



# Florida Power

CORPORATION  
Crystal River Unit 3  
Docket No. 50-302

October 10, 1996  
3F1096-04

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555-0001

Subject: NRC Inspection Report No.50-302/96-05  
NRC to FPC letter, 3N0996-03, dated September 6, 1996

Reference: 1) FPC to NRC letter, 3F0896-14, dated August 12, 1996  
2) Notice of Violation (NRC Inspection Report No.50-302/96-05)  
NRC to FPC letter, 3N0796-09, dated July 12, 1996

Dear Sir:

In the subject letter, the NRC acknowledged Florida Power Corporation's (FPC) response to a Notice of Violation (references 1 and 2) and requested additional information be provided for that response. The information requested concerned our determination of the extent of the conditions cited in Violations 302/96-05-05, example 1, 302/96-05-07, example 2, and 302/96-05-08. Please accept the attached as our revised response for those three Violations which includes the additional information.

Sincerely,

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

cc: Regional Administrator, Region II  
NRR Project Manager  
Senior Resident Inspector

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FLORIDA POWER CORPORATION  
NRC INSPECTION REPORT NO. 50-302/96-05  
REPLY TO A NOTICE OF VIOLATION

VIOLATION 50-302/96-05-05

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

Paragraph V.A.3 of Licensee Procedure NEP-216, Rev. 6, Plant Design Basis Documents, requires revision to plant Design Basis Documents if a modification changes a component/system function, functional requirement, or design requirement as delineated in the existing design basis document.

Paragraph V.E.1 of Procedure NEP-216 requires that: (1) the Supervisor, Nuclear Configuration Management, determine the need for a revision to plant Design Basis Documents every 12 months and that the review be documented and forwarded to records, and (2) that Design Basis Documents be formally revised every two years, as a minimum, if any outstanding Temporary Changes exist from the previous two years.

Contrary to the above, activities were not accomplished in accordance with procedures in that:

1. In August of 1993, a Temporary Change to the Makeup System Design Basis Document was not issued when a plant modification changed the Hydrogen Addition Pressure Regulator setting from 10 psig to 19.5 psig.
2. On January 29, 1996, the 12 month review of the Design Basis Documents had not been performed and documented, resulting in six Design Basis Document Temporary Changes not being incorporated into a Design Basis Document revision within the required two year time.

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Florida Power Corporation (FPC) accepts the violation.

REASON FOR THE VIOLATION

In both examples, the reason for the violation was personnel error. For item 1, the responsible design engineer for the calculation that resulted in the modification failed to make the Design Basis Document temporary change. Compounding the error, the modification design engineer failed to include the Design Basis Document change as an "open item", which would have tracked the change to completion. For item 2, the six temporary changes had been identified in September 1995, as requiring incorporation into the Design Basis Document. However, the individual responsible for the task was placed on temporary assignment and the need for the changes was not communicated to the responsible supervisor, causing the expiration date to pass without the changes being made.

#### CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

1. A properly processed temporary change (Number 487) was made to the Design Basis Document on April 9, 1996, as a result of another plant modification affecting the hydrogen addition pressure regulator setting.
2. The six temporary changes which were outstanding were incorporated into a Design Basis Document revision made on February 29, 1996.
3. The calendar year 1993 was used as the basis for the review of other modifications to assure the cited example was an isolated event. In 1993, a total of 207 modifications were issued. A sample of ten percent (10%) or 21 of the modifications were selected for review. The selection criteria was based on their titles and disciplines, focusing on the possibility of having impact on the Enhanced Design Basis Document (EDBD). These 21 modifications were then reviewed by the same engineering personnel originally involved in the development of the EDBD. The results of this review found that all 21 modifications were processed correctly with respect to impact on the EDBD. Based on this assessment, the violation appears to be an isolated occurrence of personnel error.

#### CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Subsequent to the occurrence of item 1, NEP-213, Design Analyses/Calculations, was revised to require the identification of plant documents affected by the change. Those document revisions are tracked by the Nuclear Operations Tracking and Expediting System (NOTES) until completion.

