



Florida Power

CORPORATION
Crystal River Unit 3
Docket No. 50-302

May 10, 1991
3F0591-05

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Reference: NRC letter to FPC dated 4/11/91
Notice of Violation - NRC Inspection Report 91-01

Dear Sir:

This letter transmits Florida Power Corporation's (FPC) response (Attachment 1) to the two violations identified in the NRC Maintenance Team Inspection (MTI) Report. Additionally, FPC has addressed specific areas of weaknesses contained in the Inspection Report including: (1) housekeeping, (2) equipment deficiencies and deficiency identification program, (3) cable separation, (4) procedural weaknesses, (5) cable identification tags, and (6) system engineer weaknesses. A concluding statement is provided to summarize our commitment to improving maintenance activities at Crystal River Unit 3.

HOUSEKEEPING

Housekeeping problems have received considerable attention. Management involvement is mandated through the plant administrative procedures which require periodic inspections of each area of the plant by group managers with particular emphasis on safety and housekeeping concerns. The institution of the "Area Owner" Program has assisted housekeeping activities throughout the plant. Also, the implementation of a dedicated paint crew (initiated in January of this year) has dramatically improved the appearance of several areas of the plant.

EQUIPMENT DEFICIENCIES AND DEFICIENCY IDENTIFICATION PROGRAM

Crystal River Unit 3 (CR-3) has experienced significant improvement in this area over the last several months and has shown continued improvement since the completion of the MTI. The "Area Owner" Program established over a year ago has demonstrated continued improvement in the identification and correction of many deficiencies. In addition, composite crews are scheduled on a weekly basis to work on the backlog of deficiencies in specified areas of the plant.

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May 10, 1991
3F0591-05

Senior members of the CR-3 management staff perform scheduled inspections of each area of the plant to ensure timely and effective follow-up of identified discrepancies. This attention to detail is aimed at focusing the attention of all plant staff members on the general material condition of the unit.

CABLE SEPARATION

FPC is addressing the cable separation issue on two fronts. Engineering and craft personnel are performing walkdowns of the plant electrical systems to determine the extent of the problem, the root causes, and the appropriate corrective actions. In the meantime, we are pursuing the correction of the cable separation violation examples identified in the MTI report.

PROCEDURAL WEAKNESSES

A high level of management attention is being focused on the implementation of a consistent standard for the use of procedures. A major effort has been devoted to upgrading the content of Maintenance Procedures. A similar emphasis has been placed on the proper use of procedures. A participative management problem solving team was established over a year ago to develop an improved method of procedural validation to ensure procedures incorporate appropriate human factors considerations in addition to being technically correct. A pilot program has demonstrated favorable results with the use of this methodology.

Post maintenance testing, as discussed with the NRC MTI personnel, is also an area of programmatic procedural weakness that had been identified by the Crystal River Unit 3 1990 Maintenance Self-Assessment effort. The action plan for upgrading this program was presented to the NRC team and continues to be aggressively pursued. Improvement has been observed in the specification of post maintenance test criteria for recently evaluated work requests.

Our review of the examples of procedure violations cited in the Maintenance Team Inspection (MTI) report does not support the characterization of a general "lax attitude" among plant workers regarding the use of procedures. However, we have discovered that the familiarity of a few individuals with routine activities, and their drive to get the job done, has resulted in less than the expected attention to detail. Continued management and worker involvement is necessary to identify and resolve those issues which inhibit accomplishment of strict procedure adherence.

CABLE IDENTIFICATION TAGS

FPC agrees with the evaluation of potential hazards created from the practice of using metal tags for electrical cable conductor identification as identified in the MTI report. FPC has reviewed the use of brass tags as specified by our maintenance procedure and has concluded that some different method of identifying individual conductors will be used. Engineering has evaluated and recommended a new non-conductive cable identification system. We have discontinued the installation of the metal tags for cable identification. The existing metal tags in the valve motor operators will be removed during the scheduled Preventive Maintenance (PM) activities for these components over the next two to three years.

