



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report No.: 50-302/84-34

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: November 26-30, 1984

Inspectors: M. D. Hunt 12/19/84
M. D. Hunt Date Signed

A. B. Ruff 12/20/84
A. B. Ruff Date Signed

Approved by: T. E. Conlon 12-20-84
T. E. Conlon, Section Chief Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection involved 66 inspector-hours on site in the areas of electrical and instrumentation, controls maintenance activities, and quality records.

Results: A violation was identified - inadequate procedures for performing specified requirements - paragraph 5.b.

8503060629 850131
PDR ADOCK 05000302
Q PDR

REPORT DETAILS

1. Licensee Employees Contacted

- E. M. Howard, Director, Site Nuclear Operations
- P. F. McKee, Nuclear Plant Manager
- *G. L. Boldt, Nuclear Plant Operations Manager
- *R. A. Brown, Electrical Supervisor
- *R. E. Carbiener, Nuclear Maintenance Superintendent
- *D. DeBask, Supervisor, Instrumentation and Control
- P. Ellsberry, Nuclear Technical Training Supervisor
- H. Gelstom, Nuclear Electrical/ Instrumentation & Control Energy Supervisor
- *W. M. Johnson, Nuclear Plant Engineering Superintendent
- *H. Koon, Assistant Maintenance Superintendent (Acting)
- *R. L. Murgatroyd, Assistant Nuclear Maintenance Superintendent
- *V. Roppel, Manager Plant Energy and Technical Services
- *D. H. Smith, Nuclear Maintenance Licensing
- *R. Smith, Supervisor Nuclear Quality Engineering
- B. Squires, HVAC Foreman
- *K. R. Wilson, Supervisor, Site Nuclear Licensing

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on November 30, 1984, with those persons indicated in paragraph 1 above. The licensee was informed of the inspection findings listed below. The licensee acknowledged the inspecting findings with no dissenting comments.

Inspector Followup Item 302/84-34-01, Review SP-433 Data Sheet Layout - paragraph 5b.

Unresolved Item 302/84-34-02, Examine the need to monitor meteorological tower 2 alarms on the main annunciator system - paragraph 5b.

Violation 302/84-34-03 Inadequate procedures for performing specified requirements - paragraph 5b.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

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 5b.

5. Electrical/Instrumentation and Control (I&C) Maintenance

a. Document Review

Various documents in the licensee's QA program associated with Electrical/I&C maintenance activities were examined. This examination was made to ensure the following pertinent attributes were addressed, specified, and implemented when applicable:

- (1) Review and approval of procedures and instructions by the proper personnel.
- (2) Equipment classification as to safety-related (S/R) or non-safety-related.
- (3) Updated vendor information, drawing and instructions available to personnel performing maintenance.
- (4) Quality control hold points and sign-offs established.
- (5) Qualified material, parts and components specified and covered by the licensee's Quality Control Issue (QCI) Document.
- (6) Special processes specified and controlled.
- (7) Control of jumpers, lifted leads, and removal of test devices.
- (8) Coordination of maintenance and operating personnel to ensure safe operation of plant. Items such as notification and approval for removing and returning equipment to service, Limiting Conditions for Operation (LCO) requirements of the Technical Specifications, and post-maintenance testing and/or other operational tests to ensure equipment operability prior to restoring it to operational status.
- (9) Cleanliness of area and equipment.
- (10) Reporting and correcting of conditions adverse to quality.
- (11) Acceptance criteria, QC/QA observations and reviews.
- (12) Radiation and/or fire protection work permits.
- (13) Training and qualification of craft personnel.

The documents examined are listed as follows:

- AI-0401 - Operations and Implementation of New Procedures
- AI-0660 - Conduct of Maintenance
- AI-0900 - Conduct of Quality Compliance
- AI-1000 - Good Housekeeping
- CP-111 - Documenting, Reporting and Reviewing Nonconforming Operations Reports
- CP-113 - Handling and Controlling Work Requests and Work Packages
- CP-115 - In-plant Equipment Clearance and Switching Orders
- CP-116 - Standard Cleanliness Specification
- CP-121 - Review and Control of Contractor Procedures or Instructions
- CP-125 - Corrective Action Procedure
- CP-135 - Identification, Marking, and Subdividing Safety Related Materials
- NQC-88 - Preparation and Issuance of a Quality Control Inspection Report
- PM-100 - Preventive Maintenance Program
- PM-107 - 480V Breakers
- SP-157 - Meterological System Surveillance
- SP-433 - In-core Neutron Detectors Channel Check

