



GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70778
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U. S. Nuclear Regulatory Commission
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Gentlemen:

River Bend Station - Unit 1
Docket No. 50-458
NRC Bulletin 88-08 with Supplements 1 and 2

This letter provides Gulf States Utilities Company's (GSU) response to NRC Bulletin 88-08 including Supplements 1 and 2, "Thermal Stresses in Piping Connected to Reactor Coolant Systems."

In accordance with the bulletin, all systems which could inject cold water into the reactor coolant system (RCS) were evaluated to determine whether the potential for high cyclic thermal fatigue of the unisolable portions of these systems exists at River Bend Station (RBS). The systems reviewed were the low pressure coolant injection (LPCI) mode of the residual heat removal (RHR) system, the low pressure core spray (LPCS) system, the standby liquid control system (SLC), the high pressure core spray (HPCS) system and the reactor core isolation cooling (RCIC) system. These systems can be divided into two types of systems - low pressure systems (LPCS and RHR) and high pressure systems (HPCS, RCIC and SLC).

The low pressure systems are designed to provide makeup water to the reactor vessel following a large break LOCA and vessel depressurization. Shutoff head for these pumps is approximately 330 psig for RHR and 495 psig for LPCS. During normal operation, these pumps are not running and the systems are lined up in the standby mode. Technical specifications require these systems to be tested quarterly. Because the maximum discharge pressure of both the LPCS and RHR pumps is less than reactor pressure, no leakage into the unisolable portions of the RCS is possible. Therefore, NRC Bulletin 88-08 does not apply to the LPCS or RHR systems and no further action is required.

The SLC system, a high pressure system, is designed to inject a liquid neutron poison into the reactor vessel in the event that the control rod drive system fails to completely shutdown the reactor. The system will

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inject into the reactor over the entire reactor pressure operating range. During normal operation, the SLC pumps are not running and the system is lined up in the standby mode. In accordance with the technical specifications, the SLC system is tested periodically to ensure that it will supply a minimum of 41.2 gpm at a pressure greater than or equal to 1220 psig. This pressure is approximately 200 psig greater than reactor pressure. The SLC system, however, is isolated from the reactor by squib valves. Squib valves are used in this application because they provide positive, zero leakage isolation. Based upon the use of squib valves for isolation of SLC from the reactor, there is no chance of leakage of cold water from the SLC into the RCS. Thus, Bulletin 88-08 does not apply to the SLC and no further action is required.

The HPCS and RCIC systems are high pressure systems with the capability to supply makeup water to the reactor vessel over the full range of operating pressures. During normal operating conditions, both the HPCS and the RCIC pumps are shutdown and the systems are lined up in the standby mode.

In accordance with the technical specifications, these systems are tested quarterly. During performance of the quarterly tests, both HPCS and RCIC pressures are greater than reactor pressure by approximately 200 psig. Leakage past the normally closed, motor operated injection valves (1E22*MOVFO04 and 1E51*MOVFO13) could result in cycling of the injection check valves and some leakage of cold water into the unisolable portions of the RCS. However, for the reasons discussed below, any such leakage is not expected to result in unacceptable thermal stresses to any piping connected to the RCS.

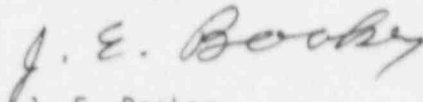
Both 1E22*MOVFO04 and 1E51*MOVFO13 receive local leak rate tests (LLRTs) and reactor boundary leak tests. Based on data from these tests, it was calculated that a leak rate no greater than 0.06 gpm would be expected through these valves when they are closed. Discussions with Alabama Power Company on the Farley incident, which prompted this bulletin, revealed that the block valve which leaked is not subjected to leak rate testing. Some leak testing was performed after the incident and the valve appeared to leak at a rate between 1 and 2 gpm. The leak rates of the valves at River Bend are insignificant compared to that experienced at Farley.

The system at Farley which experienced the failure is in service continuously with pressure upstream of the leaking valve greater than reactor pressure. At RBS, the HPCS and RCIC systems are operated for testing quarterly. The average time to complete the required testing is approximately one hour. This amounts to approximately four hours per year as compared to continuous service for the Farley system.

Based upon the infrequent operation of the HPCS and RCIC systems and the relatively insignificant valve leak rates, high cyclic thermal fatigue is not expected to occur in the unisolable portions of the RCS. Therefore, no further action is required at River Bend in response to NRC Bulletin 88-08.

If you have any questions or desire further information, please contact Mr. L. L. Dietrich of my staff at 409/838-6631, ext. 4603.

Sincerely,



J. E. Booker
Manager-River Bend Oversight

JEB/LAE/LLD/ch

cc: U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

NRC Senior Resident Inspector
P. O. Box 1051
St. Francisville, LA 70775

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

STATE OF LOUISIANA	§	
	§	
PARISH OF WEST FELICIANA	§	
	§	
In the Matter of	§	Docket No. 50-458
	§	
GULF STATES UTILITIES COMPANY	§	
	§	
(River Bend Station	§	
Unit 1)	§	

AFFIDAVIT

J. E. Booker, being duly sworn, states that he is Manager-River Bend Oversight for Gulf States Utilities Company; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission the documents attached hereto; that he has read all of the statements contained in such documents attached thereto and made a part thereof; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

J. E. Booker
J. E. Booker

Subscribed and sworn to before me, a Notary Public in and for the State and Parish above named, this 30th day of September, 1988.

Claudia J. Hurst
Notary Public in and for
West Feliciana Parish, Louisiana

My Commission is For Life.