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**Florida  
Power**  
CORPORATION  
Crystal River Unit 3  
Documt No. 88-342

February 4, 1992  
3F0293-08

Dr. Thomas E. Murley  
U. S. Nuclear Regulatory Commission  
Mailstop 12 G 18  
Washington, DC 20555

Subject: Crystal River Unit 3  
Status of Major Regulatory Issues

Dear Dr. Murley:

Florida Power Corporation (FPC) remains strongly committed to maintaining an effective relationship with all of our principal regulatory agencies. Part of any such relationship is clear communication of mutual goals and challenges. Thus, we are providing this correspondence to summarize the current status of key issues that FPC is or will be addressing with the NRC.

This correspondence is consistent with and complementary to industry-wide efforts coordinated through NUMARC associated with reducing costs including those imposed by regulatory requirements or licensee reaction to such requirements. Key opportunities at reducing such costs were communicated to the NRC late last year (December 21, 1992 letter from Joe Colvin, NUMARC to Chairman Selin). You will note that many of the issues we address herein are plant-specific actions associated with those issues.

These issues have been or will be discussed in more detailed written communications and meetings. Our staff maintains a regular dialogue on these and other less significant issues which will be continued.

No specific actions are requested by this correspondence. Rather, it provides an overall framework so that NRC Staff and their management can identify resource needs, as well as, opportunities for the NRC to integrate our specific needs with generic activities and other plant's specific activities.

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### TECHNICAL SPECIFICATION IMPROVEMENT

FPC is pleased that generic activities progressed to the point in 1992 that allowed lead plant activities to resume. Crystal River Unit 3 (CR-3) is the B&WOG lead plant and is the first lead plant to re-initiate active negotiation with the NRC. We remain confident that the CR-3 Improved Technical Specifications (ITS) will be finalized in the next several weeks and implemented by the fourth quarter of 1993. FPC has been able to move forward quickly because of our continued participation in the generic activities and, most importantly, because our previous (1989) license amendment's review and Sholly evaluation remained open pending the latest round of generic efforts. In order for the CR-3 ITS effort to remain on schedule, we will also have to resolve parallel efforts on the Administrative Controls Chapter, Low-Temperature Overpressure Protection and PORV Technical Specification requirements. These efforts are being handled outside the overall TS Branch directed effort and our positions have been somewhat less aggressively addressed by the NRC staff.

### SECURITY

FPC strongly endorses the NUMARC position that the overall security design basis threat is significantly overstated and that the implementation of standard nuclear security measures is much more costly than is warranted by any actual threat. FPC is in a unique position in that we were planning a major upgrade to our security hardware systems. If the NRC responds positively to the NUMARC initiative or to a plant specific request, much of the cost of the upgrade can be avoided.

In particular, FPC strongly believes that the current standard level of vital area access controls and associated response requirements are not necessary to mitigate any real threats. The vital equipment at nuclear power plants is less susceptible to sabotage with potential to affect public health and safety than has historically been assumed. FPC believes that it may be possible to evaluate the contribution of the threat of sabotage to overall plant risks utilizing probabilistic risk tools now available. FPC has been invited by the NRC to provide more information on our upgrade's relationship with the issues being discussed generically and plan to do so in the next few weeks. We were awaiting a juncture that would support rather than potentially distract from the generic activities. That discussion will include a number of issues beyond a relaxation of vital area access controls.

### SEISMICITY-RELATED ISSUES

CR-3 is located in an area of very-low seismic risk. This low seismicity was quantified in the efforts to resolve concerns regarding Eastern-US seismicity raised by the US Geological Survey several years ago. The relative probability of exceeding the seismic design basis for CR-3 is among the very lowest of any nuclear power plant. Therefore, FPC has and will continue to take the position that seismic related concerns are of little safety significance to CR-3. FPC has

SEISMICITY-RELATED ISSUES (continued)

remained both cognizant of and an active participant in many generic efforts including efforts to resolve Generic Safety Issue A-46 as addressed in Generic Letter 87-02. FPC is developing a plant-specific plan that will resolve generic seismic issues as well as provide more practical long-term benefits to FPC. This effort will include a plant walkdown based on the guidelines developed by SQUG. It will also include a thorough review of our plant's seismic design and licensing basis by recognized experts in the seismic field. Our resolution of A-46, as well as, IPEEE-Seismic will be less resource intensive than those for plants where the risk is more significant. The practical benefits are expected to include more cost effective qualification means for replacement equipment, more realistic seismic design requirements; and decoupling seismic qualification from TS operability, as well as a general clarification of the associated design and licensing basis.

We have docketed a summary of this plan in response to the related generic communications. We will docket an updated/expanded description of the plan and discuss this further with your staff in the February/March time frame as requested. We remain committed to final resolution of the generic issues in a time frame consistent with the balance of the industry.

