinski, Director Division of Reactor Projects
J. P. Stohr, Director, Division of Radiation Safety and Safeguards
J. M. Puckett, Director, Enforcement and Investigation Coordination
R. D. Walker, Deputy Director, Division of Reactor Projects
V. W. Panciera, Chief, Reactor Projects
G. R. Jenkins, Chief, Facilities Radiation Protection
T. Stetka, Senior Resident Inspector
D. M. Montgomery, Chief, Independent Measurements and Environmental Protection
R. E. Carroll, Project Engineer
J. E. Tedrow, Resident Inspector
G. L. Troup, Senior Radiation Specialist
T. R. Collins, Radiation Specialist
L. Trocine, Enforcement Specialist

During the meeting, licensee personnel presented discussions of the event including the chronology, radiation surveys taken prior to and while work was being performed and corrective actions taken or planned.

NRC personnel emphasized their concerns associated with planning and evaluating high level radiological hazards, and concluded that the action taken by the licensee was adequate.