Florida Power
CORPORATION

March 1, 1985
3F0385-03

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Fire Protection, Schedular Exemption

Dear Sir:

By letter (3F1084-10) dated October 5, 1984, Florida Power Corporation (FPC) submitted requests for exemption from the required schedule for completion of three fire protection modifications at Crystal River Unit 3. FPC has discussed the schedular exemption requests with members of your staff in meetings held October 23 and 24, 1984, and in subsequent phone conversations. On the basis of these discussions, the exemption requests have been revised and are being re-submitted by this letter. The enclosed schedular exemption requests supercede those submitted October 5, 1984, in their entirety.

The changes include clarification or modification of proposed compensatory actions and other editorial changes. Additional relief is being requested in that completion dates formerly proposed for December 1985 have been extended to the first quarter of 1986. This slight extension is premised on reforecast cost and manpower data and current work progress (both percentage of work completed and production rates). FPC will endeavor to complete the work as soon as practicable but consider the current forecasts to warrant this additional relief request. Also included is a revision to the scope of work deferred for both the HVAC system and the installation of fire "wraps".

The HVAC system was not to be completed until after Refuel V due primarily to interferences on the 118 foot elevation of the Control Complex. Additional delays have been experienced which further support the requested relief.

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FPC originally proposed to accomplish all conduit wrapping within the outage time frame and requested deferral of only the cable tray wrapping. Current forecasts indicate a need to defer both cable and conduit wrapping.

Substantial delays have been experienced in the automatic suppression (water sprinkler) design and installation efforts. However, noting the inter-relationships between suppression capability and the already proposed technical and schedular relief, FPC is treating this as a very high priority receiving considerable management attention. Current forecasts estimate completion during the Refuel V time frame. However, if additional delays are experienced, FPC may not complete the suppression system for all fire zones. The work will be prioritized with input from our Fire Protection Task Force to maximize the protection/compensation afforded.

Finally, the work scope on sealing barrier penetrations is forecast to be rather excessive. FPC is developing appropriate analysis to support reduction of scope under Generic Letter 85-01 guidance. If this project is not completed, FPC will, of course, comply with Technical Specification ACTION Statement requirements.

These last two items are provided to assure a complete picture is presented to you and your staff and do not constitute any additional relief requests. FPC further notes that Generic Letter 85-01 identifies a NRC staff action to identify a plant specific completion date for Appendix R. It is hoped that this input, as well as our previous meetings, can be utilized in identifying an appropriate time frame. This could obviate the need for any and all schedular relief for Appendix R. However, FPC chose to continue to pursue these specific requests since we were unsure as to how you intended to select the plant-specific dates.

Sincerely,

E C Simpson

E. C. Simpson
Director, Nuclear Operations
Engineering and Licensing

SCP/feb

Enclosure

cc: Dr. J. Nelson Grace
Regional Administrator, Region II
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CR-3 APPENDIX R

SCHEDULAR RELIEF REQUEST

BACKGROUND

Florida Power Corporation's Crystal River Unit 3 (CR-3) is scheduled to be taken off-line on March 9, 1985, for an extensive modification and refueling outage. The Corporation's financial and other planning assumptions are based on a 20-week outage with a return to operation in July, 1985. The scope of this outage is extremely ambitious. Relevant units of measure for Refuel V include: approximately $67 million dollars expended during the actual outage time frame; over $110 million dollars total outage cost (including pre-outage projects completed during Refuel V); 1800 total craft/supervisory personnel associated with modifications; 700 total staff on site expected during outage peak; and approximately 1.8 million manhours. Refuel V currently consists of more than 190 separate design packages. Several of the major modification projects are a result of the following NRC requirements: Emergency Feedwater Initiation and Control, Reactor Coolant Inventory Tracking System, Environmental Qualification, and Appendix R (including Remote Shutdown capability).

Florida Power Corporation (FPC) has been aware of the general requirements of Appendix R and the associated generic letters since their issuance and has aggressively pursued compliance based largely upon modifications (i.e., minimize reliance upon operator action and do not pursue any exemptions from Appendix R technical or schedular requirements). In the intervening years, FPC has: (1) already completed a significant portion of the fire protection features for

CR-3, (2) designed for the remaining fire protection features, and (3) become increasingly aware of the magnitude of the impact Appendix R will have on future plant operations and maintenance. In early 1984, a newly formed task force of FPC and consultant personnel, directly and indirectly associated with Appendix R, was directed to re-evaluate FPC's overall fire protection program. This was done to assure our ability to demonstrate compliance with all Appendix R requirements based on feedback from: the Nuclear Utility Fire Protection Seminar; the initial inspections for Appendix R conformance at other utilities; and current staff guidance provided in Generic Letter 83-33, I.E. Information Notices 84-09, and 84-09, Revision 1, the Regional Workshops, Generic Letter 85-01, and various Commission meetings.