May 10, 1991
3F0591-05

SYSTEM ENGINEER WEAKNESSES

Nuclear Plant Systems Engineering (NPSE) has undergone several changes over the two years it has been in existence. Some of these changes include transferring system expertise into other departments such as Operations and Maintenance. It has been found that approximately two years are required to have a fully functional system engineer. NPSE was formed approximately two years ago so any turnover will cause some weakness in certain areas. This concern has been recognized and is being addressed through increased training and advanced scheduling of primary and backup system assignments.

System libraries are a comprehensive book of system information. This information is compiled as part of the development of the system engineer. As a result, system library development is scheduled through yearly departmental goals. The library development is presently on schedule.

FPC recognizes the significant effort required for the NRC team to provide a complete and thorough evaluation of CR-3's maintenance program. FPC appreciates that strengths were recognized, but we are not content with a "Satisfactory" rating and will strive to improve our program as a part of our commitment to excellence. A list of identified weaknesses from the report have been compiled and will be tracked to provide an ongoing status of corrective actions taken to resolve the issues. FPC is committed to continuous improvement in the operation of CR-3 and will keep the NRC appraised of our progress in completing the activities discussed within the body of this letter and its attachment.

Sincerely,



P. M. Beard, Jr.
Senior Vice President
Nuclear Operations

WLR:m

Enclosure

xc: Regional Administrator, Region II
Project Manager, Region II
Senior Resident Inspector

FLORIDA POWER CORPORATION
INSPECTION REPORT 91-01
REPLY TO NOTICE OF VIOLATION

VIOLATION 91-01-01

- A. 10 CFR 50, Appendix B, Criterion V requires, in part that activities affecting quality shall be prescribed by documented instruction, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings.

Administrative instructions AI-400E, Revision 3, section 3.3.5 requires, in part, that "Except in emergency or abnormal operating situations . . . maintenance, or modification of safety related equipment shall be preplanned and performed in accordance with approved written procedures." AI-400E further requires that operators have procedures present when performing them, except for routine actions that are frequently repeated and where the operators are familiar with the procedure content.

Compliance Procedure CP-113A, "Work Request Initiation and Work Package Control," Revision 4, section 3.2.4, section 4.4.5.1, and section 4.4.6 require that the Nuclear Shift Supervisor on Duty (SSOD) is responsible for reviewing work requests for Safety-Related, Emergency Diesel Generator, and Technical Specification equipment and initial/signing the Post Maintenance Test Shift Supervisors block.

Procedure CP-113A further requires that if temporary alterations are being performed, then "Enclosure 2, Equipment Alteration Log shall be used and retained as part of the work package, unless the jumper and/or temporary alterations is being performed per an approved procedure." Maintenance Procedure, MP-402A, requires that enclosure 1 be used for de-terminations and re-terminations.

Administrative Procedure AI-500 requires that "Any safety-related material withdrawn from the warehouse should be installed (or placed in service) within 30 days; otherwise, an evaluation must be performed (and documented) to determine whether the material should be returned to storage or if continued staging is acceptable."

Procedure AI-600 requires that the purchase and use of safety-related materials and equipment be controlled through the use of the Nuclear Procurement and Storage Manual (NP&SM). The NP&SM, section 17.5, Return of Safety Related Material to Stores, requires that items returned to the warehouse be controlled on a Quality Material Return (QCR) document.

Contrary to the above:

1. On January 28, Mechanical Maintenance personnel failed to have procedure PM-112, Revision 19, in use and at the job site for preventative maintenance performed on safety-related Sea Water Heat Exchanger (SWHE) 1A during cleaning, anode inspection, cover head installation, and torquing. The procedure required sequential step-by-step execution with step signatures.

2. Shift Supervisor on Duty (SSOD) signatures were missing and the Post Maintenance Test Shift Supervisors block had been marked as "not applicable" on a number of vaulted Document Control copies of Safety-Related work requests. WR-264146, WR-257765, WR-262917 are examples that did not have documented SSOD review signatures.
3. On January 29 while observing work activities on Safety-Related motor operated valve BSV-11 under work request WR-279296 and procedure MP-402A, electrical craft, with a quality control inspector observing, removed and re-terminated a limit switch lead without documenting the removal and replacement on Enclosure 1 of MP-402A while performing the activity.
4. During the time period January 14 to February 15, safety-related materials were stored in an uncontrolled cabinet in the Hot Machine Shop and in the Mechanical Maintenance Shop in excess of 30 days without a documented evaluation.
5. During the time period January 14 to February 15, materials (structural steel bolts, washers, and nuts) were not documented on a Quality Material Return when the materials were returned to the warehouse.

