



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

Report No. 50-302/81-10

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

Facility Name: Crystal River, Unit No. 3

License No. DPR-72

Docket No. 50-302

Inspection at Crystal River Site near Crystal River, Florida

Inspector: *Nick Economos*  
 N. Economos

7-9-81  
 Date Signed

Approved by: *A.R. Herdt*  
 A. R. Herdt, Section Chief  
 Engineering Inspection Branch  
 Engineering and Technical Inspection Division

7/8/81  
 Date Signed

SUMMARY

Inspection on May 26-29, 1981

Areas Inspected

This routine, unannounced inspection involved 24 inspector-hours on site in the areas of Inservice Inspection (ISI); spent fuel storage racks; open items; and IE Bulletins.

Results

Of the areas inspected, no violations or deviations were identified.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- D. C. Poole, Nuclear Plant Manager
- \*T. C. Lutkehaus, Assistant to Plant Manager
- J. Cooper, QA/QC Compliance Manager
- \*D. Binkowski, ISI Specialist
- \*S. W. Johnson, Maintenance Staff Engineer
- J. E. Barrett, Maintenance Engineer
- V. A. Hernandez, Compliance Auditor
- \*J. L. Bufe<sup>1</sup>, Compliance Auditor

Other licensee employees contacted included technicians, security force members, and office personnel.

#### NRC Resident Inspector

- \*T. Stetka

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on May 29, 1981 with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings listed below:

(Open) Unresolved Item 302/81-10-01: "Liquid Penetrant Applicable Code and Acceptance Criteria" - paragraph 7.a.

(Open) Inspector Followup Item 302/81-10-02: "NDE Personnel Certifications" - paragraph 7.b.

### 3. Licensee Action on Previous Inspection Findings

Not inspected.

### 4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 7.a.

## 5. Status of IE Bulletins and Circulars

- a. (Closed) 79-BU-17 Pipe cracks in stagnant borated water systems at PWR plants. The licensee's response to RII dated April 30, 1980, stated that the selection and ultrasonic inspection of pipe welds subject to stress corrosion cracking as outlined in IE:BU 79-17 were completed on April 7, 1980. The examination produced no evidence of S.C.C. in the welds inspected. This matter was discussed in RII:NE 50-302/80-17.
- b. (Closed) 79-CI-19 Loose locking devices on Ingersoll-Rand pump impellers. The inspector reviewed a licensee internal memorandum which indicated that CR-3 had no pumps of the type, style or model described in IE Circular 79-19. No further action is anticipated on this matter.
- c. (Closed) 79-CI-05 Moisture leakage in stranded wire connectors. The licensee by internal memorandum has indicated that a review and analysis of as installed safety-related transmitters and conductors has been performed and is a part of the response required by IE Bulletin 79-01B. No further action is anticipated on this matter.
- d. IE Notice 80-27 - Degradation of reactor coolant pump stud bolts. Discussions with cognizant licensee personnel disclosed that an inspection of the pump stud bolts in question was performed in April 1980. The inspection showed no evidence of corrosion with the exception of surface rust. These bolts will be inspected as required by the ISI program.

Once thru steam generator (OTSG) manway stud cracking. The licensee has cleaned and magnetic particle inspected the upper manway studs in "B" OTSG without finding evidence of cracking. This inspection was performed in April of 1981. Further inspections will be performed as required through the ISI program.

- e. (Closed) IEB 302/80-BU-08 Examination of containment liner penetration welds. Licensee's response to RII dated June 12, 1980, stated that Crystal River 3 did not utilize the "flued head" design or designs illustrated in Figure NE 1120-1 of ASME III (74W75) for containment penetrations. Joint designs used on Crystal River-3 penetrations included: single bevel corner joints, single and double bevel Tee joints which do not permit meaningful RT. However, existing liner penetration welds were MT and UT inspected which, the licensee feels, were consistent with ASME III (68) and Safety Guide 19.