On May 25, 1984, FPC met with NRC staff to discuss our evolving fire protection program plan which included: more aggressive action on redevelopment of our fire protection plan(s); an updated fire hazards analysis; improved QA involvement; mutually acceptable interpretations of Appendix R requirements; and a minor reliance upon certain technical exemptions. Our September 24 and October 5, 1984 letters provided discussions on some of these items, and submitted requests for technical and schedular exemptions. On October 23 and 24, 1984, FPC met with the NRC staff to discuss these technical and schedular exemption requests. Based on information FPC received during the meeting, the technical exemption requests were revised and submitted for review on December 11, 1984. This letter provides updated information regarding FPC's need for schedular exemption on some fire protection modifications. The requests for schedular relief, the technical exemptions, the control complex dedicated HVAC system design review, and the associated technical specifications represent the remaining NRC staff actions required for implementation of Appendix R at CR-3.

The requests for technical exemptions do not represent an attempt by FPC to reduce our effort to a minimum number of changes to implement Appendix R. Based on our fire hazards evaluations and thorough review of NRC staff guidance, we are confident that we could have demonstrated acceptable resolution of Appendix R intent with a much smaller work scope. However, FPC chose to request technical exemptions only where long term negative impacts on operations and maintenance were great or where literal compliance was virtually unworkable. FPC also chose to pursue these exemptions only if our legal, licensing, and technical staffs were unanimously confident that: (1) CR-3 operation would be safe, and (2) the NRC staff would readily concur.

BASIS FOR THE REQUEST FOR SCHEDULAR RELIEF

Because of the large number of modifications planned for Refuel V, FPC has already begun work on a portion of the modifications (including Appendix R) in an effort to minimize the impact on our resources. Should pre-outage work proceed more rapidly than anticipated, or if productivity exceeds our expectations, some of these items may be completed in shorter time frames. We are just now receiving detailed implementation plans on-site for some of these projects and, thus, this information is based on our best-estimate and engineering judgement at this point. Based on this information and realistic (not worst case) schedules, we feel confident the attached schedular relief requests address areas where conflicts between Appendix R work scope and other work scopes are so significant as to make concurrent accomplishment during Refuel V impractical. Therefore, in order to ensure the completion of the major modifications necessary for compliance with the many regulatory requirements, FPC is requesting schedular relief from our commitment to complete certain Appendix R modifications by the

end of Refuel V. Please note these schedular relief requests are based on the technical exemptions being granted. If this does not occur, the impact will be severe and the schedular relief being sought may need to be revised and/or additional schedular relief requested.

Attached for your information are: 1) summaries of the pre-outage and outage work (Attachments A and B); 2) specific schedular relief requests (Attachments C, D, and E); and 3) sketches to identify where the major activities will be occurring (Figures 1A, 1B, 2, and 3).

JUSTIFICATION

By granting these schedular relief requests, the associated modifications can be completed post-outage without adversely affecting the public health and safety. This conclusion is justified based on the following: (1) specific compensatory measures are proposed to provide equivalent protection; (2) the major Appendix R modifications (e.g., the installation of the required associated fire detection and sprinkler systems and the required rerouting of existing circuits) will be completed during Refuel V, and (3) the ability of our existing on-site fire brigade to rapidly respond to a fire in these areas.

ATTACHMENT A

PRE-OUTAGE WORK SUMMARY

Some of the major tasks currently being undertaken in preparation for the outage are:

(a) Installation of cable trays and conduits: FPC is installing new cable trays, conduits and their supports to allow installation of the extensive amount of new cables that will be needed for EFIC, rerouting of circuits and installation of Remote Shutdown capability for Appendix R.

(b) Cable Pulling: Because of the extensive electrical modifications planned for Refuel V, cable is being pulled now in order to allow terminating and testing to be performed during the outage.

(c) Prefabrication: As final design packages become available, FPC is prefabricating as much work as possible either in place (i.e., EFIC cabinets) or in the shops (i.e., Reactor Building hangers).

ATTACHMENT B

OUTAGE WORK SUMMARY

Some of the major projects include:

(a) Emergency Feedwater Initiation and Control (EFIC): This new system will resolve several NRC mandates and concerns including (but not limited to): safety-grade initiation and control of emergency feedwater (NUREG-0737, Items II.E.1.1 & II.E.1.2); feed-only-good-generator controls; steam generator overfill protection; and capability to establish natural circulation conditions. This $14.5 million dollar project has been planned, developed, and designed over the past 5 years and will result in a substantially more reliable emergency feedwater system. The EFIC project will require: the construction of 4 new rooms within the Control Complex, six (6) new cabinets of instrumentation/controls; installation of new steam generator level transmitters; installation of several new valves and associated piping to the emergency feedwater system; and extensive amounts of new cabling and conduit. It will require over 265,000 total craft manhours to install this modification.

