



UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION II - SUITE 818
230 PEACHTREE STREET, NORTH, EST
ATLANTA, GEORGIA 30303

TELEPHONE: (404) 526-4503

RO Inspection Report No. 50-302/73-6

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: A2

Location: Crystal River, Florida

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

Type of Inspection: Routine, Unannounced, Construction

Dates of Inspection: July 10-13, 1973

Inspector in Charge: T. E. Conlon, Reactor Inspector
Engineering Section
Facilities Construction Branch

Accompanying Inspectors: None

Other Accompanying Personnel: J. C. Bryant, Senior Inspector
Engineering Section
Facilities Construction Branch

Principal Inspector: E. J. Vallish
E. J. Vallish, Reactor Inspector
Facilities Section
Facilities Construction Branch

7-30-73
Date

Reviewed By: W. A. Crossman
W. A. Crossman, Senior Inspector
Facilities Section
Facilities Construction Branch

7-31-73
Date

8003030 798

SUMMARY OF FINDINGS

I. Enforcement Action

A. Violations

None

B. Safety Items

None

II. Licensee Action on Previously Identified Enforcement Matters

A. Violations

73-1/A1 Decay Heat and Makeup and Purifications Systems Welding

Welding performed was not in accordance with the qualified welding procedure. This item remains open.

73-1/A2 Decay Heat and Makeup and Purification Systems Radiography

Radiography of welds was not in accordance with the prescribed procedure. This item remains open.

B. Safety Items

None

III. New Unresolved Items

None

IV. Status of Previously Reported Unresolved Items

73-5/1 Weld Material Control

The licensee altered the main warehouse storage area to ensure adequate separation and storage of weld rod material. This item is closed. (Details I, paragraph 2)

73-5/2 Safety Valve Piping

Assurance is required that safety valve piping design criteria did include dynamic force reactions. This item remains open.

73-5/3 Control Rod Drive Motor Tube Extension Discontinuities

Verification of acceptance criteria and determination if any thin wall tubes are to be installed is required. This item remains open.

73-5/4 Limiter Valve Operator Failures

Modification of certain models of Limitorque valve operators installed in safety related systems is to be accomplished. This item remains open.

73-5/5 Control Rod Drive (CRD) Undervoltage Trip Assembly Deficiency

Deficiencies in design or manufacture of these trip assemblies resulted in a generic problem requiring subcontractor action for resolution. This item remains open.

73-5/7 Differential Pressure (D/P) Cell Survey

The licensee has completed a survey for the use of certain models of DP cells with a history of maloperation and states that these models are not used at this facility. This item is closed. (Details I, paragraph 3)

73-5/9 Paddle-Type Flow Switches

The applicant is determining if any of these type switches are installed in adverse environments. This item remains open.

73-5/12 FPC Audit of B&W

The applicant directed an audit of the NSSS supplier and the report will be reviewed later. This item is open.

73-5/14 Reactor Internals Modification

Modification to these internals is being accomplished in the vendor shops prior to delivery to the site. This item remains open.

73-5/15 Quality Assurance Audits

The licensee agreed that quality assurance audits should be closed promptly and will investigate and rectify the situation as to their delinquency. This item remains open.

73-5/16 Cable Installation

A potential problem of space and circuit separation exists in the cable spreading area. The licensee agreed to make a detailed analysis of space needs and make an evaluation of the present capabilities of the spreading room and slot layout. This item remains open.

72-3/5 Procedures for Final Inspection of Piping

There has been no change in status. This item remains open.

72-5/3 Valve Wall Thickness Requirements

There has been no change in status. This item remains open.

73-1/2 Suspect Lack of Material Control - Weld Filler Material

B&W Topical Reports BAW-1402 and BAW-1403 have been reviewed for adequacy by AEC Headquarters and it was determined that those major components involved are acceptable for their intended service. This item is closed (Ref: letter dated June 19, 1973, from AEC, Engelken, to B&W, Mallay, Licensing Manager).

73-3/1 Radiography of Piping

The licensee is reviewing M. W. Kellogg's radiographic procedure and evaluating their radiographs with regard to the primary usage of film side penetrameters. This item remains open.

V. Design Changes

None

VI. Unusual Occurrences

None

VII. Other Significant Findings

A. Project Status

No significant reportable changes.

B. Personnel Changes

No significant changes observed.

VIII. Management Interview

The attendees of the management interview included the following:

Florida Power Corporation (FPC)

H. L. Bennett - Director, Generation Construction
D. W. Pedrick - Quality Engineer

Babcock and Wilcox Construction Company (BWCC)

L. M. Watson - Project Manager
T. J. Richardson - Project Engineer

Discussion

The scope of inspection was outlined and the inspector informed the attendees that within the areas examined for Class I components, no deficiencies or violations were identified.