b. Observation of Work

The inspector observed the performance of Surveillance Procedure SP-433, In-core Neutron Detectors Channel Check. This procedure is required weekly when the unit is at greater than 15% of full power. The special conditions addressed the plant power operation requirements, equipment to be used, and required the Nuclear Instrument and Controls Technicians to perform the test but it did not state any training requirements. The procedure (SP-433) listed two methods for determining calibration values. One method used the plant computer to obtain certain data readings which were then fed into a special computer program which developed the data sheet and acceptable values for each of the two 18-point recorder readings. The second method involved the use of a mathematical formula to obtain the acceptance data. The formula contains constants which are used to calculate the expected recorder unit readings. While the constants used are correct, the derivation formula for the constants, given as an information note in the procedure, is not clear. There are a couple of typographical errors which made it difficult to determine which values to use for P and \bar{P} (P-Bar). It was also noted that the arrangement of the data sheet is such that the acceptance criterion (required recorder reading) is in a column next to the column used for recording the recorder readings. The inspector discussed the layout of the data sheet with the licensee representatives. It was agreed that the actual recorded data column being situated next to the recorder acceptance criterion reading data column could possible influence the value read on the recorder by data-taking personnel. The licensee agreed to review the data sheet layout. This item is identified as an Inspector Followup Item 302/84-34-01, Review SP-433 Data sheet layout.

The inspector observed the performance of surveillance procedure SP-157, Meteorological System Surveillance. The procedure is performed to verify wind speed, wind direction and temperature inputs transmitted to the control room meters and recorders from the two meteorological (MET) towers. The test inputs were fed into the tower equipment and verified by the meter/recorder readings recorded in the control room.

It was noted that there are four alarm lights above the meters/recorders which are located in back of the main control panels. The inspector inquired if these alarms were connected to the annunciator system such that the operator would know that a failure had occurred at MET, tower 2. The operator's logging activities require recording certain readings during each eight hour shift. MET tower 1 has only one failure alarm but it is connected to the plant annunciator system. The fact that the MET tower 2 had not been connected to the plant annunciator system was discussed with the licensee who agreed to review the situation further. This will be identified as an Unresolved Item 302/84-34-02, Examine the need to monitor meteorological tower 2 alarms on the main annunciator system.

During the inspectors' observation and review of the weekly surveillance of MET tower 2, it was noted that the four alarms for equipment malfunctions were not tested. The procedure SP-157 did not require testing of these alarms. This was identified to the licensee as Violation 302/84-34-03, Inadequate procedures for performing specified requirements.

Trouble-shooting techniques and corrective maintenance activities for HVAC chiller compressor 1B circuit breaker were observed. Work Request (WR) 60681 was issued to perform the trouble shooting to determine why the breaker opened automatically (tripped) during startup on routine change-over from redundant 1A compressor to 1B compressor which are redundant pieces of equipment. The WR was properly filled out and processed in accordance with CP-113, Handling and Controlling Work Requests and Work Packages. This included the equipment being designated as nuclear safety-related (S/R) on the WR. The clearance request for breaker work was properly processed and the breaker was removed to a work area for trouble shooting. A Multiamp Tester was used to check the setting of the breakers overcurrent devices (O.D.) Trouble shooting indicated that the breaker O.D. settings would not have caused the breaker to open on routine startup. Trouble shooting did, however, show that the OD, for one phase (A) at one test point (960 amps), that the breaker opened automatically (tripped) in approximately 32 seconds. The specification allows the breaker to trip between 10 and 29 seconds. During the first phase of testing after O.D. adjustments, the licensee's QC representative noted that the Multiamp Tester did not have a calibration sticker. Testing of the O.D.s was stopped and a Quality Control Inspection Report (QCIR) number 84-168 was issued to document this discrepancy.

At the exit meeting, the licensee stated that the calibration of the Multiamp Testers indicated that it was accurate and that any previous testing would not have to be repeated. The remaining test points on this breaker would be completed shortly. Since the O.D. setting indicated that the breaker was satisfactory, the breaker tripping was caused by problems in the motor circuit or other equipment and additional trouble shooting would be required.

