



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
230 PEACHTREE STREET, N.W. SUITE 818
ATLANTA, GEORGIA 30303

IE Inspection Report No. 50-302/76-17

Licensee: Florida Power Corporation
3201 34th Street, South
P. O. Box 14042
St. Petersburg, Florida 33733

Facility Name: Crystal River 3
Docket No.: 50-302
License No.: CPPR-51
Category: B1

Location: Crystal River, Florida

Type of License: B&W, PWR, 2452 Mwt

Dates of Inspection: September 28 - October 1, 1976

Dates of Previous Inspection: August 31 - September 3, 1976

Principal Inspector: F. Jape, Reactor Inspector
Reactor Projects Section No. 2
Reactor Operations and Nuclear Support Branch

Inspector-in-Charge: G. L. Troup, Radiation Specialist
Radiation Support Section
Fuel Facility and Materials Safety Branch

Accompanying Inspectors: None

Other Accompanying Personnel: None

Principal Inspector: R. C. Lewis
for F. Jape, Reactor Inspector
Reactor Projects Section No. 2
Reactor Operations and Nuclear Support Branch

11/8/76
Date

Reviewed by: R. C. Lewis
R. C. Lewis, Chief
Reactor Projects Section No. 2
Reactor Operations and Nuclear Support Branch

11/8/76
Date

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DETAILS I

Prepared by:

G. L. Troup
G. L. Troup, Radiation Specialist
Radiation Support Section
Fuel Facility and Materials Safety Branch

11/5/76
Date

Dates of Inspection: September 28-October 1, 1976

Reviewed by:

A. F. Gibson
A. F. Gibson, Chief
Radiation Support Section
Fuel Facility and Materials Safety Branch

11/8/76
Date

1. Individuals ContactedFlorida Power Corporation (FPC)

P. F. McKee - Assistant Nuclear Plant Superintendent
J. R. Wright - Chemical and Radiation Protection Engineer
J. L. Harrison - Assistant Chemical and Radiation Protection Engineer
G. D. Perkins - Health Physics Supervisor
G. R. Westafer - Technical Support Engineer
D. W. Pedrick, IV - Compliance Engineer
H. B. Lucas - Administrative Supervisor
D. H. Ruzic - Results Engineer
W. A. Cross - Plant Engineer
J. N. Kurtz - Plant Engineer
R. E. Fuller - Plant Engineer
E. E. Froats - Manager, Site Surveillance
J. C. Hobbs, Jr. - Manager, Generation Testing
J. L. Chapdelaine - Test Supervisor
N. L. Flucard - Test Supervisor

Applied Physical Technology

R. A. Hearn, Jr. - Senior Applications Physicist

2. Preoperational Test Procedures

- a. The inspector reviewed the following completed test procedures to verify completion of the tests, proper approval of changes or revisions, completion of corrective actions on exceptions or deviations, and review and approval in accordance with FSAR Section 13.2.6:

TP 71 261 1 - Liquid Waste Disposal System IPOC
71 261 2 - Liquid Waste Disposal System - Hydro and Leak

- 71 262 1 - Gaseous Waste Disposal System - Leak Test
- 71 262 2 - Gaseous Waste Disposal System - Functional Test
- 71 262 3 - Gaseous Waste Disposal System - IPOC
- 71 262 4 - Gaseous Waste Disposal System - Electrical
- 71 262 5 - Waste Gas Sampling Leak Test
- 72 263 1 - Solid Waste Disposal System - Electrical and IPOC

- b. In reviewing the completed test procedures the inspector noted several instances where procedures were reviewed and signed off with outstanding exceptions or deviations. A licensee representative stated that these items were identified by another means, such as a deficiency report or engineering change notice, and were being tracked as outstanding items on the "punch list" by plant system to ensure corrective action was complete. Documentation to clear these items will be included in the test procedure package. The inspector selected four deviations or open items from the completed test procedures and verified that these items were included on the "punch list". The inspector had no further questions but emphasized to licensee management that the open items, including any related retesting, are an integral factor in determining that the systems are complete and ready for use.