The relevant portions of the Problem Report developed for this concern were reviewed with applicable design Engineers, Verification Engineers, Supervisors and Configuration Management personnel. Additionally, NEP-216 was further evaluated and revised effective August 30, 1996, to assure the directives for revising the Design Basis Documents are clear.

#### DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

For item 1, full compliance was achieved on April 9, 1996, with the posting of the temporary change noted above. For item 2, Full compliance was achieved on February 29, 1996, with the incorporation of the six temporary changes into the Design Basis Document also noted above.

#### VIOLATION 50-302/96-05-07

10 CFR 50, Appendix B, Criterion VII, Control of Purchased Material, Equipment, and Services, requires that measures shall be established to assure that purchased material, equipment, and services conform to the procurement documents. These measures shall include objective evidence of quality furnished by the contractor and examination of products upon delivery.

Procedure FPC-016, Receiving Inspection of Equipment and Material, Rev. 0, dated April 24, 1972, step 4.2.2.2 requires that Quality Control Inspection personnel

verify that any documentation required is present and that test results conform to the specifications.

Nuclear Procurement and Storage Manual, Section 8.4, Receiving Inspection, Rev. 12, dated June 7, 1991, step 8.4.3.2 requires that the Nuclear Materials Quality Control Inspector verify that the documentation, such as Certificate of Conformance, furnished by the vendor meets the requirements of the Florida Power Corporation purchase order. Step 8.4.3.2 also requires that test documents shall describe the type of operation and provide evidence of completion and/or verification.

Contrary to the above:

1. Six safety-related battery chargers were improperly accepted on receiving inspections in July 1972. The vendor had supplied a certificate of compliance with the licensee's purchase order; however, test data from the vendor that had been supplied with the battery chargers indicated that the battery chargers had not been tested to assure they would operate at the lowest alternating current (ac) input voltage specified in the purchase order or required by the design basis. The test data also indicated that one of the battery chargers subsequently installed in the B train failed to meet direct current (dc) output voltage regulation requirements at ac input voltages to which it was tested. The licensee's receipt inspection report, dated July 17, 1972, accepted the six battery chargers and the test data. In April, 1996, one of the two A train battery chargers was tested and similarly failed to meet dc output voltage regulation requirements. The licensee's analysis of past battery charger operability, in Licensee Event Report 96-012-01, concluded that while the battery chargers did not meet purchase specifications or the design basis, they would have been able to perform their safety function from plant licensing in December 1976 through April 1996.
2. Six safety-related battery chargers were improperly accepted on receiving inspections in November 1995. The vendor had supplied a certificate of compliance with the licensee's purchase order; however, test data from the vendor that had been supplied with the battery chargers indicated that the battery chargers had not been tested to assure they would operate at the lowest ac input voltage specified in the purchase order or required by the design basis. Two of the six battery chargers were installed in the A train in March 1996 with the plant shut down in an outage. One of the battery chargers was satisfactorily tested in April 1996 while the plant was still shut down, confirming the battery chargers' compliance with purchase specifications and the design basis.

#### ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Florida Power Corporation (FPC) accepts the violation.

#### REASON FOR THE VIOLATION

The primary cause for this violation is a weakness in the receipt inspection process involving actions by the design engineer, procurement engineer, and receipt inspector. For the "new" chargers accepted November 1995, the FPC design engineer stated that although the test results did not envelope the input voltage



ranges specified by FPC, he took into consideration other documentation including catalog data, the certificate of conformance (CofC) to the purchase order, and statements from C&D Engineering (the vendor) that similar model battery chargers had been tested to 423 VAC. The engineer failed to obtain evidence of this testing but accepted statements by C&D that the chargers had been type tested to this value. In retrospect, this information was not sufficient as a basis for acceptance considering C&D's April 11, 1996, letter indicating test data was unavailable to substantiate their CofC's. In November 1995, a Quality Material Problem Report (QMPR) was issued to identify the need for an Engineering Software Acceptability Letter (ESAL) for required vendor submitted documentation (this included the test reports). A procurement engineer dispositioned the QMPR "use-as-is" in February 1996, based on being provided an ESAL from the design engineer which presumably reflected acceptance of all documentation required by the purchase order. Although the inspection plan delineated "test results" as a specific deliverable requiring engineering acceptance, the receipt inspector accepted the disposition without test results being listed as a specific item on the ESAL. This would have provided an opportunity to request an explanation from the design engineer regarding the basis for acceptance of the test results.