Work Request 52533, Replacement of Close-Latch Anti-Lock Spring Mechanism for ITE/Gould Circuit Breakers, was issued to implement Modification No. 83-12-17-01. This WR replaces a breaker spring, does routine preventive maintenance (PM 101, 4.16 KV and 6.9 KV Switchgear), and accomplishes an inspection as recommended by I/E Notice 83-84, Cracked and Broken Piston Rods in Brown Boveri Electric Type 5HK Breakers. This WR is for approximately 60 breakers and is scheduled to be accomplished when PM-101 comes due for the applicable breaker. About half of the breakers are safety-related (S/R) and the work request properly indicates this S/R classification. A Quality Engineering Inspection Plan (QEIP) Number WR 52533/QEIP-01, was issued and attached to the WR. This inspection plan calls for two inspection actions, material and functional test verifications, for each S/R breaker. One of the inspection actions is a duplication of that required by QEIP No. 83-12-17-01/QEIP-01 that was attached to the work package. The latter inspection plan has provisions for a QC verification sign-off for each S/R breakers; whereas, the former has provisions for only one verification sign-off for the breakers. Two S/R breakers had been performed to date. Inspection plan WR 52533/QEIP-01 was signed off for both inspection actions on the first S/R breaker but there was no QC verification sign-off for three breakers' material verification on the second S/R breaker. The WR 52533/QEIP-01 inspection record verification requirement for 30 S/R breakers was inadequate. This is another example of violation 50-302/34-03, Inadequate procedures for performing specified requirements.

c. Records Review

The inspectors selected thirty work requests involving electrical and I&C maintenance activities. The records showed that they were properly filled out. This included pertinent requirements and information such as clearing and tagging requirements, post-maintenance testing requirements, safety-related classification, and radiation work permit requirements. Records indicated that proper reviews by supervisory personnel and planners were accomplished. The completed WRs are stored on microfilm and can be located readily through a computer program that uses words and/or WR number association as controlling identifiers. The following WRs were examined: 53811, 54671, 55185, 55238, 55276, 55483, 55540, 55966, 56004, 56012, 56062, 56087, 56088, 56091, 56409, 56410, 56457, 56693, 57035, 57081, 57245, 57879, 57880, 58498, 58640, 58710, 59242, 59271, 59602, 61281.

During the examination of completed WRs, it was noted that the post maintenance test (PMT) section of many of the WRs indicated "functional test" as a requirement. Sign-off indicated that some type of functional test was performed; however, functional test is not defined in CP-133, Handling and Controlling Work Requests and Work Packages, nor was it defined in the individual WR where it was specified. The inspectors' concerns are that just the phrase "functional tests" has different meanings for various personnel and that the PMT section should be more specific. It should give specific retest requirements by procedure and section, if applicable, or specific retest requirements should be included as part of the WR. The licensee agreed that this should be more specific and stated that it would be factored into their review for Generic Letter (G/L) 83-28, Require Actions Based on Generic Implications of Salem ATWS Event, Section 3.2 Post Maintenance Testing for S/R components. This review is to be completed for all S/R procedure by December 31, 1985, as committed to in the licensees' G/L response of November 1983.

During the review of the work requests, it was noted that in several instances the work requests were classified as safety-related but, no QC observation was required. There appeared to be a reluctance to require QC inspection or hold points. The licensee is in the process of reviewing this situation to determine the area/activities which should have better or more QC surveillance.

d. Training

The inspectors reviewed the training records for eight electricians and nine I&C technicians at the Florida Power Corporation (FPC) Training Center. The courses completed by each individual were compared to the overall course requirements for the technical level of the individuals. All had completed a sufficient number of courses to qualify for the level to which they were assigned. While at the FPC Training Center, the inspectors toured the training facilities in addition to reviewing the proposed training schedule for the coming year. The labs were well equipped having various pieces of equipment like that found in the plant.

The licensee representative stated that Crystal River had initiated a cyclic training program in these areas. This program was initiated in 1982 and is scheduled to complete its first cycle in 1985. This is, of course, dependent on the amount of site specific training that many required training courses are often set up to cover special (unique) types of maintenance that are to be performed during an outage, and if necessary, equipment is brought to the center from the plant for this training. The licensee representative also stated that a job task analysis (JTA) training program was in process, and that the JTA manual should be completed and implemented by the latter part of 1985.

Within the areas examined, no violations or deviations were identified except as reported in paragraph 5.b. above.