Florida Power
CORPORATION

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Mr. John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Status of NUREG-0737 Items II.B.2, II.B.3,
II.E.1.2, and II.F.1.1-6

Dear Mr. Stolz:

As a result of our meeting with you and your management on September 10, 1982, this letter documents the completion schedule and restates the compensatory measures for certain NUREG-0737 ("Clarification of TMI Action Plan") items. Specifically, we will address Items II.B.2, II.B.3, and II.F.1.1-6 as discussed in our letter dated June 30, 1982, and Item II.E.1.2 as discussed in our letter dated June 18, 1982. This letter also supercedes our letter of September 8, 1982.

Based on those previous discussions with your staff and the following confirmation of our continuing good faith efforts on these topics, our goal is to complete the items addressed in this letter concurrent with the completion of Refuel IV (refueling outage scheduled to begin in March 1983) except Item II.E.1.2, Emergency Feedwater System Upgrade (reference our letter to you dated June 18, 1982) which will be completed during Refuel V (refueling outage estimated to begin in September 1984). However, potential problem areas and realistic schedules are identified for Items II.B.3, II.F.1.1, II.F.1.2, and II.F.1.6. Based on these identified problems areas and compensatory measures in place, we believe December 31, 1983, is a more realistic schedule to ensure completion of these items.

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To provide assurances that efforts are supported by every facet of our organization, our senior management has established an oversight committee comprised of mid-level managers. The committee has and will continue to provide the necessary guidance and direction to the engineering, procurement, and installation activities to support completion of the above Items by the end of Refuel IV. A computerized project scheduling system is being utilized to aid in the identification and resolution of concerns. Senior management will be kept closely advised and will provide resources in areas requiring attention. The potential problem areas identified to date are due to material delivery and/or documentation to meet design requirements.

The present scope of pre-outage and outage activities includes 61 work packages of which 45 are related to NRC requirements and 23 of those are addressed by this letter. The estimates for craft labor which must be expended to complete the pre-outage and outage work are approximately 97,000 and 106,000 manhours, respectively. These manhour totals do not include supervision time which we expect to be significant. The magnitude of this undertaking has essentially precluded any discretionary work for improving reliability of the plant during Refuel IV.

The present schedule for the pre-outage and outage work is very tight and contains thousands of activities in all areas of design, procurement, and installation that must occur on schedule in order for all of these projects to be completed during Refuel IV. While we are committed to completing these projects and have high confidence that a significant portion if not all of these projects will be completed during Refuel IV, realism dictates that some problems beyond our control will probably occur that could preclude complete installation of all projects during Refuel IV. Further, the large number of activities that must be accomplished prior to and during Refuel IV for these projects dictates that proper management controls be in place to ensure that these installations are not hurried to the point of reducing rather than enhancing the reliability and safety of Crystal River Unit 3 (CR-3).

It would be difficult to overstate the extent of our desire and commitment to put these improvements in place in the nuclear plant during Refuel IV. Closure of these obligations will allow enhanced attention to other safety improvements, as well as to improve plant reliability. We sincerely believe that the above proposal is a prudent course of action regarding the NUREG-0737 issues when coupled with the compensatory measures in place for these items. Additional clarification of each of the above NUREG-0737 Items is provided below on an item-by-item basis along with the compensatory measures in place at CR-3.

Item II.B.2. - Design of Plant Shielding and Environmental Qualification of Equipment for Spaces/Systems Which May Be Used in Post Accident Operations. The schedule in our letter, dated June 30, 1982, called for this work to be completed by September 30, 1982, provided that the design work was completed and the equipment was received as expected. However, in mid-August 1982, it was determined that the valve motor-operator starters would not be delivered in time for a September 30, 1982 installation. It was also determined that this installation

should not be completed with CR-3 on-line. A six-day outage will be required to complete the final hookups to the Engineered Safeguards cabinets to alleviate the risk of tripping CR-3 unnecessarily. However, because of the increased design and installation effort due to the electrical conduit support concerns that were brought to light in early July 1982 and the valve motor-operator starter delivery problems, the modifications (except for the final hookup to the Engineered Safeguards cabinets) will not be completed by mid-January 1983. FPC will install this modification no later than the completion of Refuel IV.

