UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO. NPF-29

ENTERGY OPERATIONS, INC., ET AL.

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated January 13, 1994, the licensee (Entergy Operations, Inc., or EOI), submitted a request for changes to the Grand Gulf Nuclear Station, Unit 1 (GGNS) Technical Specifications (TSs). The submittal requests the removal of the temporary TS limit on the number of spent fuel assemblies that may be stored in the spent fuel pool at Grand Gulf Nuclear Station pending licensee verification of the adequacy of the spent fuel pool heat removal capability.

2.0 BACKGROUND

By letter dated August 18, 1986, the NRC staff issued Amendment No. 17 to the Grand Gulf Nuclear Station Operating License No. NPF-29. The amendment authorized the use of high density spent fuel pool storage racks. However, the staff limited the use of the high density racks to 2324 spent fuel assemblies out of the available 4348 storage locations until the licensee proposed an acceptable spent fuel pool cooling analysis that would provide adequate heat removal capability for the increased heat loads that could be generated by a completely filled spent fuel pool under postulated system failures.

3.0 EVALUATION

By letter dated November 1, 1991, Entergy Operations Inc. provided the staff with a proposed engineering solution that would provide sufficient spent fuel pool cooling capacity for a spent fuel pool filled with 4348 fuel assemblies including a full core discharge of 800 fuel assemblies.

The staff reviewed the licensee's November 1, 1991, submittal and by letter dated July 30, 1992, concluded that EOI's proposed method, i.e., use of two heat exchangers (Hx) with one fuel pool cooling and cleanup (FPCC) pump, was acceptable as a conceptual means of cooling the completely filled spent fuel pool (with 4348 fuel assemblies) and maintaining the bulk coolant temperature at or below 140°F in accordance with the licensee's calculations.

However, since an FPCC pump is usually used to pump 1100 gpm to one heat exchanger and would now have to pump 800 gpm to each Hx, the staff required that these flow rates be verified by the licensee. In addition, while each standby service water (SSW) pump is rated at 12000 gpm, the licensee was also required to verify that the extra burden of 1254 gpm to a second Hx is within the capability of one SSW pump while maintaining the remaining necessary flow rates.

By letter dated November 8, 1993, the licensee documented the successful verification of the required flow rates in the fuel pool cooling and cleanup system and on January 14, 1994, the NRC staff documented its acceptance of EOIs testing and implementation of the spent fuel pool cooling system.

Based upon the above evaluation of the acceptability of the Grand Gulf spent fuel pool cooling system the staff concludes that it is acceptable to remove the interim limit of 2324 spent fuel assemblies and replace it with a limit of 4348 spent fuel assemblies.

4.0 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.

5.0 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. 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 (59 FR 10006). 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.

6.0 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: April 4, 1994