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**Florida
Power**
CORPORATION

March 14, 1985
3F0385-14

Dr. J. Nelson Grace
Regional Administrator, Region II
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, Ga. 30323

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
IE Bulletin 79-02, Supplemental Information
IE Inspection Report 84-32

Dear Sir:

In a letter dated October 8, 1984, Florida Power Corporation (FPC) described the results of a voluntary testing program undertaken to verify the capacity of Wej-it concrete anchors. As reported in that letter, this testing program determined that the capacity of Wej-it anchors in Crystal River 3 (CR-3) concrete was not as high as the value published in recent Wej-it catalogs. In response to these findings, FPC began an evaluation program to assess the impact of this reduced capacity on large bore safety related piping systems at CR-3. As committed in a letter dated November 15, 1984, this assessment was completed on December 21, 1984. This letter documents the results of that assessment, actions already taken in response to those results, and future plans to further improve the supports for safety related piping at CR-3. This letter also provides follow-up information on outstanding issues identified in IE Inspection Report 84-32.

In response to the findings of the evaluation completed on December 21, 1984, one hanger was repaired immediately to increase the anchor bolt factor of safety to greater than 2. This was done since a system operability analysis could not be completed in a timely manner, and FPC did not want to operate with the system status in doubt. The analysis later determined that, if subjected to a design basis earthquake, no impairment of system function or integrity would have resulted. While the system could not be shown to be in total compliance with all Seismic I design criteria, the piping and supports had sufficient safety margins to assure system operability during all design basis events. This hanger had not been previously evaluated in response to IE bulletin 79-02.

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During the evaluation of the deficient support, it was found that an additional adjacent support had also not received evaluation under the original IE Bulletin 79-02 work and had not, therefore, been evaluated for the reduced Wej-it loading in December. This support has been evaluated, and the current anchor bolt factor of safety is greater than 2.

During the evaluation completed on December 21, 1984, it was discovered that a portion of the Decay Heat System crosstie piping was not adequately supported to withstand a design basis earthquake. While this section of piping is not necessary to mitigate design basis accidents, it has been shown to be necessary to mitigate certain multiple failure accidents, and its use for such purposes is documented in the CR-3 Final Safety Analysis Report (FSAR). The current design drawings indicate that this portion of piping is classified Seismic I. However, the supports cannot, by inspection or review of existing analysis packages, be shown to qualify as Seismic I. This discrepancy occurred because the seismic class boundary was moved by the Architect/Engineer during construction, but the change was not carried through to physically redesign the actual support configuration. The supports for this section of piping will be modified during the current refueling outage to bring the line into compliance with Seismic I criteria.

The evaluation completed on December 21, 1984, investigated 208 supports identified by work done in response to IE Bulletin 79-02 as having safety factors less than 8.1. Of the 208 supports investigated, it was determined that 99 will require additional corrective action to increase the safety factors to greater than 4 using the conservative FPC methodology and the reduced Wej-it capacities. This includes the two supports identified above and the outstanding deficiencies from the investigation described in FPC's October 8, 1984, submittal.

FPC is now actively working on preparation of design modifications to increase the safety factors of these supports to greater than four. It is anticipated that these designs will be completed by May 1, 1985. As the designs are completed, they will be installed in the plant as quickly as possible by integrating this work with other work being done in the area of these supports. This will minimize the installation time by allowing use of scaffolding constructed in these areas for other purposes.

The goal of this expedited effort is to repair all of these supports during the current refueling outage without extending the outage beyond the 20 weeks currently planned. Due to the number of supports involved and the massive amount of other work in progress, there is some possibility that this goal will not be met. As a minimum, FPC commits to repair, prior to the end of the outage, all supports located in inaccessible areas and any supports located in systems that could jeopardize the personal safety of the workers. Any remaining supports will be repaired during plant operation but not later than November 1, 1985. This plan, while potentially not in total compliance with the actions directed by IE Bulletin 79-02, is intended to be as responsible as possible to NRC concerns and still not unjustly penalize the people who must bear the financial burden of CR-3 being out of service. The following facts demonstrate that the plan outlined above is safe and reasonable.

1. Any supports which may not be repaired by the end of the current outage already have safety factors of at least 2 using FPC's conservative methodology, the reduced Wej-it capacities, including all dead weight, thermal and Safe Shutdown Earthquake Loadings.
2. The potential time period that supports might be operated in this condition is approximately 3 months. This is a considerably shorter period of time than was potentially allowed by the Bulletin for pre-outage operation.
3. CR-3 is located in an area of low seismic activity. The probability of a seismic event occurring during this period which would affect CR-3 is extremely low.
4. The Wej-it testing program conducted by FPC and documented to the NRC on October 8, 1984, has reduced the uncertainty associated with the use of Wej-it anchors in CR-3 concrete. This gives considerably higher confidence that supports with a safety factor between 2 and 4 could withstand a Safe Shutdown Earthquake without experiencing any failures.
5. The replacement power cost for CR-3 during July and August is approximately one half million dollars per day. This is a very high economic price to pay for the minimal safety margin to be gained from the repair of these supports.

In a related matter, IE Inspection Report 84-32 noted an apparent deficiency in FPC's Safety Related Engineering Procedures. The inspector noted that "(a) review of FPC Safety Related Engineering Procedure (SREP) . . . indicated that the SREP's did not appear to provide a specific means of documenting nonconforming design conditions, nor the controls necessary to assure 10 CFR 50, Appendix B, Criterion XVI compliance." Temporary Change No. 1 to SREP-8, Corrective Action, Revision 4, was issued on February 13, 1985. This temporary change broadened the purpose of this procedure to include deficiencies that are discovered external to the design process. This Temporary Change will be incorporated into SREP-8 as a formal revision within 6 months of the Temporary Change effective date. In addition, the deficiency regarding the Wej-it concrete anchors has been entered into the Error/Deficiency Status Log and formally documented via a memo dated February 4, 1985.

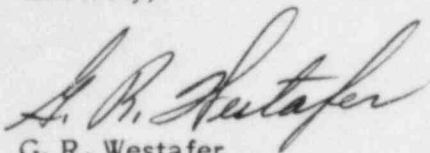
The inspection report also indicated a need to confirm the adequacy of small bore pipe supports (2 inch and under) in light of the reduced Wej-it capacities. FPC concurs that this need exists and will undertake a program to analyze in detail 5 randomly selected sections of small bore piping including approximately 50 supports. Detailed as-built drawings will be prepared and safety factors will be calculated based on the reduced Wej-it capacities. This program will be completed by October 18, 1985.

March 14, 1985
3F0385-14
Page 4

In conclusion, FPC's earlier position that supports with safety factors between 2 and 4 were adequate has been modified. This modified position is based on the information developed as a result of the recent investigations as well as the concerns expressed by the NRC inspector during his November 1984 visit. This position is intended to be responsive to the safety issues involved while not unnecessarily penalizing FPC's customers. FPC will provide an updated status report of the work currently underway near the end of the current CR-3 refueling outage. This report will include a specific list of all supports to be upgraded after the end of the outage, if any.

Should there be any questions, please contact this office.

Sincerely,



G. R. Westafer
Manager, Nuclear Operations
Licensing and Fuel Management

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