



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 88 TO FACILITY OPERATING LICENSE NO. NPF-29  
ENERGY OPERATIONS, INC., ET AL.  
GRAND GULF NUCLEAR STATION, UNIT 1  
DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated September 25, 1991, the licensee (Energy Operations, Inc.), submitted a request for changes to the Grand Gulf Nuclear Station, Unit 1, Technical Specifications (TS). The requested changes would revise the Grand Gulf Nuclear Station Technical Specifications to allow the use of a new main hoist grapple mast on the refueling platform.

2.0 EVALUATION

The current main hoist grapple mast (General Electric Model NF400) on the refueling platform at Grand Gulf Nuclear Station (GGNS) is composed of four open-frame telescoping triangular sections. It is being replaced by a mast of a new design (General Electric Model NF500) composed of three tubular telescoping sections. The new design is significantly less prone to mast bowing that could result in structural damage or grapple misalignment and reduces the amount of potentially contaminated pool water that may drip onto refueling bridge personnel. The new mast meets or exceeds the requirements for the existing mast in all aspects, but has a dry weight that is 420 pounds greater than the old mast.

As a result of the increased weight, the weight-dependant interlocks for the mast require new setpoints. These interlocks include the grapple engaged loaded interlock and the main hoist fuel loaded interlock. These interlocks assure that the grapple is engaged, that no control rods are moved while the hoist is loaded and located over the reactor vessel, and that the hoist is not operated if a control rod is withdrawn while the platform is over the vessel with the hoist loaded. Both interlock setpoints are increased from 535 to 700 pounds to compensate for the added submerged weight of the new mast. In addition, the setpoint of the main hoist jam cutoff interlock, which limits the lifting forces of the main hoist, is increased from 125 to 1430 pounds. The new setpoint values ensure actuation of these interlocks when required and provide the same level of protection with the new mast as with the old.

The associated Design Basis Accidents have been evaluated for the new mast. The Fuel Handling Accident (FHA) analysis does not consider the weight of the mast/grapple assembly as part of the dropped weight. As a result, the added weight of the new mast is not a factor, and since the installation of the NF500 mast does not change the features protecting against a mast drop, the FHA analysis continues to bound accidents related to fuel handling. The FHA in the auxiliary building is not affected since the new mast will be used only on the refueling platform inside containment. GGNS has elected to conservatively maintain the current 1140 pound limit associated with the Nonfuel Load Drop analysis which continues to bound credible nonfuel drop events.

Provisions have been made in the TS changes to allow use of either the old or the new mast. The TS changes require the appropriate interlock setpoints for each mast. Both masts have been evaluated and found to conform to all requirements.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Mississippi State official was notified of the proposed issuance of the amendment. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (56 FR 55946). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

### 5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: January 30, 1992