#### 6. Inservice Inspection Plan - Fourth Outage

Plans for inservice inspection of pressure boundary and other safety-related components during the projected September, 1981 outage were discussed with cognizant licensee personnel. A review of preliminary plans disclosed that components scheduled for the upcoming inspection included the pressurizer, coolant loop pipe welds, the surge line, pressurizer spray, miscellaneous safety-related piping and hangers. The inspection activity is expected to span over a period of two to three weeks. OTSG tube performance and provisions of Regulatory Guide 1.83, Revision 1 will not require eddy current inspection.

#### 7. Spent Fuel Storage Racks - Observation of Work and Work Activities

Amendment No. 36, paragraph 5.6.1 of the Crystal River 3 Technical Specification addresses the design aspect of the new high density spent fuel pool "A" storage racks. The amendment requires that the new design provide for a distance of 10-1/2" from center-to-center between fuel assemblies. A conceptual design document was submitted to the Commission (NRR) on January 9, 1978, for review. This was subsequently followed by a structural analysis design report No. NES81A0522 on March 3, 1978.

Nuclear Energy Services' Specification No. 80A1487, Revision 4, September 11, 1979, "Specification for the Fabrication and Inspection of the Crystal River-3 High Density Fuel Storage Racks", was used to establish requirements for the fabrication, inspection, cleaning and packaging of the racks. Welding and nondestructive examinations were controlled by the 1977 Edition of ASME Code Sections IX and V, respectively. The racks were fabricated by Leckenby Company of Seattle, Washington. The racks arrived on site and the receipt inspection was documented on QCIR-81-06 dated January 16, 1981. At the time of this inspection, the racks had been assembled and installed in place hence the inspection effort was restricted to a review of quality control records, procedures and specifications as applicable. Welding technique appearance and quality was controlled by AWS D1.0-69 as invoked by AISC "Specification for Design Fabrication and Erection of Structures for Buildings", February 12, 1969. Weld repairs were controlled through NF4450, ASME Section III. Rack assemblies selected at random for an indepth review of the fabrication history and of material quality records were as follows: 1H-NES-1, 1G-NES-2, 1A-NES-5. For these rack assemblies the inspector reviewed material certifications, certificates of conformance, dimensional checks, plumbness, NDE reports, vendor audit reports and receipt inspection reports. Neutron absorber verification test was performed through procedure Section 8, Procedure MP-164, Revision 1, "Receiving Inspection of High Density Fuel Racks". Also, discussions and record review the inspector ascertained that the licensee had performed a 100% visual inspection on each assembly to verify the presence of neutron absorber sheets. A hole drilled near the top of rack plate was used to facilitate this inspection and to provide vent holes that permit gasses to escape.

Within these areas the inspector noted the following:

- a. A conflict of applicable code edition(s) existed between the Leckenby liquid penetrant procedure Q.C.P 9.3, Revision 1, (procedure) used to inspect welds on these racks, and the edition referenced in the NES specification No. 80A1487, Revision 4 (specification). The procedure referenced ASME Section V, 1974 and addenda through 1976 while the specification referenced the 1977 edition of the aforementioned code. In addition to the conflicting editions, the inspector noted a considerable difference in the acceptance criteria of rounded indications between the two documents, e.g., in the specification rounded indications with dimensions greater than 1/32 inches were rejectable whereas in the procedure, rounded indications with dimensions greater than 3/16 inches were rejectable. It should be noted that the procedure contained a statement giving the specification precedence over the procedure, however, there was no objective evidence to indicate which of the two acceptance criteria were actually used during the inspections. The inspector stated this matter would be identified as an unresolved item pending clarification of these discrepancies. This was identified as unresolved item 302/81-10-01 "Liquid penetrant applicable code and acceptance criteria."
- b. Also the record review disclosed that certifications of NDE personnel responsible for performing and evaluating liquid penetrant examinations were not included in the data package. The inspector requested and the licensee agreed to provide these documents for review by the IE:RII on a subsequent inspection.

This matter was identified as inspector followup item 302/81-10-02, "NDE personnel certifications".

Within the areas inspected, no violations or deviations were identified.