

Dear Mr. Deddens:

Document Name: RB AMEND775950



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

May 11, 1990

Docket No. 50-458

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

Dear Mr. Deddens:

SUBJECT: RIVER BEND STATION, UNIT 1 - AMENDMENT NO. 43 TO FACILITY
OPERATING LICENSE NO. NPF-47 (TAC NO. 75950)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 43 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 February 2, 1990.

The amendment modifies the TS requirement to perform a simulated loss of offsite power test of the diesel generators (DGs) within 5 minutes of performing a 24 hour run. The revised TSs separate the requirement for the loss of offsite power test from the 24 hour run requirement. Stabilization of full load DG operating temperatures prior to initiating the loss of offsite power test has been added as a surveillance requirement.

Additionally, an editorial change has been made which deletes a footnote that allowed specific surveillances to be delayed coincident with completion of the first refueling outage. This refueling outage has been completed, therefore, there is no longer a purpose for the footnote. In the submittal one notation (page 3/4 8-8) referencing the footnote was not deleted. In a telephone conversation with your staff it was verified the notation was to be deleted.

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

Enclosures:

1. Amendment No. 43 to
License No. NPF-47
2. Safety Evaluation

cc w/enclosures:
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.43
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 February 2, 1990, 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.


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. 43 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



for 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: May 11, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 43

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

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

REMOVE PAGES

3/4 8-6
3/4 8-7
3/4 8-8
3/4 8-9

INSERT PAGES

3/4 8-6
3/4 8-7
3/4 8-8
3/4 8-9

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.
7. Verifying the pressure in all diesel generator air start receivers to be greater than or equal to 160 psig.
- b. At least once per 24 hours by verifying for diesel generator 1A and 1B that the lube oil circulating pump is operating and that the lube oil sump heater and the jacket water heater are OPERABLE.
- c. By removing accumulated water:
 1. From the day tank at least once per 31 days and after each occasion when the diesel is operated for greater than 1 hour, and
 2. From the storage tank at least once per 31 days.
- d. By sampling new fuel oil in accordance with ASTM D4057-81 prior to addition to the storage tanks and:
 1. By verifying in accordance with the tests specified in ASTM D975-81, prior to addition to the storage tanks, that the sample has:
 - a) An API Gravity of within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate, or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89, or an API gravity at 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees.
 - b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification.
 - c) A flash point equal to or greater than 125°F, and
 - d) A clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.
 2. By verifying an antioxidant type diesel fuel oil stabilizer is added to new fuel added to the storage tanks in accordance with manufacturer's recommendations.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

3. By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are met when tested in accordance with ASTM D975-81, except that the analysis for sulfur may be performed in accordance with ASTM D1552-79 or ASTM D2622-82.
- e. At least once every 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-78 and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM D2276-78, Method A.
- f. At least once per 18 months#****, during shutdown, by:
 1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.
 2. Verifying the diesel generator capability to reject a load of greater than or equal to 917.5 kw for diesel generator 1A, greater than or equal to 509.2 kw for diesel generator 1B, and greater than or equal to 1995 kw for diesel generator 1C while maintaining engine speed less than nominal plus 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is less.
 3. Verifying the diesel generator capability to reject a load of 3030-3130 kw*** for diesel generators 1A and 1B and 2500-2600 kw*** for diesel generator 1C without tripping. The generator voltage shall not exceed 4784 volts for diesel generator 1A and 1B and 5400 volts for diesel generator 1C during and following the load rejection.
 4. Simulating a loss of offsite power by itself, and:
 - a) For divisions I and II:
 - 1) Verifying deenergization of the emergency busses and load shedding from the emergency busses.

#For any start of a diesel, the diesel must be operated with a load in accordance with the manufacturer's recommendations.

***Momentary transients due to changing bus loads shall not invalidate the test.

****Except 4.8.1.1.2.f.1 to be performed every refueling outage, for diesel generators 1A and 1B only.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 2) Verifying the diesel generator starts** on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected loads through the sequencing logic, and operates for greater than or equal to 5 minutes while its generator is loaded with the loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test.
- b) For division III:
 - 1) Verifying de-energization of the emergency bus.
 - 2) Verifying the diesel generator starts** on the auto-start signal, energizes the emergency bus with the permanently connected loads within 10 seconds, energizes the auto-connected loads through the sequence logic, and operates for greater than or equal to 5 minutes while its generator is loaded with the loads. After energization, the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test.
- c) Operating** with the diesel generator loaded to 3000-3100 kW*** for diesel generators 1A and 1B and 2500-2600 kW*** for diesel generator 1C for at least 60 minutes or until operating temperatures have stabilized. With 5 minutes after completing this test, perform Surveillance Requirement 4.8.1.1.2.f.4.a)2) and b)2).
5. Verifying that, on an ECCS actuation test signal without loss of offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. For diesel generator 1A and 1B, the generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds after the auto-start signal. For diesel generator 1C, the generator voltage and frequency shall not exceed a maximum of 5400 volts and 66.75 Hz and shall be greater than 3740 volts and 58.8 Hz within 10 seconds and 4160 ± 420 volts and 60 ± 1.2 Hz within 13 seconds. The steady-state generator voltage and frequency shall be maintained within these limits during this test.
6. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal and:
 - a) For divisions I and II:
 - 1) Verifying deenergization of the emergency busses and load shedding from the emergency busses.