(b) Remote Shutdown: This new alternate shutdown panel will provide alternate control for over 100 valves and over 50 instruments considered appropriate for the support of shutting down the unit in the case of a control room or

cable spreading room fire. This project was begun in response to BTP APCSB 9.5-1 Appendix A, and the associated SER for CR-3. After incorporating Appendix R guidance and operations input, this project now entails $12.6 million dollars worth of changes/additions to CR-3 which will include approximately 1100 feet of new cable tray, 11,000 feet of new conduit, 120,000 feet of cable, 1200 new conduit and cable tray supports, a new room to contain the panels, etc. Total craft construction manhours will exceed 330,000.

(c) Environmental Qualification (EQ): In response to 10 CFR 50.49, FPC is upgrading our I. E. Bulletin 79-01B program to meet the recent guidance. While this project is often "buried" in other upgrades (i.e., those associated with NUREG-0737 installed in Refuel IV or EFIC/Remote Shutdown and other projects planned for Refuel V), it will include the repair/rebuild of many components and the replacement of others. These vary from "simple" replacement of limit switches in certain valve operators to wholesale replacement of all terminal blocks in harsh environments. Total craft construction manhours will exceed 64,000 and the cost is estimated to be $2.4 million dollars.

(d) Fire Protection (Appendix R items other than Remote Shutdown capability): In response to 10 CFR 50.48 and Appendix R, FPC is upgrading our fire protection program to comply with the requirements of Appendix R. This modification involves (approximately): installing 500 new sprinkler heads; 14 new detectors; sealing over 300 penetrations; protecting 1100 feet of cable tray and 3500 feet of conduit; installing 600 new cable tray and conduit

supports; installation of the dedicated HVAC system for the Control Complex; relocation of relays and circuits associated with redundant trains of safe shutdown equipment; relocation of several motor control centers; construction of new fire barriers; installation of fuses in the power circuits for non-safe shutdown equipment which are connected to the same power source as safe-shutdown equipment; relocation and installation of new 3-hour rated fire dampers; and other miscellaneous re-wiring, re-routing of circuits, and separating of components. This project now entails $23 million dollars worth of changes/additions to CR-3. Total craft construction manhours will exceed 600,000.

In addition to the above modifications, FPC is implementing the following modifications which are either required to assure continual conformance with license requirements or have been requested to be backfitted by the Commission.

Reactor Internals Bolting Inspections (and Potential Replacement)

Reactor Coolant Inventory Tracking System

Engineered Safety Features Actuation System Testability Improvements

Capability to Install An External Hydrogen Recombiner

HPI Throttle Valve Replacements

Safety Parameter Display System

Other major outage activities include:

Refurbishment of LP Turbine Rotor

Class III Hydrostatic Examination

Normal ISI/IST/LLRT Activities

Various Corrective and Preventative Maintenance Activities

Refueling

ATTACHMENT C

SCHEDULAR RELIEF REQUEST:

COMPLETION OF THE CONTROL COMPLEX DEDICATED HVAC SYSTEM

REQUEST DESCRIPTION: FPC requests a schedule extension for completing the installation of the dedicated HVAC system for safe shutdown areas of the Control Complex until March 31, 1986 or until nine (9) months after NRC approval of the dedicated HVAC system design, whichever is later.

BASES FOR SCHEDULAR RELIEF: A dedicated HVAC system is being installed to provide: 1) ventilation and cooling for the remote shutdown panels, power supply, and switchgear rooms; and 2) redundant chilled water supply to the EFIC rooms HVAC system. (A description of the dedicated HVAC system was provided to the NRC, in a conceptual design package, by letter dated January 2, 1985.) Pipe routing for the dedicated HVAC system has been identified and it has been determined that installation of the planned piping and supports cannot be completed during Refuel V without adversely affecting the cable pulling and termination schedule of the Appendix R, Remote Shutdown, and Emergency Feedwater Initiation and Control (EFIC) Projects. Figure 1A shows the areas of the 108' elevation of the control complex served by the dedicated HVAC system chilled water piping. Figure 2 shows the arrangement of the chilled water piping, cable trays, and new remote shutdown panels in this area.

The remote shutdown project requires new instrumentation panels to be installed within this area of the Control Complex. Cable pulling for the remote shutdown and EFIC systems has already begun and the remaining cable pulling and intricate electrical termination and testing work on the highly sensitive equipment will continue throughout the outage. To attempt a major piping project for the dedicated HVAC system with all that it entails (i.e., scaffolding, welding, cutting, burning, etc.) at the same time and in the same area would impede the electrical work. The piping can be safely installed after the panel work is complete and the panels are closed.

PROPOSED COMPLETION DATE: March 31, 1986 or 9 months after NRC approval of the conceptual design, whichever is later.

