

July 10, 1989

Docket No. 50-458

Gulf States Utilities
ATTN: Mr. James C. Deddens
Senior Vice President (RBNG)
Post Office Box 220
St. Francisville, LA 70775

Dear Mr. Deddens:

SUBJECT: RIVER BEND STATION, UNIT 1 - AMENDMENT NO.38 TO FACILITY
OPERATING LICENSE NO. NPF-47 (TAC NO. 73055)

The Nuclear Regulatory Commission has issued the enclosed Amendment No.38 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated August 29, 1986 as revised May 2, 1989 and supplemented May 25, 1989.

The amendment adds TSs for the Suppression Pool Pumpback System (SPPS) to TS 3/4.5.3, Suppression Pool. The Bases are also modified to add the SPPS.

A copy of our Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/s/

Walter A. Paulson, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 38 to License No. NPF-47
2. Safety Evaluation

cc w/enclosures:
See next page

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

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A copy of our Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

A handwritten signature in cursive script that reads "Walter A. Paulson".

Walter A. Paulson, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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See next page

Mr. James C. Deddens
Gulf States Utilities Company

River Bend Nuclear Plant

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

GULF STATES UTILITIES COMPANY

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 38
License No. NPF-47

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Gulf States Utilities Company (the licensee) dated August 26, 1986 as modified May 2, 1989 and supplemented May 25, 1989, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-47 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 38 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. GSU shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Frederick J. Hebdon, Director
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 10, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 38

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain a vertical line indicating the area of change. The overleaf page is provided to maintain document completeness.

REMOVE PAGES

3/4 5-8
3/4 5-9
B 3/4 5-3

INSERT PAGES

3/4 5-8
3/4 5-9
B 3/4 5-3

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.2.1 At least the above required ECCS shall be demonstrated OPERABLE per Surveillance Requirement 4.5.1.

4.5.2.2 At least once per 12 hours the HPCS system shall be determined OPERABLE by verifying the condensate storage tank required volume when the condensate storage tank is required to be OPERABLE per Specification 3.5.2.e.

EMERGENCY CORE COOLING SYSTEMS

3/4.5.3 SUPPRESSION POOL

LIMITING CONDITION FOR OPERATION

3.5.3 The suppression pool shall be OPERABLE:

- a. In OPERATIONAL CONDITION 1, 2 and 3 with a contained water volume of at least 137,571 ft³, equivalent to a level of 19'6".
- b. In OPERATIONAL CONDITION 4 and 5* with a contained water volume of at least 94,000 ft³, equivalent to a level of 13'3", except that the suppression pool level may be less than the limit or may be drained provided that:
 1. No operations are performed that have a potential for draining the reactor vessel,
 2. The reactor mode switch is locked in the Shutdown or Refuel position,
 3. The condensate storage tank contains at least 125,000 available gallons of water, equivalent to a level of 11'1", and
 4. The HPCS system is OPERABLE per Specification 3.5.2 with an OPERABLE flow path capable of taking suction from the condensate storage tank and transferring the water through the spray sparger to the reactor vessel.
- c. With two OPERABLE suppression pool pumpback system (SPPS) subsystems each consisting of #:
 1. At least one OPERABLE crescent area sump pump and
 2. An OPERABLE flow path to the suppression pool.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4 and 5*.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2 or 3 with the suppression pool water level less than the above limit, restore the water level to within the limit within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. In OPERATIONAL CONDITION 4 or 5* with the suppression pool water level less than the above limit or drained and the above required conditions not satisfied, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel and lock the reactor mode switch in the Shutdown position. Establish PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING within 8 hours.

*The suppression pool is not required to be OPERABLE in OPERATIONAL CONDITION 5 provided that the reactor vessel head is removed, the cavity is flooded, the upper containment fuel pool gate is open, and the water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.

#The SPPS is not required to be OPERABLE when the suppression pool is not required to be OPERABLE.

