



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

Report No.: 50-302/84-07

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 at Crystal River site near Crystal River, Florida

Inspector: *L. A. Franklin* 4-26-84
L. A. Franklin Date Signed

Accompanying Personnel: A. C. Stalker, EG&G Idaho, Inc.

Approved by: *G. R. Jenkins* 4/26/84
G. R. Jenkins, Section Chief Date Signed
Emergency Preparedness and Radiological
Programs Branch
Division of Radiation Safety and Safeguards

SUMMARY

Inspection on February 27 - March 2, 1984

Areas Inspected

This special, announced inspection involved 64 inspector-hours on site in the areas of post accident sampling system, posting and labeling, and plant tours.

Results

Of the three areas inspected, no violations or deviations were identified in two areas; one apparent violation was found in one area.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *E. Morris Howard, Director, Site Nuclear Operations
- *P. McKee, Plant Manager
- *G. L. Boldt, Plant Operations Manager
- R. Clarke, Plant Health Physics Manager
- *S. Robinson, Radwaste Manager
- *D. Wilder, Chemical Waste Supervisor
- M. Siapno, Health Physics Supervisor
- R. Browning, Health Physics Supervisor
- *J. L. Bute, Nuclear Compliance Specialist
- *M. S. Mann, Nuclear Compliance Supervisor
- *J. Roberts, Nuclear Chemistry Manager
- *D. McCollough, Chief Nuclear Chemist
- *R. Fuller, Site Nuclear Service Manager
- D. Betts, Quality Audits Supervisor, Corporate
- *W. A. Clemons, Compliance Superintendent
- *V. R. Roppel, Manager, Plant Engineering and Technical Services
- *W. Rossfeld, Compliance Manager
- *W. D. Worley, Chemistry Specialist
- *M. Penovich, Nuclear Operations, Licensing
- *F. Sullivan, Nuclear Plant, Engineer II

Other licensee employees contacted included four technicians and three office personnel.

NRC Resident Inspector

- *T. F. Stetka, Senior Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on March 2, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Licensee Action on NUREG 0737 Items

(Closed) (11.B.3) Post Accident Sampling System

A review of the system design and installation was made. The review consisted of spot checking and tracing a number of lines in the sampling system and comparing these with the drawings and system descriptions. No discrepancies were noted with the physical installation. A safety analysis has been performed and there are no unreviewed safety questions.

System procedures have been prepared, reviewed and approved as required by Technical Specification 6.8.1. However, the review that was performed for the Emergency Plan Implementing Procedure, EM 307, on December 19, 1983, and approved December 30, 1983, was inadequate in that EM 307, which covers the post accident sampling system valve lineups, contains a direct conflict with operating procedure GP-301. EM 307 requires certain valves be open for normal sample paths and to return those samples to containment. OP 301 requires that the same valves be closed. As a result, should a sample be required, the normal return path would be unavailable and the highly contaminated water would be sent to the radioactive waste system in the auxiliary building. The safety significance of using this alternate method of sampling depends upon the amount of core damage present at the time the sample is drawn, but it is not anticipated that this improper lineup would have significantly affected other plant recovery operations. Failure to perform an adequate review is a violation of Technical Specification 6.8.1 (50-302/84-07-01).

The system has been designed with adequate shielding so that a sample can be taken and analyzed within the radiation exposure limits prescribed by NRC. However, there are a large number of manually operated valves, some inside the reactor building, that must be kept open during operation so that the system would be available in the event of an accident. An adequate system of controls for these valves must be developed and implemented. This item will be examined during future inspections (IFI 84-07-02).

The licensee has an adequate formal training and retraining program with documented hands-on training. Thirteen staff members have been trained in the operation of the system. This appears to be a sufficient number of experienced system operators.

The licensee has a written acceptance test program and properly recorded results. The program included both the installation of the equipment and the testing of the chemical procedures using the NRC mandated standard test matrix. The recalibration and periodic test program has not yet been completely codified in a set of formal procedures. This will be examined during future inspections (IFI 84-07-03).

Reactor coolant samples were analyzed and all of the results were acceptable except for the hydrogen and the pH. Both of these results were outside of the acceptance criteria. Containment atmosphere samples were taken for

noble gases and iodines. The results were acceptable except for the Xe-133 results which were outside of the acceptance criterion. No containment hydrogen samples were run due to the problem of not being able to open the containment isolation valves during plant power operations. This will be examined during future inspections (IFI 84-07-04).

The following design problems were noted:

- 1) The stripped gas from the reactor coolant hydrogen analysis is routed to the waste gas system. The return should go to containment.
- 2) A drain tank in the PASS system needs to be shielded in the event that it were to fill with reactor coolant.
- 3) The containment air sample lines are not heat traced so that moisture in the system could affect the results of the sample.
- 4) A purge system should be installed in sample lines to prevent blockage and excessive plateout.
- 5) The ventilation exhaust from the sample station should be filtered at some point through charcoal absorbers and HEPA filters.

These items will be examined during future inspections (IFI 50-302/84-07-05).

6. Plant Tours

The inspector toured all elevations of the Auxiliary Building. Independent measurements of radiation levels in selected areas were taken. All monitored areas were properly posted and all stored equipment was properly labeled. The Auxiliary Building offgas system has developed minor leakage into the building which, at times, is showing activity levels up to $1E-9$ uci/ml. This leakage has been occurring since December 1983. The isotope identified by the licensee, is Rubidium-88. This leakage has resulted in minor clothing contaminations, primarily of the security force whose uniform material traps this particulate. It has further been found that in some cases, the security force uniforms are being contaminated by Lead-214 which is emanating from the coal fired power plant adjacent to this plant. The offgas leakage, while not a significant radiological hazard, is a matter of concern to both plant personnel and the inspector. Plant management has formed a task group to attempt to locate the precise location of these leaks and to seal them. The task group started this work February 6, and initially had some success in reducing activity leaks. As of February 27, the activity levels were down to normal background levels. However, with the testing of the post accident sampling system during this inspection, additional pressure on the offgas system revealed additional leakage and activity levels up to $6E-9$ uci/ml were noted. During this inspection, the task group was engaged in attempting to locate the source of this leakage.

No violations or deviations were identified.