For the "old" battery chargers accepted July 1972, FPC utilized its architect engineer, Gilbert Associates for review of manufacturers' quality program procedures and technical data. The purchase order for the original chargers was dated February 10, 1971, and required C&D to submit a quality control program (it should be noted that 10CFR50 Appendix B was officially issued June 27, 1970, and the requirements of 10CFR21 were not imposed on the purchase order process until after January 6, 1978). A review of the "Vendor Evaluation Checklist" completed by Gilbert Associates in 1971 indicates C&D's Quality Control submittal was reviewed against the requirements of Military Specification MIL-Q-9858 "Quality Program Requirements". Evidence exists to confirm that C&D procedures were reviewed and tests were witnessed at the manufacturer's facility. C&D provided a CofC dated June 9, 1972, certifying the material met FPC's purchase order. However, C&D did not test to 460 VAC +/- 10 % and did not meet the 1/2 % regulation requirement in one case. A review of the "Charger Test Card" dated March 9, 1972, for S/N ES71606 reveals the test results at 432 VAC input yielded only 131.2 DC volts at 200 DC amps (full load) versus the required 131.34 volts. A contributing cause was FPC failure to recognize the differences between the specification requirements associated with the "old" chargers and the manufacturer's nameplate data and drawing information.

#### CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

DPBC-1B and DPBC-1D, the "B" Train DC battery chargers, were declared operable but degraded on April 17, 1996, with reduced ES loads in MODE 5 and a decision was made requiring their replacement prior to entering MODE 4 (HOT SHUTDOWN).

Battery Chargers DPBC-1A, 1B, 1C, and 1D were replaced during Refuel 10. The Train "A" chargers were fully operable on April 16, 1996, and the Train "B" chargers were declared fully operable as of April 23, 1996. Battery Chargers DPBC-1E and 1F, the backup "swing" chargers, have also been replaced with "new" chargers.

A Request for Corrective Action (RCA) was issued by FPC's Procurement Quality group on April 12, 1996, to C&D requesting a response to the identified deficiency regarding failure to test the "new" chargers in accordance with FPC

specification criteria. FPC has reviewed the C&D response and accepted the corrective actions. The RCA was closed on June 7, 1996.

An overall self assessment was conducted to evaluate the Nuclear Operations Procurement Process. The assessment consisted of a review of procurement process controls and a sample review of 20 procurement packages (10 mechanical and 10 electrical) completed between 1990 and 1995. Additionally a review of 10 additional complex safety related electrical procurement packages purchased for plant modifications was conducted. This assessment determined the procurement process was procedurally well documented and effectively implemented with some minor discrepancies not affecting the quality of the material. However, there was one procurement package which required follow-up action.

This package review revealed a material concern where the nameplate data of a spare safety-related motor differed from that of the specification. Further, there was a physical discrepancy that required rework by the vendor related to an inadequate receipt inspection. The corrective actions implemented for this violation would have effectively prevented this problem. Nevertheless, an additional 10 electrical procurement packages and the other safety-related spare motors in stock are being reviewed to ensure the corrective actions are comprehensive. The particular problem identified was corrected and evaluated as having no impact to operable equipment in the plant.

#### CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

A copy of this event report (LER 96-12-02) along with management's expectations has been distributed to design and procurement engineers and receipt inspectors as a "lessons learned". Further, a Management Review Panel will be convened on this problem to provide additional management oversight.

