

LICENSEE EVENT REPORT (LER)

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|---|--------|---|----------------|-------------------|-----------------|--------------------|-----------------|--------------|-------------------|---|--------|-----------|-------------------|--|----------------------|--------|-----------|--------------|-------------------|---|---|---|---|---|---|---|---|---|
| FACILITY NAME (1) RIVER BEND STATION | | | | | | | | | | DOCKET NUMBER (2) 0 5 0 0 0 4 5 8 | | | | | PAGE (3) 1 OF 0 3 | | | | | | | | | | | | | |
| TITLE (4) Division I Diesel Generator Output Breaker Failure | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 NAMES | | | | DOCKET NUMBER (5) | | | | | | | | | | | | | | | |
| 0 | 2 | 0 | 6 | 8 | 7 | 8 | 7 | 8 | 7 | 0 | 0 | 4 | 0 | 1 | 0 | 4 | 5 | 8 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OPERATING MODE (9) | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | 20.402(b) | | | | 20.405(e) | | | | 50.73(a)(2)(vi) | | | | 73.71(b) | | | | | | | | | | | | | | |
| POWER LEVEL (10) | | 11010 | | | | 20.405(a)(1)(i) | | | | 50.73(a)(2)(v) | | | | 73.71(c) | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(ii) | | | | 50.73(a)(2)(ii) | | | | 50.73(a)(2)(vii) | | | | OTHER (Specify in Abstract below and in Text, NRC Form 366A) | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(iii) | | | | X 50.73(a)(2)(iii) | | | | 50.73(a)(2)(viii) | | | | | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(iv) | | | | 50.73(a)(2)(iv) | | | | 50.73(a)(2)(ix) | | | | | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(v) | | | | 50.73(a)(2)(v) | | | | 50.73(a)(2)(x) | | | | | | | | | | | | | | | | | | |
| LICENSEE CONTACT FOR THIS LER (12) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NAME L.A. England - Director-Nuclear Licensing | | | | | | | | | | TELEPHONE NUMBER 5 0 4 3 8 1 1 - 4 1 4 5 | | | | | | | | | | | | | | | | | | |
| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC | | | | | | | | | |
| B | E B | 1 1 5 2 | G 1 1 8 4 | Y | | | | | | | | | | | | | | | | | | | | | | | | |
| SUPPLEMENTAL REPORT EXPECTED (14) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| YES (15) (yes, complete EXPECTED SUBMISSION DATE) | | | | | | | | | | X NO | | | | | | | | | | | | | | | | | | |
| ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>At 1735 on 02/06/87, with the unit at 100 percent power, the Division I Diesel Generator (DG) output breaker failed to close during the performance of a weekly surveillance test. An immediate inspection of the output circuit breaker revealed that a mounting bolt had fallen out of the closing spring charging motor rendering the motor inoperable.</p> <p>Through an investigation it was concluded that Technical Specification 3.8.1.1 had been violated as a result of the DG output breaker automatic closure function being inoperable during the period of 01/29/87 to 02/07/87.</p> <p>Modification Request 87-0141 was implemented during the refueling outage which provided for the application of a thread adhesive and specified the torquing requirements for the charging motor mounting bolts. This modification will ensure that a similar condition will not develop in the future.</p> <p>During the 8 days that the Division I DG should have been declared inoperable there were no demands for its initiation. If a loss of offsite power had been experienced, the Division II DG and High Pressure Core Spray DG were operable to provide independent A.C. electrical power sources. Additionally, the output circuit breaker could have been manually closed. Therefore, there was no impact on the safe operation of the plant or to the health and safety of the public.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/88

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|--------------------|-------------------|----------------|-------------------|-----------------|----------|----|-----|
| FACILITY NAME (1) | DOCKET NUMBER (2) | LER NUMBER (6) | | | PAGE (3) | | |
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | | |
| RIVER BEND STATION | 0 5 0 0 0 4 5 8 | 8 7 | - 0 0 4 | - 0 1 | 0 2 | OF | 0 3 |

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Reported Condition

At 1735 on 02/06/87, with the unit at 100 percent power, the Division I Diesel Generator *DG* (DG) output circuit breaker *52* failed to close during the performance of a weekly surveillance test. An immediate inspection of the output circuit breaker revealed that a mounting bolt had fallen out of the closing spring charging motor *MO*, rendering the motor inoperable. Through an investigation it was concluded that Technical Specification 3.8.1.1 had been violated as a result of the DG output breaker's automatic closure function being inoperable during the period of 01/29/87 to 02/07/87.