EMERGENCY CORE COOLING SYSTEMS

ACTION (Continued)

- c. With one SPPS subsystem inoperable, restore the SPPS subsystem to OPERABLE status within 31 days or demonstrate the OPERABILITY of the remaining SPPS subsystem at least once per 31 days by:
 1. A functional test of the crescent area sump pump, and
 2. Demonstrating that the associated flow path can be aligned to the suppression pool.
 3. The provisions of Specification 3.0.4 are not applicable.
- d. With both SPPS subsystems inoperable, restore one SPPS subsystem to OPERABLE status within 7 days or:
 1. In OPERATIONAL CONDITION 1, 2, or 3 be in at least HOT SHUTDOWN within the next 12 hours and COLD SHUTDOWN within the following 24 hours.
 2. In OPERATIONAL CONDITION 4 or 5* provide at least one alternate pumpback method and demonstrate the OPERABILITY of an alternate method within 24 hours and at least once per 24 hours thereafter, otherwise suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel and lock the reactor mode switch in the shutdown position. Establish PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING within 8 hours.

SURVEILLANCE REQUIREMENTS

- 4.5.3.1 The suppression pool shall be determined OPERABLE by verifying the water level to be greater than or equal to, as applicable:
 - a. 19'6", at least once per 24 hours, in OPERATIONAL CONDITION 1, 2 and 3.
 - b. 13'3", at least once per 12 hours, in OPERATIONAL CONDITION 4 and 5.
- 4.5.3.2 With the suppression pool level less than the above limit or drained in OPERATIONAL CONDITION 4 or 5*, at least once per 12 hours:
 - a. Verify the required conditions of Specification 3.5.3.b to be satisfied, or
 - b. Verify footnote conditions* to be satisfied.
- 4.5.3.3 At least once per 92 days, the SPPS shall be demonstrated OPERABLE by:
 - a. Verifying each crescent area sump pump develops 50gpm, and
 - b. Verifying the flow path can be aligned to the suppression pool.

*The suppression pool is not required to be OPERABLE in OPERATIONAL CONDITION 5 provided that the reactor vessel head is removed, the cavity is flooded, the upper containment fuel pool gate is open, and the water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.

3/4.5 EMERGENCY CORE COOLING SYSTEM

BASES

SUPPRESSION POOL (Continued)

Repair work might require making the suppression pool inoperable. This specification will permit those repairs to be made and at the same time give assurance that the irradiated fuel has an adequate cooling water supply when the suppression pool must be made inoperable, including draining, in OPERATIONAL CONDITION 4 or 5.

In OPERATIONAL CONDITIONS 4 and 5 the suppression pool minimum required water volume is reduced because the reactor coolant is maintained at or below 200°F. Since pressure suppression is not required below 212°F, the minimum required water volume is based on NPSH, recirculation volume, vortex prevention, and a 2' 6" safety margin for conservatism.

The suppression pool pumpback system (SPPS) is a subsystem designed to ensure suppression pool level; therefore the OPERABILITY of the Suppression Pool can be maintained in the event of a passive ECCS failure. The ECCS piping components which may experience passive failures will not result in flooding of the ECCS equipment cubicles because the rooms are located in watertight cubicles. The system design basis is for a maximum unisolatable leak into the auxiliary building crescent room of 50 gpm. Each of the manually operated SPPS subsystems consists of two crescent room sumps each with two 100% capacity pumps. In the event one subsystem becomes inoperable, a functional test of the operable subsystem is performed in lieu of a full (92 day) surveillance test because of the difficulty in performing the full test and the pumps are used in normal plant operation. This will provide the plant staff additional awareness of the systems condition.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 38 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 August 26, 1986 as modified May 2, 1989 and supplemented May 25, 1989, 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 add Technical Specifications (TSs) for the Suppression Pool Pumpback System (SPPS). The SPPS is designed to control any post-LOCA leakage from the emergency core cooling system in the crescent area of the auxiliary building at elevation 70 feet, by returning this leakage to the suppression pool. During normal operation, the system pumps floor and equipment drainage to the radwaste building.

The SPPS consists of two sumps, each of which has two pumps. Selection of the option to pump back to the suppression pool is by means of opening a motor-operated valve. Opening this valve automatically closes the air-operated valves to the radwaste system. The piping from the isolation valves to the suppression pool interfaces at the high pressure core spray line.

Leakage could occur in two sections of the ECCS piping. Leakage in the portion of the piping from the outboard containment isolation valve to the crescent room boundary can be stopped by closing the isolation valve. Leakage from the containment boundary to the outboard isolation valve is postulated to be as high as 50 gpm (the design basis for the SPPS). The licensee estimates that without initiating the SPPS it would take 40 hours to lower the suppression pool to the minimum level for ECCS pump operability at this leakage rate. Each of the four SPPS pumps is capable of pumping at least 50 gpm. Thus, should a leak occur in this area following a LOCA, the SPPS will be aligned to pump the water to the suppression pool to provide additional time for the operator to identify source of the leakage while maintaining suppression pool water level and preventing excessive buildup of water in the auxiliary building.