TEAM INSPECTIONS

FPC, like all licensees, can be severely impacted by NRC team inspections. We recognize that in some situations such teams are an appropriate means of addressing certain issues. CR-3 is scheduled for an EDSFI this summer and would anticipate Service Water (SWSOPI) team inspections in coming years. FPC is in a unique position with regard to these inspections and plans to propose to the NRC that the current plan be changed. The basis for that proposal is summarized in the following.

As the NRC is well aware, FPC has been a leader in industry efforts to improve design basis information availability. Several years ago the existing electrical design information was judged by FPC to be in need of significant improvement. Our Electrical Calculation Enhancement Program was directed to correct this situation. It has been discussed with appropriate members of the NRC staff on several occasions and, along with other new information, has led to a number of significant plant enhancements. These have included new battery systems, upgraded emergency diesel generator capacity, replacing one off-site power source and adding another, and a number of other less dramatic changes. The calculation program has been expanded to address the majority of applicable issues raised during EDSFI's at other plants. We have been participants in the EDS Clearinghouse (coordinated by Winston & Strawn and Devonrue) and have reviewed the majority of the EDSFI reports in order to maintain cognizance of these results. Thus, we do not believe a standard EDSFI at CR-3 would be useful or an appropriate use of FPC or NRC resources. Thus, we will propose that the CR-3 EDSFI be significantly modified. Instead, a more thorough review of our Electrical Calculation Program efforts will be encouraged. This approach would appear to be consistent with recent Commission guidance related to the resources committed to team inspections.

### TEAM INSPECTIONS (continued)

We have identified a number of actions to improve the reliability of our service water systems which are scheduled to be implemented over the next several outages and operating periods. The NRC already conducted an Operational Safety Team Inspection at CR-3 several years ago which focussed on these systems. Therefore, FPC will request that if we are selected for a SWSOPI that it be scheduled for NRC FY-95 at the earliest.

### CABLE SEPARATION

During the Maintenance Team Inspection, a small number of cable separation discrepancies were identified. As FPC clarified our design requirements and assessed the installed configuration's compliance with it, we identified several hundred potential discrepancies. We have been discussing resolution options and plans with the NRC staff over the past several months. The CR-3 Licensing Basis (FSAR) only addresses separation of RPS and ESFAS cabling; and, focusses primarily on separation of cabling outside of cabinets and control panels. Our design and construction attempted to achieve much broader application of separation requirements internal to such enclosures and addressing all safety-related circuits as well as circuits "associated" with safety-related trains due to physical proximity (e.g., non-safety circuits routed with a particular train of safety-related tray, etc.). Fully implementing the existing conservative guidelines would cost nearly four million dollars, impact upcoming outages significantly, and pose significant risks as a result of the amount of labor in confined spaces containing vital equipment's cabling and wiring.

We will propose to maintain a reduced level (1 inch rather than 6 inches for associated circuits) of this broader application of the criteria as a design objective. When Class 1E circuit separation is less than six inches or associated circuit separation is less than one inch, we will require a more detailed analysis. Otherwise, we will not reconfigure the existing circuitry nor perform a detailed analysis. This will maintain conformance to our licensing basis. This will also continue to promote more conservative design and construction practices during maintenance and modification efforts without the huge impact of rewiring a large number of enclosures. Further, such criteria can be effectively maintained.

### PROCUREMENT

FPC has been the subject of two commercial grade procurement team inspections in the past several years. Both resulted in identification of issues where FPC and the responsible NRC staff held divergent views regarding those actions required or necessary to assure high reliability. This has resulted in an extensive interaction with various levels of the NRC staff in a number of forums. Our experiences have contributed to the ongoing coalescing of industry efforts by NUMARC and NUPIC as well as the development of related EPRI guidance. The NRC has remained receptive to our views and is continuing to give them due consideration. We anticipate this will continue through the upcoming NRC sponsored Workshops and beyond. Rather than reiterating our positions here we will simply endorse the NUMARC positions expressed in the previously referenced letter to the Chairman.



PROCUREMENT (continued)

This is an area where a fundamental review of the nature and purpose of existing regulatory requirements, guidance, and staff positions could benefit the industry from an economic viewpoint without any degradation in plant safety. In fact, expanding the marketplace and competition associated with the supply of new and replacement equipment would enhance long term safety.

SEVERE ACCIDENT MANAGEMENT

FPC has completed our IPE and will docket the formal report in several weeks. The basic results were informally provided to the NRC staff several months ago. No significant vulnerabilities were identified.

We have responded to the request to describe our planned actions to address external events (IPEEE). The NRC staff has expressed disagreement with our handling of external events other than fire. FPC addressed seismic related issues earlier in this correspondence. FPC has reevaluated our position in light of the NRC staff feedback and remains confident that our approach to external events is appropriate. We recognize it is not the approach suggested by the NRC guidance. Nevertheless, we have fulfilled our obligations under 10 CFR 50.54 (f) and may not propose any additional actions.