DETAILS I

Prepared by

T. E. Conlon
T. E. Conlon, Reactor Inspector
Engineering Section
Facilities Construction Branch

7/27/73
Date

Dates of Inspection: July 10-13, 1973

Reviewed by

J. C. Bryant
J. C. Bryant, Senior Inspector
Engineering Section
Facilities Construction Branch

7/27/73
Date

1. Persons ContactedFlorida Power Corporation (FPC)

D. W. Pedrick - QA Engineer

2. Weld Material Control

The licensee informed the inspector that provisions had been made for physical separation of acceptable welding material from nonacceptable material. A visual inspection of the main warehouse storage area revealed a wire cage with locked entry for acceptable welding material. Nonacceptable material is stored in the warehouse with "HOLD" tags attached. The acceptable welding material is withdrawn from the cage as required to supply the central issue station. The inspector had no further questions and the item is closed.

3. Differential Pressure Cell Survey

The licensee was requested to conduct a survey for the possible use of Barton D/P cells models 368, 384 and 386 in safety related systems. The licensee informed the inspector that the above-listed models utilize a strain gage sensing element and will not be used at Crystal River Unit No. 3. However, a Barton model 224 bellows type will be used. The inspector had no further questions and the item is closed.

4. Reactor Vessel (RV)

The Babcock and Wilcox Construction Company (BWCC) installed the reactor vessel in accordance with field construction procedure (FCP) #007, Revision 3, entitled "Erection of Reactor Vessel." This procedure is a 32-step sequence for moving the reactor vessel from storage to final positioning on the soleplate inside the containment building. The leveling and alignment of the RV was in accordance with BWCC

procedure #012, Revision 1. This procedure required the RV principal centerline to be level within 0.125 inch of true position and the final documented deviation was less than .093 inch.

At the present time, the RV holddown studs have been made wrench tight; however, final tensioning of the studs will be done in accordance with FPC construction procedure W43, Revision 2, dated February 26, 1973. This procedure will require eight SR-4 strain gages to be placed on predetermined studs and the readings from these strain gages will be used to verify accuracy of the stress-strain load curves. All studs, including those with strain gages attached, will be tensioned and then measured with a calibrated, direct reading dial indicator. Final acceptance of tensioning will be based on elongation as measured by the dial indicator.

In-place inspection of the RV is done every 30 days. The inspection is limited to visual observation for cleanliness, surface damage and to see that all nozzles are properly covered.

Within the above areas, there were no deficiencies or violations identified.

5. Other Class I Components

The inspector reviewed the documentation for receipt inspection and storage of the following components:

a. Reactor Coolant Pumps

These pumps were supplied by Byron Jackson under purchase order #80215Z and in accordance with B&W specifications CS-3-9 and CS-3-36. Both of these documents were available at the site. Additional records were available for pump internals (shaft, impeller and cover) and casings such as:

- (1) Certification of compliance.
- (2) Certification of chemical and physical properties.
- (3) Heat treatment.
- (4) Radiography reports.
- (5) Certification of cleanliness.

Monthly inspection sheets were in the file and dated for each month since initial receipt inspection.

b. HP and LP Injection Pumps

The HP injection pumps were purchased from Bingham Pump Company under purchase order #81549LW and the LP injection

pumps were purchased from Worthington Corporation under purchase order 81551LW. Both purchase orders invoke B&W specifications CS-3-30 for pump end and CS-3-34 for motor end. The above documents were at the site and available for review.

Additional records in the file included:

- (1) Quality release from B&W.
- (2) Mill certifications and associated heat numbers for impellers, shafts and casings.
- (3) Vendor's certificate of cleanliness.
- (4) Vendor's manuals.
- (5) Receipt inspection data.

Both the HP and LP injection pumps are stored in enclosed warehouses. The motor ends have strip heaters for moisture control and the monthly inspection sheets indicate that hand rotation is performed every month.

c. Pressurizer Relief Valves

A total of four valves were purchased from Dresser Industries under purchase order #81395LS. This included two safety valves, one power actuated relief valve and one relief isolation valve. The safety valves were furnished in accordance with B&W specification CS-3-28 and the power actuated relief valve to B&W specification CS-3-79. The above documents were at the site and available for review. The licensee's files contained the following additional records:

- (1) Vendor's certificate of compliance.
- (2) Mill certifications and heat numbers.
- (3) Initial receipt inspection.

At the present time, the valves are in wooden boxes and stored in a BWCC warehouse. Periodic storage inspection is done every month and consists of a visual inspection for external damage.

Installation and post-installation inspection criteria are contained in BWCC procedure FS-III-9.

d. Letdown Coolers


The inspector reviewed the purchase order and B&W specification for the letdown coolers. The file also contained:

- (1) Vendor certificate of compliance.
- (2) Mill certifications for shell and tubes.
- (3) Radiography reports.
- (4) Certificate of cleanliness.

Within the above areas, there were no deficiencies or violations identified.

Ltr to Florida Power Corporation
dtd **AUG 1 1973**

cc w/encl:

 H. D. Thornburg, RO
RO:HQ (4)
Directorate of Licensing (4)
DR Central Files

cc w/o encl:

PDR
Local PDR
NSIC
DTIE, OR
State