



ENTERGY

Entergy Operations, Inc.
River Bend Station
5485 U.S. Highway 61
P.O. Box 220
St. Francisville, LA 70775
Tel 504 336 6225
Fax 504 635 5068

James J. Fisicaro
Director
Nuclear Safety

April 20, 1995

U.S. Nuclear Regulatory Commission
Document Control Desk
Mail Stop P1-37
Washington, D.C. 20555

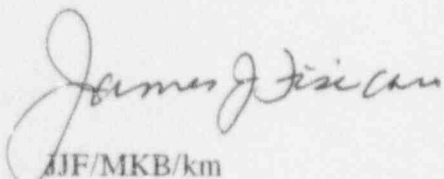
Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Licensee Event Report 50-458/95-002-00
File Nos. G9.5, G9.25.1.3

RBF1-95-0099
RBG-41447

Gentlemen:

In accordance with 10CFR50.73, enclosed is the subject report.

Sincerely,


JJF/MKB/km
enclosure

259076

9504250279 950420
PDR ADDCK 05000458
S PDR

JE22'

Licensee Event Report 50-458/95-002-00
April 20, 1995
RBF1-95-0099
RBG-41447
Page 2 of 2

cc: U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

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

INPO Records Center
700 Galleria Parkway
Atlanta, GA 30339-3064

Mr. C. R. Oberg
Public Utility Commission of Texas
7800 Shoal Creek Blvd., Suite 400 North
Austin, TX 78757

Louisiana Department of Environmental Quality
Radiation Protection Division
P.O. Box 82135
Baton Rouge, LA 70884-2135
ATTN: Administrator

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------|-----------|----------------|--|-----------------|---|-----------------|------------------|---------------|-------------------------------|-----------|--|-------------------|---------------|--|----------------------|--|---|--|--|--|--|--|--|--|--|--|--|--|
| NRC FORM 366 <small>(5-92)</small> | | | | | | U.S. NUCLEAR REGULATORY COMMISSION | | | | | | APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95 | | | | | | | | | | | | | | | | | |
| LICENSEE EVENT REPORT (LER) | | | | | | | | | | | | | | | | | | ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503. | | | | | | | | | | | |
| FACILITY NAME (1) River Bend Station | | | | | | | | | | | | DOCKET NUMBER (2) 05000-458 | | | | | | PAGE (3) 1 of 5 | | | | | | | | | | | |
| TITLE (4) Deficient IST Surveillance of EDG Air Receiver Check Valves Due to an Inadequate Procedure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EVENT DATE (5) | | | LER NUMBER (6) | | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | | | | | | | | | | | | | | | | | | | |
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAME | | | | DOCKET NUMBER | | | | | | | | | | | | | | | | |
| 03 | 21 | 95 | 95 | 002 | 00 | 04 | 20 | 95 | N/A | | | | 05000 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | FACILITY NAME | | | | DOCKET NUMBER | | | | | | | | | | | | | | | |
| | | | | | | | | | | N/A | | | | 05000 | | | | | | | | | | | | | | | |
| OPERATING MODE (9) | | 1 | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more (11)) | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 20.402(b) | | | | 20.405(c) | | | | 50.73(a)(2)(iv) | | | | 73.71(b) | | | | | | | | | | | | | |
| POWER LEVEL (10) | | 100 | | 20.405(a)(1)(i) | | | | 50.36(c)(1) | | | | 50.73(a)(2)(v) | | | | 73.71(c) | | | | | | | | | | | | | |
| | | | | 20.405(a)(1)(ii) | | | | 50.36(c)(2) | | | | 50.73(a)(2)(vii) | | | | OTHER | | | | | | | | | | | | | |
| | | | | 20.405(a)(1)(iii) | | | | X | | | | 50.73(a)(2)(i) | | | | 50.73(a)(2)(viii)(A) | | | | (Specify in abstract below and in text, NRC Form 366A) | | | | | | | | | |
| | | | | 20.405(a)(1)(iv) | | | | 50.73(a)(2)(ii) | | | | 50.73(a)(2)(viii)(B) | | | | | | | | | | | | | | | | | |
| | | | | 20.405(a)(1)(v) | | | | 50.73(a)(2)(iii) | | | | 50.73(a)(2)(x) | | | | | | | | | | | | | | | | | |
| LICENSEE CONTACT FOR THIS LER (12) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NAME T.W. Gates, Supervisor - Nuclear Licensing | | | | | | | | | | | | TELEPHONE NUMBER (include Area Code) 504-381-4866 | | | | | | | | | | | | | | | | | |
| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPD | | | | | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPD | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUPPLEMENTAL REPORT EXPECTED (14) | | | | | | | | | | | | EXPECTED | | MONTH | | DAY | | YEAR | | | | | | | | | | | |
| YES <small>(If yes, complete EXPECTED SUBMISSION DATE)</small> | | | | X | | | | NO | | | | SUBMISSION DATE (15) | | | | | | | | | | | | | | | | | |
| ABSTRACT <small>(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)</small> <p>On March 21, 1995, with the plant operating at 100% in Operational Condition 1, the diesel system engineer identified that the surveillance procedures for verifying the operability of the Division I and II Emergency Diesel Generator (EDG) air receiver tank air inlet check valves were deficient. This deficiency was identified as a result of the system engineer's questioning attitude. The IST surveillance test inadvertently included non-safety check valves in the test boundary for each EDG air receiver tank inlet check valve.</p> <p>The root cause of this event was an inadequate procedure. Causal factors include inadequate review of available technical information and problems experienced with the identification of skid mounted check valves during field walkdowns. In addition to correcting the deficient procedures, training on the expectations of drawing reviews and field walkdowns will be provided. Previously submitted LER 94-017 is similar to this LER and the programmatic actions described in LER 94-017 would have served to help identify this deficiency.</p> <p>This condition was not safety significant. The capability of the deficiently tested valves to perform their safety function was verified.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--|------------------------------------|---|-------------------|----------------|
| NRC FORM 366A (5-92) | U.S. NUCLEAR REGULATORY COMMISSION | APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95 | | |
| LICENSEE EVENT REPORT (LER) TEXT CONTINUATION | | ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503. | | |
| | | FACILITY NAME (1) | DOCKET NUMBER (2) | LER NUMBER (6) |
| River Bend Station | | 05000-458 | 95-002 | 2 OF 5 |