Investigation

A review of electrical maintenance activities associated with the output breaker, LCO sheets, DG trending and failure reports and discussions with Operations personnel determined the last successful operation on the breaker, prior to discovery of its failure on 02/06/87, was the previous performance of the weekly surveillance test on 01/29/87. Through investigation, it has been concluded that the closing springs failed to recharge following the operation of the breaker on 01/29/87 and the output breaker automatic closure function remained inoperable until being detected on 02/06/87. The inoperable charging motor was replaced with a like for like motor and the DG output circuit breaker was returned to service at 0100 on 02/07/87.

To determine if the bolting failure was indicative of a generic problem, other breaker charging motor mounting bolts were inspected for tightness. The inspection included 15 additional safety related breakers *52* of the same type as the 4.16 KV DG output breaker (Gould-Brown Boveri, Type 5HK250, Power Circuit Breaker). Loose mounting bolts were found at 14 of the breakers inspected. In addition to finding loose bolts, two motors were discovered to have missing mounting bolts (1 each). The balance (4) of the safety related 4.16 KV circuit breakers could not be released for work during plant operation and were not inspected. To verify the automatic closing capability of these breakers, the Operations Department issued a Standing Order to include a daily visual inspection of the closing spring mechanical charge indicators *XI* on all 20 safety related 4.16 KV circuit breakers.

In an attempt to determine the root cause of the failure, previously performed corrective maintenance and preventive maintenance work documents associated with the subject breakers were reviewed to determine if loose charging motor mounting bolts had been identified earlier. The documents reviewed revealed no previous similar occurrences and no corrective maintenance activities associated with the breaker charging motor.

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| RIVER BEND STATION | 0 5 0 0 0 4 5 8 8 7 - | 0 0 4 | - | 0 1 | 0 3 | OF 0 3 |

TEXT (If more space is required, use additional NRC Form 365A's) (17)

The circuit breaker preventative maintenance program was compared to the vendor's maintenance recommendations specified in the breaker instruction manual. The circuit breaker preventive maintenance activities and frequencies were found to be in accordance with the vendor's recommendations.

Based upon no evidence of corrective maintenance previously being performed on the circuit breaker charging motors and the circuit breaker preventive maintenance program being in accordance with the vendor's recommendations, the root cause of the failure was determined to be insufficient torquing of the charging motor mounting bolts by the manufacturer.

Corrective Action

The loose and missing charging motor mounting bolts identified during the inspection of the fifteen (15) additional circuit breakers have been tightened and/or replaced.

Modification Request (MR) 87-0141 was implemented during the refueling outage which provided for the application of a thread adhesive and specified the torquing requirements for the charging motor mounting bolts. This modification will ensure that a similar condition will not develop in the future.

To verify the operability of the charging motors until MR 87-0141 could be implemented, the Operations Department issued a Standing Order to include a visual inspection of the closing spring mechanical charge indicators on all 20 safety related 4.16 KV circuit breakers. MR 87-0141 has been implemented and Operations will no longer conduct daily visual inspections of the closing spring mechanical charging indicators. Therefore, the Standing Order will no longer be active.

Safety Assessment

The inoperability of the Division I DG resulted from the output breaker's inability to close automatically on demand. However, the breaker was capable of being manually closed during this time.

During the 8 days that the Division I Diesel Generator should have been declared inoperable there were no demands for its initiation. If a loss of offsite power had been experienced, the Division II DG *EB* and HPCS DG *EB* were operable to provide independent A.C. electrical power sources. Therefore, there was no impact on the safe operation of the plant or to the health and safety of the public.

NOTE: Energy Industry Identification System codes are identified in the text as *XX*.



GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775
AREA CODE 504 833-6094 346 8651

April 11, 1988

RBC-27670

File Nos. G9.3, G9.25.1.3

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

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

Please find enclosed Licensee Event Report No. 87-004 Revision 1 for River Bend Station - Unit 1. This revision is being submitted pursuant to 10CFR50.73 to provide an update on corrective actions taken.

Sincerely,

J. E. Booker
Manager-River Bend Oversight
River Bend Nuclear Group

JEB/TJP/PDG/DAS/ch
298

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

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

INPO Records Center
1100 Circle 75 Parkway
Atlanta, GA 30339-3064

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11