3. Ventilation Filter Installation and Testing

- a. High-efficiency particulate air (HEPA) Filters and charcoal adsorbers are installed in the containment purge, auxiliary building exhaust, and control complex recirculation ventilation systems. The inspector observed the installation of filters and adsorbers in these systems and compared the installation against Regulatory Guide 1.52, "Design, Testing and Maintenance Criteria for Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants", and ORNL-NSIC-65, "Design, Construction, and Testing of High-Efficiency Air Filtration Systems for Nuclear Application". This review included, but was not limited to, proper orientation of filters and adsorbers, installation of gaskets on sealing surfaces, independent bolting of filters, installation of charcoal test cannisters, differential pressure indication, temperature alarms and water deluge nozzles. The inspector visually checked filters at random for damage to the media and checked adsorber trays for the presence of charcoal. The inspector had no questions on the installation.
- b. In-place testing of the filter trains was in progress in accordance with Test Guide 55. The inspector discussed the

locations of injection and sampling of test media with licensee representatives and was satisfied that the points provided adequate mixing and representative sampling. A temporary sampling manifold was installed on the downstream side of the adsorbers in the auxiliary building exhaust filter housing. A licensee representative informed the inspector that sampling manifolds would be permanently installed in these trains to obviate installation and removal of the manifold for each periodic test.

- c. During the inspection the licensee was unable to complete the testing of the adsorbers due to high background readings on the downstream side. The cause of the high background was being investigated. As the high background could have been caused by organic cleaning compounds being used in the plant, charcoal test cannisters were removed and were to be sent off-site for laboratory analysis. Licensee management stated that the results of the investigation and the laboratory test results would determine the course of action to be taken with the charcoal.

4. Variation of Filter Systems from FSAR Statements

- a. This item was originally discussed in IE Report No. 50-302/76-3, Details, paragraph 4, and dealt with deviations from FSAR Table 9-15 for filter housings. Four specific items of apparent deviation were identified:
 - (1) test certification of charcoal impregnant concentration
 - (2) filter housing construction
 - (3) installation of drain line check valves
 - (4) differential pressure indication for control complex filters
- b. Test certification for the charcoal was reviewed as discussed in IE Report No. 50-302/76-9, Details I, paragraph 2. Additionally, the supplemental test results on the composite sample discussed in that report were reviewed by the inspector to verify that the tests had been performed. The inspector had no further questions.

- c. The unwelded joints in the housings are sealed with a caulking compound. Report 50-302/76-3, Details II, paragraph 4.(b) stated that the housings should have all welded joints per FSAR Table 9-15, Regulatory Guide 1.52 and ORNL-NSIC-65. A licensee representative acknowledged that all welded construction is the most desirable construction but stated that the filter housings were ordered prior to the issuance of Regulatory Guide 1.52 and ORNL-NSIC-65, and further, that FSAR Table 9-15 and Regulatory Guide 1.52 did not require all-welded construction as stated in paragraph 4.5.2 of ORNL-NSIC-65. After reviewing the subject documents, the inspector acknowledged that this deviation example was in error and it was withdrawn.
- d. The inspector observed the drain line check valves installed on the filter housings for the containment purge, control complex, and auxiliary building exhaust filters. This completed the action on this item.
- e. The inspector attempted to locate the differential pressure indicators for the control complex filter trains in the control room and was unsuccessful. A representative located the indicator and identified the problem in identification as being due to the indicator being improperly labeled. The label plate indicated that the meter was for "control complex air flow." On further inspections the inspector determined that the indicator appeared to be a differential pressure indicator with two indicators (one for each filter train with a scale of "inches of water)." A licensee representative stated that the label plate would be corrected to reflect the correct instrument function; this action was acknowledged by licensee management. However, subsequent to this inspection, a licensee representative informed the inspector that the indicator in the control room is not the differential pressure indicator for the filters as originally believed and is connected to an air flow measuring device. Further investigation by licensee personnel revealed that the differential pressure indicator system as shown on drawing BS-302-759, Instrumentation and Controls-Control Complex, for the control complex filters is not installed. The differential pressure indication in the control room for the control complex filters, as required by FSAR Table 9-15, apparently has not been installed.
- f. The inspector advised licensee management that, as the differential pressure indication in the control room has not been resolved, this item remains open.

