



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 25 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 June 5, 1987 as modified May 13, 1988, Gulf States Utilities Company (GSU) requested an amendment to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The proposed amendment, as modified, would (1) raise the drywell average temperature from 140°F to 145°F; (2) raise the allowable temperature for the main steam line (MSL) tunnel north from 122°F to 135°F; and (3) increase the main steam line tunnel north instrumentation setpoints and allowable temperature values for (a) MSL isolation, reactor core isolation cooling (RCIC) system isolation, and reactor water cleanup (RWCU) system isolation; and (b) MSL tunnel ambient and ventilation differential temperature used for MSL isolation, and RCIC and RWCU isolation. The licensee's May 13, 1988 submittal withdrew that portion of the Technical Specification (TS) change request relating to items 2.h.1 and 2.h.2 of Table 3.3.2-2 in Attachment 3 of the June 5, 1987 application. This evaluation addresses the proposed changes to the TS as specified in Attachments 1 of the application (item (1) above). The staff's evaluation of Attachment 3 was issued on June 3, 1988 in support of Amendment No. 24 to the licensee. A supplement to the staff's evaluation of Attachment 3 addresses the proposed change to the TS as specified in Attachment 2.

The licensee proposed to increase the TS maximum allowable drywell bulk average air temperature, from the current value of 140°F, to 145°F. This requested increase in allowed operating temperature is due to a higher than expected heat load on the drywell coolers during occasional periods of greater than normal leakage through the safety relief (SR) and automatic depressurization system (ADS) valves. During the summer high temperature conditions, the licensee has estimated that the drywell coolers will be unable to maintain the Final Safety Analysis Report (FSAR) upper temperature limit of 140°F.

In support of this increase in the allowable drywell temperature, the licensee stated that the impact of the various Loss of Coolant Accident (LOCA), Small Break LOCA (SBLOCA) and Safety Relief Valve (SRV) events on the containment pressures and temperatures, and structural including dynamic loads for the proposed increase of the initial drywell temperature were already evaluated in the FSAR. In addition, the licensee reviewed the effects of this increase on the Drywell External Pressure Differential and the Containment External Pressure Differential. Finally, a reevalua-

tion of the Environmental Qualification (EQ) of equipment inside containment including the drywell, primary containment, containment heat removal systems, secondary containment, containment isolation system combustible gas control system and containment leakage testing system considering an increase of 5°F in the normal operating temperature was conducted by the licensee.

2.0 EVALUATION

The licensee's original analysis of LOCA related loads included drywell temperatures of up to 145°F.

Other LOCA related loads that the licensee reviewed include drywell external negative pressure, containment external pressure differential, and drywell and containment maximum temperatures. The results of these analyses indicate that the design values are either unchanged or bounded by the original parametric analyses as discussed in the Updated Safety Analysis Report (USAR).

The impact of the increased drywell air temperature on the various pool dynamic loads cannot be easily assessed. Many individual loads can only be determined by test. As a result the licensee has reconsidered all pool dynamic loads. The approach taken by the licensee was to use all of the assumptions and methodologies employed in the development of each individual load.

A review of the analyses contained in the above references shows that the detailed engineering design of all primary containment structures considered a range of initial drywell temperatures from 100°F to 145°F. Since the proposed change from 140 to 145°F is still bounded by the original analysis, no reanalysis was necessary to support this change.

The licensee also evaluated the impact of the increased drywell temperature on the Equipment Qualification (EQ) of equipment inside the drywell and the remainder of the containment systems. This reevaluation considered both normal operation and LOCA conditions. For normal operating conditions, the licensee has revised the aging and operability assessment for equipment and components which would be exposed to the increased drywell temperature. With respect to accident conditions, the licensee's analyses in support of the increase in drywell temperature from 140°F to 145°F demonstrated that the original analyses remain bounding. Therefore, the LOCA EQ profiles are still valid.

Based on the evaluation provided above, the NPC staff has concluded that the licensee has reevaluated all aspects of power operation and LOCA conditions that could be affected by the increase in drywell operating temperature. Based on the results of these reanalyses, the licensee has demonstrated that the effects are either negligible or within the bounds of the design bases of the effected components. Finally, the impacts on the EQ program have been assessed and incorporated into the overall program. Based on the above evaluation, the staff finds the proposed temperature change in the drywell TS limit to 145°F is 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 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

The 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.

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Dated: June 29, 1988