

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

EVALUATION OF REQUEST FOR
EXTENSION OF CONSTRUCTION PERMIT NO. CPPR-51
FOR CRYSTAL RIVER UNIT 3 PLANT
DOCKET NO. 50-302

A. Introduction

Florida Power Corporation (the Licensee) is the holder of Construction Permit No. CPPR-51 issued by the Commission on September 25, 1968 for construction of the Crystal River Unit 3 plant presently under construction at the Licensee's site located on the Gulf of Mexico in Citrus County, Florida. In accordance with Section 185 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. Section 2235, and in accordance with the Commission's regulations, 10 CFR Section 50.55, the Construction Permit states the earliest and latest dates for the completion of the construction. At present, the earliest date for completion of construction is May 1974 and the latest date for completion is September 30, 1974. By letter dated July 12, 1974, the Licensee advised the NRC staff that construction cannot be completed by the latest date. Subsequently, by letter dated October 21, 1974, the Licensee informed the staff that its construction effort had been reduced by 75 percent due to limited availability of funds which further delayed fuel loading to March 1, 1976 at the earliest. The Licensee has, therefore, requested that the Construction Permit be extended to December 31, 1976. In accordance with 10 CFR Section 50.55(b), the staff, having found good cause shown, is extending the latest completion date to December 31, 1976 for the reasons stated below.

The remainder of this Evaluation will set forth the following: in Section B, the "good cause" shown by the Licensee for an extension, that is, the specific delays which the Licensee has cited in support of its request for this extension, along with staff's independent estimate of the amount of time actually lost due to each delay cited; in Section C, the staff's independent judgment as to the "reasonable time" necessary, from the present forward, to compensate for each delay factor, which "reasonable time" may be more or less than the staff's independent estimate of the amount of time actually lost due to each delay cited, as set forth in Section B; in Section D, a finding as to significant hazards consideration; and in Section E, a conclusion and a recommendation for an Order.



8008030 899

B. Good Cause

1. Construction Schedule

The applicant indicated that it had underestimated the construction schedule compared to the present knowledge of actual construction schedule time and experience gained in making more realistic estimates. More recent information provided by the applicant estimates the earliest fuel loading date to be May 31, 1976. This fuel load date is based on a 62 month elapsed time from start of pouring structural concrete to fuel load which is optimistic when compared to the 64 month and 67 month elapsed time that were actually required to accomplish the same construction objectives at similar facilities such as Arkansas Nuclear One, Unit 1. The applicant has indicated that 8 to 10 months of the delay is due to this underestimation of the construction schedule. The staff estimates that the delay actually caused by this factor was ten months.

2. Work Stoppages

The applicant has attributed a four month delay to work stoppages due to labor walkouts, shortages of critical material and inclement weather. The staff estimates that the delay actually caused by this factor was four months.

3. Design Modifications

The applicant has indicated that the following significant design modifications contributed to an unspecified degree to the requested schedule extension: installation of four main steam isolation valves and associated instrumentation, controls, wiring and pipe supports; 723 additional seismic restraints to piping system; addition of hurricane walls for protection of safety-related equipment; and additional baseline inspection of manufactured equipment. Other specific modifications identified which required more time than scheduled were ECCS, fire water piping, battery room ventilation, high energy line break protection, and emergency feedwater system. The staff estimates that the delay actually caused by this factor was three months.

4. Rework

The applicant has indicated low labor productivity, shortage of skilled labor, and the implementation of a more stringent Quality Assurance Program have contributed to extending completion of construction activities. Among the significant activities that were effected are sandblasting and painting of the reactor building,

(those alone required 50,000 man-hours more than estimated to complete this task), extensive rework and repainting of three fuel handling bridge cranes, four reactor coolant pumps, heat exchangers, motor operators on valves and reactor building structural steel. Other items exceeding scheduled time were rework of seismic restraints between steam generators (which had been incorrectly installed); and repeat radiography on 900 welds (which resulted in extensive rework of 350 pipe welds). The staff estimates that the delay actually caused by this factor was six months.

5. Delays Due to Financial Considerations

The recent actions taken by the licensee to extend the period of construction, due to financial matters, is estimated to delay resumption of full construction activity to January 1976.

C. Reasonable Time

1. Construction Schedule

The staff agrees that the applicant has been significantly under-estimating the construction schedule for this nuclear facility. This is not unusual for those nuclear plants of this vintage, where the construction schedules have been developed based on the applicant's experience gained on conventional fossil fuel power plants. Based on the above, we find, therefore, that the above contributed to unanticipated delays in construction activities. The applicant's lack of prior experience in constructing a nuclear facility has continued, since June 1972, to be a factor in not meeting scheduled dates. We conclude that 10 months of this request for extension in completion of construction can reasonably be attributed to this factor.

2. Work Stoppages

We accept as reasonable a four-month project delay since June 1, 1972 due to unexpected adverse weather conditions, shortages of critical equipment and labor walkouts.

3. Design Modifications

The staff finds that significant modifications to structures, piping, systems and components required for safety considerations have been initiated after June 1, 1972. We acknowledge that these modifications have contributed to the extension of the construction schedule. In

our judgment, the modifications having the most significant impact on schedule were those relating to providing adequate hurricane protection, high energy line break protection and installation of isolation valves in the main steam lines. We find it reasonable to attribute a schedule impact of up to three months for design modifications implemented since June 1972.

4. Rework

The staff finds that the expenditure of an unanticipated amount of additional work effort to correct deficiencies revealed by the applicant's Quality Assurance Program has significantly contributed to the delay of the overall construction schedule. In the staff's judgment, due to the advanced stage of the weld repair work and other extensive rework on major components, a reasonable time to compensate for these delays is six months.

5. Delays Due to Financial Considerations

Since the facility is approximately 95% complete, we expect that the licensee will apply its first available construction dollars to the completion of this facility in order to gain the benefits of its operation. The present delay has been attributed in part to limited availability of funds, which is primarily a function of current capital market conditions beyond the control of the licensee. The staff finds, therefore, that the licensee's action to extend the period of construction is prudent from a financial standpoint.

6. Allowance for Contingencies

The staff finds that any time margin for contingencies in the original schedule has been consumed by delays. While the extension provided here is our best present judgment of the time required to complete construction, we find that a time margin for contingencies should be provided now again, and that seven months will be appropriate for this purpose.

D. Significant Hazards Consideration

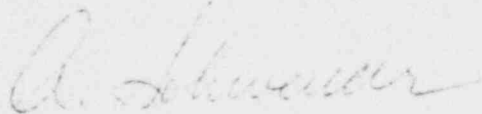
The staff finds that because the request is only for more time to complete work already reviewed and approved, the probability or consequences of accidents previously considered will not be increased, nor will any safety margins associated with this facility be decreased. Accordingly, no significant hazards consideration is involved in granting the request and prior public notice of this action is not required.

E. Conclusion and Recommendation

For the reasons stated herein, the staff concludes that the latest completion date for CPPR-31 should be extended a total of 27 months, from September 30, 1974 to December 31, 1976.



Leon B. Engle, Project Manager
Light Water Reactors Branch 2-3
Division of Reactor Licensing



A. Schwencer, Chief
Light Water Reactors Branch 2-3
Division of Reactor Licensing

Dated: FEB 12 1975

POOR ORIGINAL