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

REPORTED CONDITION

On March 21, 1995, with the plant operating at 100% in Operational Condition 1, the diesel system engineer identified that the surveillance procedures for verifying the operability of the Division I and II Emergency Diesel Generator (EDG) (*DG*) air receiver (*RCV*) tank air inlet check valves (*V*) were deficient. Review of earlier procedure revisions showed that the test method has been deficient since the issuance of the RBS Operating License. Failure to properly surveil these check valves is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B) as operation prohibited by the Technical Specifications. The performance of this surveillance is required by Technical Specification 4.0.5 and operability of these check valves is required to satisfy Limiting Condition for Operation 3.8.1.1.

INVESTIGATION

On March 21, 1995, at approximately 1345, the diesel system engineer discovered that Surveillance Test Procedure (STP)-309-6304, "Division I Diesel Generator Air Start System Valve Operability Test," and STP-309-6305, "Division II Diesel Generator Air Start System Valve Operability Test," did not adequately test the safety function of the EDG air receiver tank air inlet check valves 1EGA*V102, 1EGA*V115, 1EGA*V126 and 1EGA*V137. (There are two air banks per EDG with each bank consisting of two air receivers. Each air bank has one safety-related air inlet check valve.) This deficiency was recognized as a result of the system engineer's questioning attitude. The system engineer's knowledge of his system enabled him to identify that the surveillance test boundary was inappropriate. The STP has inadvertently included some non-safety check valves in the test boundary for each EDG air receiver tank inlet check valve. Due to the inclusion of these non-safety valves in the test boundary, the test results could not be used for verifying the function of the safety related valves. In addition, the test method was flawed in that vent paths existed in the test configuration that would adversely affect the ability of the test method to identify leakage. Review of the history of these STPs concluded that this flawed test method had been utilized since the RBS Operating License was issued.

The EDG air receiver tank air inlet check valves have an active safety function to close to maintain the air start system pressure/flowpath boundary in the event of failure of the non-safety related air compressor or supply piping. These check valves are considered category C valves with no specific leakage criteria.

After the identification of this deficiency, the applicable STPs were revised. During the performance of the corrected STP-309-6304 on March 21, 1995, check valve 1EGA*V102 failed the acceptance criterion of "no sustained flow under pressure." The air receiver tank pressure drop was measured at less than 5 pounds in ten minutes. The surveillance procedure was stopped and the check valve seat was relapped. The testing on the Division I EDG air receiver tank inlet check valves was completed satisfactorily on March 22, 1995, with the successful closure of 1EGA*V102 and 1EGA*V115.

| | | | | | |
|---|--|------------------------------------|--|--|---------------------------|
| NRC FORM 366A (5-92) | | U.S. NUCLEAR REGULATORY COMMISSION | | APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95 | |
| <p align="center">LICENSEE EVENT REPORT (LER) TEXT CONTINUATION</p> | | | | ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503. | |
| | | | | | |
| FACILITY NAME (1) River Bend Station | | | | DOCKET NUMBER (2) 05000-458 | PAGE (3) 3 OF 5 |

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

During performance of the corrected STP-309-6305 on March 22, 1995, check valve 1EGA*V126 failed the acceptance criterion and check valve 1EGA*V137 passed satisfactorily. The air receiver tank pressure drop for valve 1EGA*V126 was measured at 3 pounds in 10 minutes. The seat of check valve 1EGA*V126 was relapped. The check valve was retested satisfactorily later that day.

Note that the acceptance criterion for these check valves was re-evaluated subsequent to performing these surveillances. The new acceptance criterion and its basis are described in the Safety Assessment section below. The above as-found conditions are within the revised acceptance criterion and the valves would have been capable of performing their safety function as-found.

ROOT CAUSE

Root cause was determined by task and barrier analysis. The root cause for the deficient ASME Section XI testing on the EDG air receiver tank inlet check valves is an inadequate procedure.