This is a Severity Level IV violation (Supplement 1).

FLORIDA POWER CORPORATION RESPONSE

ADMISSION OR DENIAL OF ALLEGED VIOLATION

Florida Power Corporation (FPC) accepts the violation. Based on further evaluation, we disagree that item 5, concerning the issuance and return of quality materials to the warehouse, is actually an example of a procedural violation for the reason discussed below.

The Quality Material Issue (QCI) form, which was initiated for removal of the steel bolts, nuts, and washers, was written for more items than were needed. The full QCI was filled from the main warehouse and delivered to the ready warehouse. When the material was withdrawn by the shops, the full QCI quantity was not withdrawn; however, the QCI was not revised. The material identified by the inspector in the ready warehouse never left the warehouse. Although it is FPC's practice to rewrite a QCI for partial issue, there is no procedural requirement to do so; therefore, no procedural violation occurred. However, FPC recognizes this program deficiency and is instituting action to prevent recurrence by means of a staging procedure in the Ready Supply warehouse. This program modification will assure that issue documentation will reflect the quantities of materials actually withdrawn.

REASON FOR VIOLATION

1. The work group assigned to clean SWHE-1A was very familiar with the work scope and procedural content and wanted to promptly commence the work in accordance with the established work schedule. As a result, they began the portion of work preceding the first procedural signoff prior to verifying that PM-112 was included in the work package.

2. The violation was due to a lack of understanding of procedural requirements to obtain the shift supervisor's initials for approval of documentation of Post Maintenance Test (PMT) completion.
3. The electricians removed and reterminated a limit switch lead without documenting the removal prior to retermination. The two electricians believed that MP-402A would permit their actions to be documented after the retermination because of: (a) the short time duration between determination and retermination; (b) the involvement of a single lead; and (c) since they maintained physical and visual contact with the lead during the evolution.
4. The items were released from the warehouse for a job that was planned and then rescheduled to a later date. The cause of the violation was due to personnel oversight on the need to provide documented evaluations on safety-related materials withdrawn from the warehouse and stored in the shop for more than 30 days.

CORRECTIVE ACTIONS

1. The job was stopped and a working copy of PM-112 was obtained. A thorough pre-job briefing was performed, the prerequisites for the job were verified, and work commenced.
2. A memorandum has been issued to all maintenance work supervisors which clearly states the requirements for shift supervisor sign off on work packages.
3. The removal and replacement of the lifted lead was documented prior to leaving the work area.
4. The safety-related items were evaluated and returned to the storeroom.

DATE OF FULL COMPLIANCE

1. Full compliance was achieved January 28, 1991 once a working copy of PM-112 was brought to the work site and work commenced.
2. Full compliance will be achieved with the issuance of the above referenced memorandum by May 17, 1991.
3. Full compliance was achieved on January 30, 1991 immediately after the lead was replaced.
4. Full compliance was achieved on February 19, 1991 when the safety-related items were returned to the warehouse.

ACTIONS TAKEN TO PREVENT RECURRENCE

1. The work supervisor and crew were counselled about the importance of complete and thorough pre-job briefings and the requirements for proper procedural adherence and documentation for commencement of work and subsequent activities. Emphasis was placed on assuring all pre-job conditions are met prior to commencing work regardless of schedular requirements of the activity. The work supervisor and crew made a presentation to other shops relative to the circumstances of this

example emphasizing the absolute requirement for proper procedural adherence. Such efforts have been very effective in the past.