5. Plant Operating Procedures

- a. 10 CFR 71.5 requires that shipments of licensed radioactive materials be made in accordance with Department of Transportation regulations for the appropriate mode of transport. For shipment by truck, the appropriate regulations are contained in 49 CFR 170-189; 49 CFR 173.393 specifies the requirements for the shipment of radioactive material in the liquid form. The solid waste system is designed to solidify liquid waste prior to shipment. In order that the waste can be shipped as solid vice liquid waste, the liquid waste must be completely solidified with no free water. While this situation can be determined by visual examination, if radiation and/or contamination levels preclude visual examination then a process control program for solidification is necessary. The inspector asked a licensee representative what method would be used to determine the presence of free liquid and what data were available for process control to assure that no free liquid is present in "solidified" waste. The representative stated that visual inspection could not be used so process control would be necessary but that no procedures had prepared to establish the solidification parameters, such as type of waste, pH, amount of waste, solidification material, etc. A licensee management representative acknowledged this item and stated that procedural control would be established for waste solidification to take into account the various physical and chemical parameters; however, these procedures have not been identified or prepared.
- b. Plant chemistry procedures for radiochemistry analysis, waste discharge control and accountability and surveillance of waste discharge operations are incomplete. Some procedures have been drafted while others are delayed pending final determination of technical specification requirements. However, these procedures will be required for plant operations.
- c. Administrative Instruction AI-700, Conduct of Chemistry and Radiation Protection, is presently being revised to reflect the current philosophy of operations. The inspector emphasized to licensee management that this revision must be issued prior to operation to assure that operations are conducted in accordance with approved procedures. A licensee management representative acknowledged this comment and stated that the revision was currently in the review cycle and would be issued prior to operation.

- d. The inspector reviewed procedure RP-102, Respiratory Equipment Manual, revision 2 and provided several comments to licensee representatives. A licensee management representative acknowledged these comments and stated that they would be considered for subsequent revisions of the procedure.
- e. As discussed in IE Report No. 50-302/76-14, Details I, paragraph 5.b, a system modification to the liquid waste system is being considered to permit batch discharges from the laundry sump. As an alternate method to comply with the Environmental Technical Specifications requirements for representative sampling and batch releases the licensee is considering imposing administrative controls on the sources of water into the sump. No procedures or instructions have been prepared imposing the restriction or controls on the water sources to the sump, which will be required for operations.

6. Radiation Protection Training

- a. FSAR Section 12.2.2.4 states, in part, "All personnel assigned to the nuclear plant will receive specialized training in radiation safety..." The inspector reviewed the records for nine individuals randomly selected from personnel in operations, maintenance, chemistry and radiation protection and administration and determined that all nine had completed the radiation protection training. The inspector reviewed the tests to ascertain that the individuals had taken the test and had achieved a satisfactory score. In one case the individual's test score was less than 75%; the individual took the course a second time and a satisfactory score based on review of the second test. At the time of the inspection the licensee was unable to locate the test of one administrative employee to document satisfactory completion of the training. License management stated that this matter would be reviewed and efforts made to locate the test or otherwise document satisfactory completion of the test. The inspector provided comments relative to training records to licensee management who acknowledged the comments.
- b. Plant Radiological Control Procedure RP-102, Respiratory Equipment Manual, Section 4.0 specifies the training requirements for plant personnel who are assigned to the respiratory protection program. At the time of the inspection this training had not been started. A licensee representative informed the inspector that this training would be conducted commencing in October.