Additional guidance was incorporated into the Nuclear Procurement & Storage Manual (NP&SM) section concerning receipt inspectors' review of engineering software acceptability letters provided by engineering. This guidance addresses the need to perform a line-by-line review of information contained in the software acceptability letter versus the applicable technical requirement reference.

The NP&SM now includes a requirement to verify that nameplate data complies with Purchase Requisition requirements. This was completed by September 30, 1996.

#### DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on August 7, 1996, with the installation of the final "new" battery charger DPBC-1E.

**VIOLATION 50-302/96-05-08**

10 CFR 50, Appendix B, Criterion IV, Procurement Document Control, required, in part, that measures be established to assure that requirements which are necessary to assure adequate quality are suitably included in the documents for procurement of equipment.

Nuclear Procurement and Storage Manual, Section 3.3, Amendments to Procurement Requisitions for Items, Rev. 6, dated October 31, 1991, required that Procurement Requisition Amendments be used for Purchase Order Change Orders to change procurement requirements such as item description.

Nuclear Engineering and Projects procedure 220, Specifications and Minispecifications, Rev. 5, dated November 30, 1994, required that revisions to minispecifications be prepared, verified, approved, and issued in the same manner as the original.

Contrary to the above, a letter dated April 5, 1995, from the licensee's Nuclear Engineering Design Department to the vendor, changed procurement requirements for safety-related inverters without using a Procurement Requisition Amendment. The letter directed the vendor to change inverter design specifications, including output voltage, that were in the minispecification that was incorporated into the Purchase Order. Also, the minispecification was not revised and required verification and approvals were not obtained. On about April 10, 1995, the letter was included in a revised Purchase Order without a Procurement Requisition Amendment.

**ADMISSION OR DENIAL OF THE ALLEGED VIOLATION**

Florida Power Corporation (FPC) accepts the violation.

**REASON FOR THE VIOLATION**

The reason for the violation was personnel error. The engineer originating the letter to the vendor did not utilize the correct method for implementing technical changes to a purchase order. Other personnel reviewing the letter should also have known a Procurement Requisition Amendment was required in this case. As a contributing factor, the Safety Related Purchase Order Review Checklist used by the Purchasing Department does not include a specific checkpoint for proper approval of Procurement Requisition Amendments as it does for the original Procurement Requisition.

**CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED**

A Problem Report was generated to determine the root causes of the occurrence and a Corrective Action Plan has been developed.

An overall self assessment was conducted to evaluate the Nuclear Operations Procurement Process. The assessment consisted of a review of procurement process controls and a sample review of 20 procurement packages (10 mechanical and 10 electrical) completed between 1990 and 1995. Additionally a review of 10 additional complex safety related electrical procurement packages purchased for plant modifications was conducted. This assessment determined the procurement process was procedurally well documented and effectively implemented with some

minor discrepancies not effecting the quality of the material. However, there was one procurement package which required follow-up action.

This package review revealed a material concern where the nameplate data of a spare safety-related motor differed from that of the specification. Further, there was a physical discrepancy that required rework by the vendor related to an inadequate receipt inspection. The corrective actions implemented for this violation would have effectively prevented this problem. Nevertheless, an additional 10 electrical procurement packages and the other safety-related spare motors in stock are being reviewed to ensure the corrective actions are comprehensive. The particular problem identified was corrected and evaluated as having no impact to operable equipment in the plant.

#### CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. All Nuclear Engineering Design personnel were required to read/review both the Problem Report noted above and Nuclear Engineering and Projects (NEP) procedure 220.
2. All Buyers and Buyers Associates were required to read/review Nuclear Procurement and Storage Manual (NP&SM), Section 3.3.
3. The Safety Related Purchase Order Review Checklist was revised to include a checkpoint for Procurement Requisition Amendment approvals.
4. A Procurement Requisition Amendment was processed in accordance with NP&SM Section 3.3 and the associated minispecification was revised in accordance with NEP-220.

The above actions were completed by September 6, 1996.

#### DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on September 6, 1996, with completion of the Procurement Requisition Amendment and minispecification revision as noted in item 4 above.