Until the final hookups are made and the electrical motor-operators are declared operable, compensatory measures will be utilized to ensure adequate techniques are available for plant shielding. Specifically, we will continue to employ the temporary shielding and procedures identified in our earlier responses to NUREG-0578. Installation of Rotohammer extensions on certain makeup and decay heat systems valves is scheduled for completion is prior to November 1, 1982. This interim milestone will allow operations personnel to position certain makeup and decay heat systems valves. Calculations have verified that we are able to meet 10 CFR 50 Appendix K requirements upon completion of these actions while maintaining acceptable radiation exposures to personnel. Based on preliminary reviews, the exposure rate in these areas is believed to be less than that which would cause a personnel exposure of 5 Rem for accomplishment of valve realignment. If our further evaluation indicates otherwise, you will be notified.

Item II.B.3 - Post Accident Sampling. The schedule in our letter dated June 30, 1982, called for this system to be installed during Refuel IV. That completion date was based upon timely resolution of numerous potential restraints. Past performance to manufacture and deliver vendor supplied equipment lead us to believe additional delays will occur. Subsequent interface design for installation will be impacted by delayed equipment manufacturing and delivery. Seismic and qualification documentation deficiencies for Target-Rock valves will also preclude installation during Refuel IV if this issue is not resolved. Corrective measures are being applied to alleviate these sources of delayed installation. Our goal for completion remains as Refuel IV; however, a more realistic schedule for completion is December 31, 1983. Therefore, FPC commits to completing this item by December 31, 1983.

The work intended to be completed during Refuel IV includes a cold leg sample point in Reactor Coolant System loop A, sample return lines, installation of the Automated Isotopic Measurement System (AIMS) for liquid samples; and sample delivery and return hookups to containment penetrations for gaseous samples from the AIMS. In the system description forwarded to you in our letter dated December 30, 1981, extra sample points were included to enhance accident monitoring above and beyond that required by this Item. To ensure completion of the requirements of this Item by December 31, 1983, these additional sample points may possibly not be installed at that time. The compensatory measures, which were instituted until this system could be installed, were given in Attachment 6, Section 2.2 of our letter to you dated February 15, 1980. These are:

1. Plant procedures for the handling and analysis of post-accident samples have been developed and implemented.

   These procedures address the sample locations, radiological precautions (including use of shields), sample dilution requirements, means of handling the samples and necessary modifications to normal analytical procedures.

2. In order to obtain RCS samples during the intervening period prior to implementation of permanent modifications, temporary samples lines are being extended from the sample hood in the nuclear sample room through the common wall into the hood in the radiochemistry laboratory. This sample line extension provides sampling capability of the Reactor Coolant letdown, and pressurizer water and steam space.

   A single initial entry into the nuclear sample room will be required to align valves for post-accident sampling. This activity can be conducted without exceeding the exposure criteria. Subsequent sampling operations will be controlled using valves in the radiochemistry laboratory.

3. The post-accident containment atmosphere sample will be obtained utilizing the existing Station Air and Integrated Leak Rate Test penetrations through containment. These penetrations are located in Quadrant 1 of the containment, are adequately shielded, and are at sufficient distance from primary sources of radiation, that access for obtaining a post-accident sample can be accomplished within the dose limits of GDC-19.

   A grab sample will be taken to allow hydrogen and radiological analysis (isotopic concentractions) of the containment atmosphere. A gas powered (air and/or nitrogen) jet pump is permanently installed to draw the sample through the collection container. In the event that the survey meter located near the sample line indicates that high concentrations of radioisotopes are present, a small shielded container will be utilized for collection and transport of the sample to the onsite counting and analyzing facilities. In addition, portable lead shielding is available for use, as necessary.

Item II.E.1.2 - Auxiliary (Emergency) Feedwater System Automatic Initiation and Flow Indication. The schedule for installation of this Item, as stated in our letter dated June 18, 1982, is Refuel V. The equipment procurement concerns and the newly required fire protection interfaces (10 CFR 50, Appendix R) noted in that letter are being closely monitored so that any new problems can be readily addressed. As compensatory measures, FPC has installed and will continue to utilize a reliable, control-grade, redundant system which meets the single failure criteria to automatically initiate emergency feedwater and to provide indication of the emergency feedwater delivery system to each steam generator. The methods by which we have implemented the compensatory measures are discussed in our letters to you dated November 17, 1979, and January 11, 1980. This upgrade was completed in 1980.