We are participating in the B&WOG effort to develop Severe Accident Management Guidelines for the B&W Owners as well as INPO/NUMARC efforts to identify general training needs. At this point, we anticipate relatively simple guidelines being made available to Technical Support Center staff to enhance their ability to deal with events that produce significantly degraded core conditions. We urge the NRC to avoid unnecessarily extensive or prescriptive requirements. So much effort has gone into understanding severe accident phenomena over the past decade that we are concerned it has developed a kind of inertia that will lead to requirements far in excess of the need. This has the potential to divert resources from more safety-significant tasks.

REACTOR VESSEL INTEGRITY

FPC responded to Generic Letter 92-01 as part of the B&WOG effort. The B&WOG has had an active and aggressive RV materials program in place for many years. This program has produced substantial RV material irradiation data for our vessel materials, as well as, up-to-date projections of material properties in accordance with the regulatory requirements. As part of that program, FPC like the other B&W Owners, has installed ex-core fluence monitoring capability that will facilitate future monitoring. We have been closely monitoring industry activities as part of the B&WOG as well as the NUMARC AHAC on RV Integrity. The fracture toughness margin analysis for our vessel is enveloped by the Turkey Point and Zion submittals. (Note that for Reactor Vessel Integrity issues the B&WOG represents several owners of B&W manufactured vessels which are not B&W NSSS plants.) These submittals addressed ASME Level A and B transients. The Level C and D transient analysis is in draft form with anticipated submittal in the last part of 1993 following any feedback on the earlier A and B submittals. FPC is confident that the integrity of the CR-3 vessel can be demonstrated for the current and any extended life of the plant.

### STEAM GENERATOR INTEGRITY

The CR-3 Once Through Steam Generators (OTSG's) have experienced less tube degradation over our history than other PWR's. Nevertheless, we have recognized OTSG's to be among the most critical components from an age-related degradation perspective. Recent Eddy Current Test results did identify a relatively small number of low amplitude indications in the region just above the lower tubesheet and in some other locations. In an effort to better understand the nature of any degradation associated with these signals, we elected to pull seven tubes during our last refueling outage. The results of the metallurgical examinations indicated the presence of very localized IGA present in several of the tube samples. These IGA sites are typically less than 1/8 inch in diameter but may penetrate as much as 50% to 60% through wall. Structural integrity was not diminished by this condition as demonstrated by burst tests that were done on tubes with similar indications. We have provided these results, in more detail, to the NRC staff via preliminary notes and teleconferences, and FPC will continue to keep NRC apprised as more information is gained. The results of the investigations will be presented to FPC in early February and will be made available to the NRC staff after the report is finalized. Our past practice and future intent is to leave tubes with similar indications in-service and monitor them for any growth during each subsequent inspections. Our investigations have been conducted by BWNS under contract to EPRI. The results will be readily available to others in the industry in order to gain insight on similar phenomena based on our experience.

### TSI/THERMO-LAG

FPC, like many utilities and other industries, has extensively utilized TSI in order to meet the highly prescriptive requirements of 10 CFR 50, Appendix R. It was used as a rated barrier, radiant shield and to isolate redundant train cabling and equipment in fire zones where one train predominated. FPC has been following the issues associated with reported test failures and other concerns. FPC recognizes that there are some technical concerns with potential safety significance. Fortunately, FPC has had construction underway in a number of areas that has led us to maintain roving watches in many fire areas in accordance with our license requirements. These actions made compliance with Bulletin 92-01 rather straightforward. We also recognize the need to properly identify the actual effects on cable ampacity.

However, FPC believes that the NRC staff responsible for the "combustibility" issue has been unnecessarily prescriptive in their consideration of the issue. The fact that constituents of the barrier system become charred or even burn under extreme test conditions does not mean the material is incapable of meeting the intent of Appendix R. The "qualification testing" of the Thermo-Lag material by its manufacturer was apparently not handled very well. The material does not pass standard testing requirements. However, many of these standard test requirements are clearly not applicable to its use in nuclear power plants. The basic requirement for 1- and 3-hour barriers itself is conservative and arbitrary. That is part of the reason it is among the first set of regulations being evaluated as part of the Program for Elimination of Requirements Marginal to Safety. Yet, recent feedback from your staff indicates that defining more appropriate limits as allowed by Generic Letter 86-10 may no longer be well-received. It is imperative that NRC management intervene to the extent that reasonable, applicable standards and requirements are appropriately considered in the resolution of this

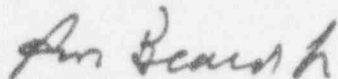
TSI/THERMO-LAG (continued)

issue. The costs of unwarranted conservatism are extremely high (such barrier systems cost many millions of dollars) while the real threat is very low. NUMARC is continuing to work with the NRC staff to facilitate issue resolution.

CONCLUSION

Mr. Keesler (FPC/CEO) and I had the opportunity to share some of these thoughts with Commissioners and members of the senior NRC staff during a recent visit. Our respective staffs are already discussing each of these issues in various forums. If we can clarify further or if we can assist efforts at resolving these issues, we remain ready to do so.

Sincerely,



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

cc: A. J. Keesler, Jr.  
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