**All diesel generator starts for the purpose of this surveillance test may be preceded by an engine prelube period. Further, all surveillance tests, with the exception of once per 184 days, may also be preceded by warmup procedures and may also include gradual loading (> 150 sec) as recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

***Momentary transients due to changing bus loads shall not invalidate the test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 2) Verifying the diesel generator starts** on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected loads through the sequencing logic, and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads.

**All diesel generator starts for the purpose of this surveillance test may be preceded by an engine prelube period. Further, all surveillance tests, with the exception of once per 184 days, may also be preceded by warmup procedures and may also include gradual loading (> 150 sec) as recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test.

b) For division III:

- 1) Verifying de-energization of the emergency bus.
 - 2) Verifying the diesel generator starts** on the auto-start signal, energizes the emergency bus with its permanently connected loads within 10 seconds, energizes the auto-connected loads through the sequencing logic, and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test.
7. Verifying that, upon an ECCS actuation signal, all automatic diesel generator trips are automatically bypassed except engine overspeed and generator differential current.
 8. Verifying the diesel generator operates for at least 24 hours. Diesel generators 1A and 1B shall be loaded to 3030-3130 kw*** for the duration of the test. Diesel generator 1C shall be loaded to 2750-2850 kw*** for the first 2 hours of the test and to 2500-2600 kw*** for the remaining 22 hours of the test. For diesel generator 1A and 1B, the generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds after the start signal. For diesel generator 1C, the generator voltage and frequency shall not exceed a maximum of 5400 volts and 66.75 Hz and shall be greater than 3740 volts and 58.8 Hz within 10 seconds and 4160 ± 420 volts and 60 ± 1.2 Hz within 13 seconds. The steady-state generator voltage and frequency shall be maintained within these limits during this test.
 9. Verifying that the auto-connected loads to each diesel generator do not exceed 3130 kw for diesel generator 1A and 1B and 2600 kw for diesel generator 1C.

**All diesel generator starts for the purpose of this surveillance test may be preceded by an engine prelube period. Further, all surveillance tests, with the exception of once per 184 days, may also be preceded by warmup procedures and may also include gradual loading (> 150 sec) as recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

***Momentary transients due to changing bus loads shall not invalidate the test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

10. Verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source, while the generator is loaded with its emergency loads, upon a simulated restoration of offsite power,
 - b) Transfer its loads to the offsite power source, and
 - c) Be restored to its standby status.
11. Verifying that, with the diesel generator operating in a test mode and connected to its bus, a simulated ECCS actuation signal overrides the test mode by (1) returning the diesel generator to standby operation and (2) automatically energizing the emergency loads with offsite power.
12. Verifying that the automatic load sequence timers are OPERABLE with the interval between each load block within $\pm 10\%$ of its design interval for diesel generators 1A, 1B and 1C.
13. Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:
 - a) For Diesel Generators 1A and 1B:
 - 1) Loss of control power to diesel control panel.
 - 2) Starting air pressure below 150 psi.
 - 3) Stop-solenoid energized.
 - 4) Diesel in the maintenance mode (includes barring device engaged).
 - 5) Overspeed trip device actuated.
 - 6) Generator backup protection lockout relay tripped.
 - b) For Diesel Generator 1C:
 - 1) Diesel generator lockout relays not reset.
 - 2) Diesel engine mode switch not in "AUTO" position.
 - 3) Diesel generator output breaker closed before start of diesel.
 - 4) Diesel generator output breaker in racked-out position.
 - 5) †Diesel generator regulator mode switch not in "AUTO" position.
 - 6) Insufficient starting air pressure.
 - 7) Loss of dc power to diesel generator controls.
- g. By verifying the Division III diesel generator ambient room temperature to be $\geq 40^{\circ}\text{F}$:
 1. At least once per 24 hours with the last reported room temperature $\geq 50^{\circ}\text{F}$, or

†Item 5) does not electrically block diesel generator from emergency starting; however, it will affect the loading and operation of the diesel.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. At least once per 12 hours with the last reported room temperature < 50°F.
- h. At least once per 10 years, or after any modifications which could affect diesel generator interdependence, by starting all three diesel generators simultaneously, during shutdown, and verifying that all three diesel generators accelerate to at least 450 rpm for diesel generators 1A and 1B and 900 rpm for diesel generator 1C in less than or equal to 10 seconds.
- i. At least once per 10 years by:
 1. Draining each fuel oil storage tank, removing the accumulated sediment, and cleaning the tank using a sodium hypochlorite or equivalent solution, and
 2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code, in accordance with ASME Code Section XI Article IWD-5000.