An effort to enhance RBS's IST program has been ongoing since early 1994. While this procedure had received certain levels of review (including a field walkdown) as part of RBS's IST Improvement Program, this deficiency was not identified until a review by the cognizant system engineer. The causal factors for failing to identify this deficiency earlier in the program include:

- **Inadequate Review of Available Technical Information and Drawings:** Piping and Instrumentation Diagram (P&ID) 8-9B, revision 9, did not identify the non-safety check valves in the EDG air desiccant dryer skids. While new supplemental drawings that provided the skid details were being issued during the review of the STPs, the review failed to recognize the relevance and the value of the information that was being provided in this pending drawing revision. In addition, other sources of technical information such as Vendor's manuals were available and were not appropriately utilized.
- **Inability to Identify Skid Mounted Check Valves:** Although the procedures were walked down in the first quarter of 1994, the check valves on the EDG air desiccant dryer skid were not labeled and they resembled spool pieces. Since the P&ID 8-9B did not include this level of detail, the verifier did not question these "spool pieces" in the line. Also, neither the system engineer nor the system design engineer was consulted about the test boundary during this walkdown.

| | | | |
|---|------------------------------------|---|---------------------------------------|
| NRC FORM 366A (5-92) | U.S. NUCLEAR REGULATORY COMMISSION | APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95 | |
| <p align="center">LICENSEE EVENT REPORT (LER) TEXT CONTINUATION</p> | | <p>ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (M98B 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.</p> | |
| | | FACILITY NAME (1) River Bend Station | DOCKET NUMBER (2) 05000-458 |

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Since the initiation of IST programmatic improvements, two LERs involving IST issues have been submitted. LER 94-017 (submitted voluntarily) involved seven testable check valves that were not properly tested in accordance with ASME Section XI requirements. The deficiencies documented in LER 94-017 were identified during the implementation of IST Improvement Program. LER 94-017 is similar to this LER and the programmatic actions described in LER 94-017 would have served to identify this deficiency. The system engineer's review of the IST surveillance procedures is part of this improvement program. However, the technical review by cognizant system engineer had not yet been completed for these deficient surveillances.

LER 94-024 involved several drywell isolation check valves found to inoperable due to entrapped debris. The root cause of LER 94-024 involved poor housekeeping and is not similar to this LER.

CORRECTIVE ACTIONS

Immediately following the identification of these surveillance deficiencies, the two deficient STPs were corrected and the four affected EDG air receiver tank inlet check valves were properly tested. The two valves that allowed some leakage were reworked.

A review and walkdown of the STP for the Division III EDG air start system was performed which determined that the Division III EDG was not subject to the same deficiency.

With respect to the causal factors identified for this condition, the following specific corrective actions will be implemented:

- Correcting historical deficiencies with Skid P&ID drawings was identified as an action in the Long Term Performance Improvement Plan (LTPIP). The action to upgrade the EDG air start P&IDs was in progress during the review to verify the adequacy of the IST surveillances of the EDG air receiver check valves. The investigation of this event identified that inadequate knowledge of this drawing control process contributed to the lack of timeliness in the identification of this condition. To address this concern, a training session will be provided to System Engineering and other selected personnel to enhance their understanding of the process for identifying and controlling pending plant drawings changes. This will be completed by October 26, 1995.

The check valves on the EDG air desiccant dryer skid are not readily recognizable as check valves. These valve have now been labeled. The labeling of these valves was part of the Labeling Enhancement and Improvement program as described in the LTPIP.

| | | | | | |
|--|--|------------------------------------|--|--|---------------------------------|
| NRC FORM 366A <small>(5-92)</small> | | U.S. NUCLEAR REGULATORY COMMISSION | | APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95 | |
| LICENSEE EVENT REPORT (LER) TEXT CONTINUATION | | | | ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503. | |
| FACILITY NAME (1) River Bend Station | | | | DOCKET NUMBER (2) 05000-458 | LER NUMBER (6) 95-002 |
| | | | | PAGE (3) 5 OF 5 | |

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

- Since the verifiers did not adequately question the insufficient detail on the P&ID versus the actual plant configuration, expectations for performing the IST surveillance procedure reviews as part of the IST Improvement Program will be re-enforced to the engineers and operators involved. A training session to clarify the expectations for performing IST surveillance procedure reviews will be conducted. This action will be completed by July 27, 1995.

Note that long-term generic corrective actions are currently being implemented in accordance with the RBS's LTPIP. The generic implications of this LER are adequately bounded by the IST Improvement Program described in LTPIP and the corrective actions discussed in LER 94-017.

SAFETY ASSESSMENT

The surveillance test results on these check valves were evaluated and determined acceptable. The safety function for these check valves is to prevent a sudden loss of air from the EDG air receiver tanks in case of an event which results in a loss of the non-safety portion of the system. An Engineering Evaluation established a quantifiable pressure drop rate acceptance criterion which provides ample time for operator action (over 4 hours to restore pressure, isolate the leak, or to start the engine) while allowing limited leakage. The operability of both air receiver banks per EDG was assured, and as a result, this condition was not safety significant.

NOTE: Energy Industry Identification Codes are identified in the text as (*XX*)