2. A revision will be made to CP-113A by August 1, 1991 to further clarify requirements for Nuclear Shift Supervisor (NSS) approval of completed work and other concerns addressed in the Maintenance Inspection Report.
3. FPC will review similar procedures and make changes to assure clear and consistent guidance is provided for equipment alterations which involve the lifting of a single lead.
4. The individual(s) responsible for this oversight have been counselled on the requirements of the 30 day evaluation and documentation.

VIOLATION 91-01-02

- B. 10 CFR 50, Appendix B, Criterion V requires, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings . . . and shall be accomplished in accordance with these instructions, procedures or drawings." It further requires that "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

The FSAR, section 1.7.1.3 requires, in part, that "Maintenance or modifications which may affect safety-related structures, systems, or components are performed in a manner that ensures quality requirements, material specifications, and inspection requirements are met."

Licensee Specification E-91-0001, Revision 0 (formerly CR-3-E247-1, Revision 3) requires that "the minimum separation distance between redundant components and wiring . . . shall be six inches air space in all directions . . ." It further requires that "Crossover of redundant Class 1E circuits shall be enclosed in conduit for a length of six inches on either side of the crossover point or a barrier shall be installed."

Procedure MP-802, Revision 1, Handling, Pulling and Terminating Cable, Section 7.4.2.1, requires that "cable/wire shall be routed in conduit and/or cable tray as indicated on the latest engineering Cable Pulling Data Sheets and electrical installation drawings."

Contrary to the above during the time period January 14 to February 15:

In the cable spreading room, cables from cable trays 183 (green), 181 (green), and 171 (red), were hanging outside of their assigned cable trays in mid route.

In the cable spreading room, one cable from penetration 30 (red) was routed around the fire barrier to within about 2 inches of the penetration 30 (green) cables. Cable bundles below fire barriers for penetrations 30, 31, 32, 33, and 34 were not properly separated under the fire barriers.

In the cable spreading room, ceiling penetration 81 (red and green) had cables from the red division side crossing under the fire barrier and coming in direct contact with the green division side.

Behind the main control boards, cables EFS 5 (red) and EFS 6 (red) had less than 6 inches free air separation from cable SPS-155 (green).

Behind the main control boards, Cable SWE-591 (green) was tie wrapped directly to several conductors of cable DHC-171 (yellow). Cables from tray 636 (red) crossed over tray 645 (green) where 645 (green) top tray cover is discontinuous without 6 inches of conduit on either side of the cross over.

This is a Severity Level IV violation (Supplement 1).

FLORIDA POWER CORPORATION RESPONSE

ADMISSION OR DENIAL OF ALLEGED VIOLATION

Florida Power Corporation (FPC) accepts the violation.

REASON FOR VIOLATION

Following the Maintenance Team inspection findings, FPC immediately undertook a walkdown program to identify any additional problems regarding electrical separation. Additional examples of violating separation standards have been identified. The results of the walkdown program will be evaluated to identify the various problems and determine the root cause categories. A supplement to this response will be submitted providing details of the final root cause determination and corrective actions by December 31, 1991.

CORRECTIVE ACTION

Material deficiencies identified in the violation are being addressed. Work requests are being actively worked in the field to correct two of the NRC concerns. The other three require modification to provide additional barriers. Design changes are being actively pursued. The schedule for correction of these material deficiencies will be supplied with the supplemental response if installation has not been completed. Walkdowns commenced immediately to inspect the main control board, relay racks, remote shutdown panel, EFIC cabinets, and cable spreading room. The walkdowns are continuing with the assistance of contract personnel with extensive experience in cable separation.

Deficiencies found to date appear to be minor and have little significance to the safety of the plant. Problem Reports (nonconformance reports) will be generated to address all separation criteria deficiencies identified by the MTI and the FPC walkdowns. The schedule for correcting all deficiencies will be based upon the significance of the concern.

DATE OF FULL COMPLIANCE

Some of the material deficiencies identified in the violation require design modifications and will be corrected on a schedule consistent with their significance. Once the root cause and corrective actions are identified, date of full compliance will be determined and identified in our supplemental response.

ACTIONS TAKEN TO PREVENT RECURRENCE

The appropriate design documents and implementing procedures will be reviewed against the root cause categories to determine what additional guidance on cable separation criteria and installation instructions is necessary.