The NRC staff approved the SPPS in Section 9.3.3 of Supplement No. 3, and Section 3.10.1.6 of Supplement No. 5 to the Safety Evaluation Report related to the operation of River Bend Station, NUREG-0989 (Supplement No. 3, August 1985, and Supplement No. 5, November 1985).

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2.0 EVALUATION

This section of the Safety Evaluation evaluates the licensee's proposed TSs for the SPPS.

2.1 Limiting Condition for Operation (LCO)

Item c. would be added to the LCO in TS 3.5.3. Item c states that the suppression pool shall be operable with two operable SPPS subsystems consisting of at least one operable crescent area sump pump and an operable flow path to the suppression pool. A footnote is also included to clarify that the SPPS is not required to be operable when the suppression pool is not required to be operable. The staff finds that this LCO provides reasonable assurance that both subsystems will be available to pump back any post-LOCA crescent area leakage to the suppression pool. This LCO is acceptable.

2.2 Action Statement

Items c. and d. would be added to the ACTION statement in TS 3.5.3. With one SPPS subsystem inoperable, the ACTION statement would require that the inoperable subsystem be restored to operable condition within 31 days; otherwise, the remaining subsystem must be demonstrated operable at least once per 31 days. Operability of the remaining system is to be demonstrated by performing a functional test of the crescent area sump pump and demonstrating that the associated flow path can be aligned to the suppression pool. The pumping capacity of one pump is adequate to control the design basis 50 gpm leakage.

The licensee has also requested relief from the provisions of TS 3.0.4 to allow startup and operation with one SPPS subsystem inoperable when operability of the suppression pool is required. TS 3.0.4 states:

3.0.4 Entry into an OPERATIONAL CONDITION or other specified condition shall not be made unless the conditions for the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION requirements. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual Specifications.

As previously discussed, the SPPS is required (1) in the event that a LOCA occurs, and (2) there is leakage between the containment boundary to the outboard isolation valve. Only one SPPS subsystem is required should these two events occur and the proposed ACTION statement requires that at least one subsystem be operable. Operability of the ECCS equipment would not be affected by leakage in the crescent area because this equipment is located in watertight cubicles. Failure of the SPPS alone does not result in the failure of the suppression pool or the ECCS.

In the May 25, 1989 submittal, the licensee states that they do not condone the startup of the plant with safety features inoperable and they will continue to place a high priority on the maintenance required to keep safety features operable. The licensee's review of past maintenance on the pumps and valves involved in the SPPS identified a total of 7 maintenance work orders on the pumps, all of which were given high priority. Four maintenance work orders were identified on the motor operated valve; 3 were given high priority and the remaining one was for routine maintenance.

With both SPPS subsystems inoperable, one SPPS subsystem would be required to be restored to operable status within seven days or in Operational Condition 1, 2, or 3, the reactor is to be placed in at least hot shutdown within the next 12 hours and cold shutdown within the next 24 hours. In operational condition 4 or 5 (unless the suppression pool is not required to be operable), one alternate pumpback method is to be provided and demonstrated operable within 24 hours and at least once per 24 hours thereafter; otherwise all core alterations and all operations that have a potential for draining the reactor vessel are to be suspended. The reactor mode switch is to be locked in the shutdown condition for this case and Primary Containment Integrity-Fuel Handling is to be established within 8 hours.

The staff finds that the proposed ACTION statement and the relief from the provisions of TS 3.0.4 are acceptable.

2.3 Surveillance Requirements (TS 4.5.3.3)

The proposed surveillance requirements would require demonstration, at least once per 92 days, that the SPPS is operable by (1) verifying that each crescent area sump pump delivers 50 gpm, and (2) verifying that the flow path can be aligned to the suppression pool.

The staff finds that these surveillance requirements are adequate to demonstrate operability; accordingly, they are acceptable.

2.4 Bases

The licensee has proposed to add a BASES section for the SPPS. The proposed section provides a narrative basis for the proposed TSs. The staff finds the BASES section acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 exposures. 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. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 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.

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 the 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.

Dated: July 10, 1989

Principal Contributors: W. Paulson