4.8.1.1.3 Reports - All diesel generator failures, valid or non-valid, shall be reported to the Commission, pursuant to Specification 6.9.2, within 30 days. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests, on a per nuclear unit basis, is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 43 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 February 2, 1990, 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 existing River Bend Station Technical Specification Surveillance Requirement 4.8.1.1.2.f.8 requires that a simulated loss of offsite power (LOP) test per Surveillance Requirements 4.8.1.1.2.f.4.a)2) and b)2) be performed within 5 minutes of completing the diesel generator (DG) 24 hour run. The purpose of requiring the loss of offsite power test within 5 minutes following the 24 hour run test is to assure that the DG can perform this requirement when the DG operating temperature is equivalent to that after operating at full load. Surveillance Requirement 4.8.1.1.2.f.8 currently allows an acceptable alternative to reperforming the 24 hour run if the LOP test is not satisfactorily completed. Under these conditions, the DG is allowed to be operated at full load for one hour or until operating temperatures have stabilized prior to performing the LOP test.

The proposed amendment would separate the loss of offsite power test from the 24 hour test and add Surveillance Requirement 4.8.1.1.2.f.4.c) for stabilization of full load operating temperatures prior to initiating the LOP test. The stabilization would be accomplished by having a separate warmup period of the DGs at full load and would last one hour. The basis for the change is that scheduling the LOP test within 5 minutes of completing the 24 hour test reduces flexibility, unnecessarily constrains outage activities, and creates the potential for critical path scheduling complications and delays.

The proposed amendment would also delete a footnote that allowed specific surveillances to be delayed coincident with the completion of the first refueling outage.

2.0 EVALUATION

GSU has proposed changes to the Technical Specifications to modify the requirement to perform a simulated LOP test of the emergency DGs within 5 minutes of performing a required 24 hour run test. GSU states that the proposal has been reviewed by the manufacturer (Cooper Industries). The manufacturer concurred that the proposed special warmup period would achieve the same operating temperature condition as the 24 hour run test. This fact is recognized by a footnote to the existing Technical Specification 4.8.1.1.2.f.8 which states that the 24 hour test need not be repeated prior to LOP test if the

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initial LOP test is not satisfactorily completed. Instead, the DG may be operated at the specified full load for one hour or until the operating temperatures have stabilized prior to performing the LOP test. Thus, the present Technical Specification 4.8.1.1.2.f.8 accepts the decoupling of the LOP test from the 24 hour test, provided the DG is brought to a stabilized operating temperature prior to the LOP test. This indicates that the coupling of the LOP test to the 24 hour run test was for convenience (i.e., a special warmup test would not be required) rather than for any technical reason. This conclusion is supported by Regulatory Guide 1.108 which places the emphasis on full load temperature conditions rather than the 24 hour run test. Moreover, the staff has previously reviewed and approved similar testing changes at McGuire 1 & 2 and Grand Gulf 1. The staff review conducted for these requests are applicable to this proposed change. The Technical Specifications require that the LOP test and 24 hour run be performed at least every 18 months to demonstrate proper functioning of the DGs while simulating LOP. To obtain more flexible scheduling, it is proposed that the LOP test be separated from the 24 hour test. The DG would still be brought to a full load stabilized operating temperature before the LOP test, but at a different time than following the 24 hour test. The staff has reviewed the licensee submittal and has concluded that the separate and additional full load warmup period prior to the LOP test is equivalent to the existing Technical Specification requirements, and that the proposed changes have previously been approved at other plants, and are therefore acceptable.

The proposed editorial change deletes a footnote that allowed specific surveillances to be delayed coincident with the completion of the first refueling outage. This refueling outage has been completed; there is no longer a current or future purpose for this footnote. The GSU amendment request submittal failed to delete one notation (page 3/4 8-8) referencing the footnote. In a telephone conversation with GSU staff it was verified that the notation was to be deleted.

3.0 ENVIRONMENTAL CONSIDERATION

The amendment involves a change in 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, changes in surveillance requirements, and changes in recordkeeping, reporting, or administrative procedures or 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 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) and (10). 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: May 11, 1990

Principal Contributors: N. K. Trehan
C. Abbate