Item II.F.1.1 - Noble Gas Effluent Radiological Monitor and Item II.F.1.2 - Continuous Sampling of Plant Effluent. The present schedule for installation of these Items, as stated in our letter dated June 30, 1982, is during Refuel IV. The potential problem areas which could preclude installation during Refuel IV are delivery schedules of vendor supplied and other auxiliary equipment. Delivery dates for this equipment have slipped on this project and, even with our increased expediting efforts, additional delays are possible. Corrective measures are being applied to alleviate these sources of delayed installation. Because of these potential delays, our realistic schedule for installation of these items is on or before December 31, 1983. Therefore, FPC commits to completing these items by December 31, 1983. The presently installed Radiation Monitoring System has a range of 10^{-6} to 10^{-2} Ci/cc (as Kr-85) while the Post-Accident Monitoring System will increase the range to 10^{5} Ci/cc (as Kr-85) for the Reactor Building vent monitor and to 10^{3} Ci/cc (as Kr-85) for the Auxiliary and Fuel Handling Building vent monitor. Because of the range of the installed monitors and the unlikelihood of needing an expanded range in the interim, no additional compensatory measures were instituted for these Items.

Item II.F.1.3 - Containment High Radiation Monitor. The realistic schedule for installation of this Item, as stated in our letter dated June 30, 1982, is during Refuel IV. The presently installed Containment Radiation Monitor has a range of 5 to 5×10^{5} Rad/hr while the Containment High Radiation Monitor will have a range of 1 to 10^{8} Rad/hr. Because of the range of the installed monitor and the unlikelihood of needing an expanded range in the interim, no additional compensatory measures were instituted for this Item.

Item II.F.1.4 - Containment Pressure Monitor. The realistic schedule for installation of this Item, as stated in our letter dated June 30, 1982, is during Refuel IV. The present installed Containment Pressure Monitor has a range of 0 to 70 psig while the new Containment Pressure Monitor will have a range of 0 to 280 psig. Because of the range of the installed monitor and the unlikelihood of needing an expanded range in the interim, no additional compensatory measures were instituted for this Item.

Item II.F.1.5 - Containment Water Level Monitor. The realistic schedule for installation of this Item, as stated in our letter dated June 30, 1982, is during Refuel IV. The present installed Containment Water Level Monitor has a range of 0 to 10 feet while the new Containment Water Level Monitor will have ranges of 0 to 10 feet and 10 to 20 feet. Because of the range of the installed monitor and the unlikelihood of needing an expanded range in the interim, no additional compensatory measures were instituted for this Item.

Item II.F.1.6 - Containment Hydrogen Monitor. The present schedule for installation of this Item, as stated in our letter dated June 30, 1982, is during Refuel IV. Delivery schedules for the power supply distribution panel (120 VAC) and the voltage regulating transformers are expected to preclude installation by

Refuel IV. Also, seismic and qualification documentation deficiencies for Target-Rock valves will also preclude installation during Refuel IV if this issue is not resolved. Corrective measures are being applied to alleviate these sources of delayed installation. Because of these potential delays, our realistic schedule for completion of this item is on or before December 31, 1983. Therefore, FPC commits to complete this item by December 31, 1983. As noted in the compensatory measures for Item II.B.3 referenced above, provisions have been implemented to allow for collection of grab samples of the reactor containment atmosphere and subsequent transportation and analysis at on-site facilities.

Currently, the duration of Refuel IV is scheduled for an upper bound of sixteen (16) weeks. To allow for an orderly and safe completion of outage related activities, we wish to maintain this scheduled objective. Should additional efforts beyond Refuel IV be required for closure of the aforementioned items, we plan to work closely with you for earliest practicable closure consistent with commitments herein.

Very truly yours,

John A. Hancock
Vice President
Nuclear Operations

Attachments

Bright:myf

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