INTERIM COMPENSATORY MEASURES: A fire watch patrol (instructed to observe areas for accumulation of transient combustibles or fire conditions) will be provided to augment automatic detection capability and reduce response time for manual suppression. Routes will be established to ensure that the patrol checks each affected area, in which a fire could disrupt normal control complex HVAC to redundant safe shutdown systems, approximately every 20 minutes. Appropriate procedures and dedicated temporary air handling equipment will be provided to backup HVAC for the remote shutdown panel, power supply and switchgear rooms, in the event of a fire isolating or damaging the normal HVAC system. Furthermore, during most work hours a substantial number of craft personnel will be present in the affected areas completing the deferred work.

ATTACHMENT D

SCHEDULAR RELIEF REQUEST: INSTALLATION OF THE 3-HOUR RATED FIRE BARRIER FOR CONTROL COMPLEX EMERGENCY FEEDWATER INITIATION AND CONTROL (EFIC) ROOM CEILINGS

REQUEST DESCRIPTION: FPC requests a schedule extension until March 31, 1986, to complete installation of the 3-hour rated fire barrier for the ceilings in the new EFIC rooms located on elevation 124' of the Control Complex.

BASES FOR SCHEDULAR RELIEF: Several areas of the Control Complex are to be upgraded to provide three-hour rated separation. Four of these areas are the new EFIC rooms. Each of these rooms will require the ceilings to be upgraded to a 3-hour rated fire barrier. The four (4) EFIC rooms are approximately 14' x 14' in size. Figure 1B shows the location of the EFIC rooms on the 124' elevation of the Control Complex. Figure 3 is an enlargement of the center room on the north side of Control Complex elevation 124' which shows the internal arrangement of the 4 new EFIC rooms. Installation of the cabinets and electrical work on the sensitive control cabinets is already in progress for the following NRC commitments: EFIC, Remote Shutdown, Safety Parameter Display System, and Fire Protection. This electrical work, the HVAC ducting and piping work, and the fire protection work in the nearby safeguard switchgear rooms are not expected to be completed until the end of Refuel V.

Protecting the EFIC rooms' ceilings will be an extremely dirty and dust-raising job. Under these cramped and already work intensive conditions, attempting to commence the fire protection work overhead before completion of the electrical work would have a negative effect on the aforementioned commitments and would result in schedule delays. The ceilings can be safely protected after the cabinet work is complete and the cabinets are closed.

PROPOSED COMPLETION DATE: March 31, 1986.

INTERIM COMPENSATORY MEASURES: A fire watch patrol (instructed to observe areas for accumulation of transient combustibles or fire conditions) will be provided to augment automatic detection capability and reduce response time for manual suppression. Routes will be established to ensure that the patrol checks this area approximately every 20 minutes. Furthermore, during most work hours a substantial number of craft personnel will be present in the affected area(s) completing the deferred work.

ATTACHMENT E

SCHEDULAR RELIEF REQUEST: PROVIDING FIRE BARRIERS FOR CABLE TRAYS AND CONDUIT REQUIRING FIRE PROTECTION

REQUEST DESCRIPTION: FPC requests a schedule extension until March 31, 1986 to complete the installation of fire barriers for protection of safety-related cable trays and conduit in the Auxiliary Building, Intermediate Building and Control Complex.

BASES FOR SCHEDULAR RELIEF: Fire protection will be provided for the electrical cable trays requiring protection. During Refuel V, many modifications are scheduled to be heavily engaged in cable pulling through trays which have also been designated as requiring fire protection to comply with Appendix R. Many of these modifications are also NRC commitments (i.e., Emergency Feedwater Initiation and Control, Appendix R, (including Remote Shutdown) and Reactor Coolant Inventory Tracking System).

Trays cannot be provided with fire protection until all cables required by the new modifications have been pulled, terminated and tested. Also, there is a very limited amount of space available to perform the work (e.g., multiple trays, close to the ceilings). Therefore, attempting to commence tray fire protection (which in itself is an extremely time and space consuming task) during the same time frame

a major cable pulling effort is in process, is impractical. In addition, a concentrated effort will be underway to complete the fire protection sprinkler and detection systems (also an Appendix R commitment for Refuel V) in many of the same locations. Attempting all of this work simultaneously on the same cramped scaffolds would hinder the timely completion of the other modifications. It would be safer and a more orderly sequence to begin cable tray and conduit fire protection as all other work is completed.

PROPOSED COMPLETION DATE: March 31, 1986.

INTERIM COMPENSATORY MEASURES: A fire watch patrol (instructed to observe areas for accumulation of transient combustibles or fire conditions) will be provided to augment automatic detection capability and reduce response time for manual suppression. Routes will be established to ensure that the patrol checks each affected area approximately every 20 minutes.