



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 20 TO FACILITY OPERATING LICENSE NO. NPF-47  
GULF STATES UTILITIES COMPANY  
RIVER BEND STATION, UNIT 1  
DOCKET NO. 50-458

1.0 INTRODUCTION

By letter dated November 13, 1987, Gulf States Utilities Company (GSU) (the licensee) requested an amendment to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The proposed amendment would revise section 4.7.1.2 of the Technical Specifications (TSs) to reflect the upgraded ultimate heat sink temperature monitoring system that was installed during the first refueling outage which ended December 26, 1987. The NRC staff approved the upgraded temperature monitoring system design by letter dated September 28, 1987.

2.0 EVALUATION

The purpose of the ultimate heat sink (UHS) is to provide shutdown cooling and decay heat removal following a design basis accident. The licensee's analysis of shutdown cooling and decay heat removal, as documented in section 9.2.5 of the River Bend Station Updated Safety Analysis Report, assumes that the UHS water temperature is no higher than 82°F prior to a postulated design basis event.

The upgraded UHS temperature monitoring system consists of four wide range (0-100°) sensors at approximate elevations of 110 and 65 feet; and eight narrow range sensors at approximate elevations of 111 feet, 102 feet, 87 feet and 72 feet. The sensors feed a processor which averages the input temperature values, provides local wide and narrow range indication, control room wide and narrow range indication and a main control room alarm. The processor has an installed backup which can be replaced by a standard personal computer. The previous design consisted of local sensors at elevation 95 feet.

The current TSs require verification each 24 hours that the water temperature is less than or equal to 82°F. Additional provisions require that the temperatures be verified every 4 hours if the previous reading was greater than or equal to 75°F or every 2 hours when it was greater than or equal to 80°F.

The proposed TSs retain the requirement to verify that the water temperature is less than or equal to 82°F every 24 hours. Because of the capability of the enhanced system to provide temperature readouts in the control

room and also to provide an alarm in the control room, the licensee's proposed TS does not require increased surveillance when the UHS water temperature exceeds 75°F when the control room alarm is operable. If the control room alarm is inoperable, then the increased surveillance is required when the water temperature exceeds 75° F as in the case of the current TSs. Because of the increased capability of the new system to provide UHS readouts in the control room and an alarm in the control room, the staff finds this change acceptable.

The proposed TS also clarifies that the average water temperature is an arithmetical average and requires that the average shall include at least 4 operable sensors of which at least half shall be located above elevation 94 feet. The staff finds that this required distribution of operable sensors will assure a representative measure of the UHS water temperature. The staff finds that this TS change is acceptable.

The NRC staff concludes that the proposed UHS water temperature surveillance requirements are acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and/or changes to the surveillance requirements. The 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 nor environmental assessment need be prepared in connection with the issuance of this amendment.

### 4.0 CONCLUSION

This staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public. The staff therefore concludes that the proposed changes are acceptable, and they are hereby incorporated into the River Bend Unit 1 Technical Specifications.

Principal Contributor: Walter A. Paulson

Dated: April 11, 1988