GULF STATES UTILITIES COMPANY

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AREA CODE 504 635-6094 346-8651

January 23, 1986
RBG- 23,013
File Nos. G9.5, G15.4.1

Mr. Robert D. Martin, Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

Dear Mr. Martin:

River Bend Station - Unit 1
Docket No. 50-458

Attached for your information is a report containing a brief description of changes to the River Bend Station (RBS) initial test program (ST-11 and ST-29) and a summary of the safety evaluation for each change. This report is provided with regard to the RBS Facility Operating License NPF-47, Section 2.C(12).

Sincerely,

J. E. Booker

J. E. Booker
Manager-Engineering,
Nuclear Fuels & Licensing
River Bend Nuclear Group

JEB/RJF/je

Attachment

cc: Director of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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ATTACHMENT 1

January 23, 1986
RBG- 23,013

SUMMARY DESCRIPTION OF CHANGE
(ST-11)

Section 14.2.12.3.9 of the River Bend Station (RBS) Final Safety Analysis Report (FSAR) describes initial testing calibration of the low power range monitors (LPRMs). This revision calibrates the LPRMs during test condition (TC) power ascension from heatup and changes all testing requirements from TC-2 to TC-1.

SUMMARY OF SAFETY EVALUATION

DISCUSSION

The objective of this test is to calibrate the LPRM system. A change is being made since complete verification of the correct LPRM response is not possible at the low neutron flux levels during heatup and to move all test requirements from TC-2 to TC-1 for satisfying the FSAR discussion.

LPRM continuity has been tested during the Preoperational Testing Program and during early heatup testing (Average Power Range Monitors (APRM) Calibration and Intermediate Range Monitors (IRM) Performance).

As part of the Preoperational Testing Program all LPRM cables were tested for continuity and insulation resistance. Additionally, each cable was verified to properly connect the appropriate LPRM to its respective APRM input. All open test exceptions have been resolved.

During the calibration of the APRMs, they were verified to respond to increases in reactor power and overlap with the IRMs. Each APRM was calibrated with reactor power. Since calibration, the APRMs have uniformly tracked thermal power showing no gross anomalies in core distribution due to LPRM inputs. This provides assurance that the LPRMs are connected properly to its respective APRM channel.

Additionally, allowing the verification of correct connection and proper responses to be conducted in TC-1 will increase the reliability and provide more conclusive results.

CONCLUSION

This revision does not alter the safe operation of the plant or involve an unreviewed safety question. Therefore, this revision can be implemented.

ATTACHMENT 2

January 23, 1986
RBG- 23,013

SUMMARY DESCRIPTION OF CHANGE
(ST-29)

Section 14.2.12.3.26 of the River Bend Station (RBS) Final Safety Analysis Report (FSAR) describes initial testing of the recirculation flow control system. This revision simplifies the testing by reducing the number of intermediate flow conditions and testing inputs (ramp and step demands) and relaxing associated response criteria.

SUMMARY OF SAFETY EVALUATION

DISCUSSION

Regulatory Guide 1.68 (Revision 2, August 1978), Appendix A, paragraph 5.s requires that the recirculation flow control system be calibrated as necessary and performance verified, and paragraph 5.h.h requires that the dynamic response of the plant to design load swings be demonstrated to be in accordance with design. Startup Test 29, Recirculation Flow Control System, determines the plant response to changes in recirculation flow and optimizes settings of the recirculation flow controller. Testing is performed over a wide range of power/flow conditions.

Response of the system is determined by analyzing test data and comparing to acceptance criteria which define the required system performance. The testing of the Recirculation Flow Control System follows a "building block" approach while the plant is ascending from low to high power levels. Components and inner control loops are tested first, followed by drive flow control and plant power maneuvers to adjust, and then demonstrate, the outer loop controller performance. Testing is performed to demonstrate the capability of the system over the entire flow control range.

Prior to the power ascension test program, predictions of system behavior are performed to aid in the turning of the Recirculation Flow Control System. In addition, benchmark testing of the flow control valve recirculation system and successful startup test results from several flow control valve plants (Kuosheng 1 and 2, LaSalle 1 and 2 and Leibstadt) provides valuable experience which can be used to reduce the number of test cases while still fulfilling the purpose of Startup Test 29. As a result, the number of intermediate flow conditions and test inputs (ramp and step demands) required to achieve the desired system performance can be reduced.

CONCLUSION

By using pretest analysis and experience from previous flow control valve plant startup testing, the objectives of Regulatory Guide 1.68 (Revision 2, August 1978), Appendix A, paragraphs 5.s and 5.h.h can be satisfied with the proposed simplified testing. The acceptance criteria for the simplified test are consistent with assumptions used in the safety analysis and will be satisfied by the simplified testing and therefore these simplifications do not involve an unreviewed safety question. Therefore, Startup Test 29, "Recirculation Flow Control System", can be implemented with a reduction in the number of intermediate flow conditions and test inputs (ramp and step demands) and relaxing associated acceptance criteria.