GULF STATES UTILITIES COMPANY
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January 25, 1985
RBG-19993
File Nos. G9.5, G9.25.1.1

Mr. Robert D. Martin, Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV, Office of Inspection and Enforcement
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

RECEIVED
JAN 30 1985

Dear Mr. Martin:

River Bend Station Unit 1
Docket No. 50-458
Final Report/DR-276

On December 26, 1984, Gulf States Utilities Company (GSU) notified Region IV by telephone that it had determined DR-276 concerning the potential failure of the reactor core isolation cooling condensate storage tank suction line isolation valve to be reportable under 10CFR50.55(e). The attachment to this letter is GSU's final 30-day written report pursuant to 10CFR50.55(e)(3) with regard to this deficiency.

Sincerely,

L. A. England

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

JEB/PJD/lp

Attachment

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

NRC Resident Inspector-Site

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ATTACHMENT

January 25, 1985
RBG-19993

DR-276/Potential Failure of the Reactor Core Isolation Cooling Condensate Storage Tank Suction Line Isolation Valve

Background and Description of the Problem

The deficiency concerns the potential failure of the reactor core isolation cooling (RCIC) condensate storage tank (CST) suction line isolation valve (1ES1*MOVF010). During a review of the RCIC system, it was noted that the common suction piping from the CST to the high-pressure core spray (HPCS) and RCIC pumps does not satisfy the single failure criterion for all required postulated events when the RCIC CST isolation valve fails to close during an automatic transfer of the RCIC pump suction from the normal source (CSI) to the alternate source (suppression pool).

A check valve in the RCIC system (F011) that was originally located to prevent flow back to the CST was relocated, as shown on figure 1, to allow the RCIC fill pump to take suction from either the CSI or the suppression pool. This modification did not account for the above worst case postulated events during transfer of the RCIC suction from the CST to the suppression pool.

Safety Implication

Valve 1E51*MOVF010 is designed to close automatically during either a CST low level condition or a high suppression pool level condition. System interlocks prevent this valve from starting to close until the RCIC suction valve from the suppression pool is fully open.

However, during the following accident scenario, a pathway is established for the potential flow of water from the suppression pool to the CSI, resulting in a possible unmonitored radiological release.

1. A seismic event resulting in the loss of the CST, which is not required to be seismically designed.

2. The failure to close valve 1E51*MOVF010 during a transfer of the RCIC pump suction from the CST to the suppression pool.

3. A LOCA with containment pressures sufficient to displace suppression pool water through open valve E51*MOVF010 back to the failed CSI.

If this problem had remained uncorrected and the previously stated postulated accident scenario occurred, an unmonitored radiological release from the suppression pool to the CST could occur. However, the occurrence of the postulated valve failure coincident with a seismic event and a LOCA is considered to be an extremely low probability.

Corrective Action

The above-stated problem is resolved by relocating exisiting HPCS check valve 1E22*VF002 immediately upstream of the RCIC CST takeoff. This modification corrects the condition, since this check valve will now prevent flow back to the CST from both the HPCS and the RCIC systems. Originally, 1E22*VF002 performed this function for only the HPCS system. Engineering and Design Coordination Report No. P-13,079 has been initiated to implement this modification.

A review of other lines terminating below the suppression pool water level indicates that they will not experience this problem. The HPCS has this same dual suction arrangement, but valve E22*VF002 was located properly.