Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

December 14, 2012

10 CFR 50.73

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Browns Ferry Nuclear Plant, Units 1, 2, and 3
Facility Operating License Nos. DPR-33, DPR-52, and DPR-68
NRC Docket Nos. 50-259, 50-260, and 50-296

Subject: **Licensee Event Report 50-259/2012-008-01**

Reference: Letter from TVA to NRC, "Licensee Event Report 50-259/2012-008-00," dated October 1, 2012

In the reference letter dated October 1, 2012, the Tennessee Valley Authority (TVA) submitted a Licensee Event Report (LER) containing details of the Standby Gas Treatment System Train C being inoperable for longer than allowed by Browns Ferry Nuclear Plant's Technical Specifications. The LER indicated that additional reviews of the causal analysis were ongoing, and upon completion of the additional reviews, a supplement to the LER would be submitted. The TVA is submitting this supplement to LER 50-259/2012-008-00 in accordance with 10 CFR 50.73(a)(2)(i)(B), any operation or condition which was prohibited by the plant's Technical Specifications.

There are no new regulatory commitments contained in this letter. Should you have any questions concerning this submittal, please contact J. E. Emens, Jr., Nuclear Site Licensing Manager, at (256) 729-2636.

Respectfully,

S. BOND
BY DIRECTION
FOR K. POLSON

K. J. Polson
Vice President

Enclosure: Licensee Event Report 50-259/2012-008-01 – Standby Gas Treatment System Train C Inoperable Longer Than Allowed by Technical Specifications

cc: See Page 2

IE22
NRR

cc (w/ Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant

ENCLOSURE

Browns Ferry Nuclear Plant
Units 1, 2, and 3

Licensee Event Report 50-259/2012-008-01

Standby Gas Treatment System Train C Inoperable Longer Than Allowed by Technical Specifications

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See Enclosed

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 10/31/2013

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Browns Ferry Nuclear Plant (BFN), Unit 1	05000259	1 of 9

4. TITLE: Standby Gas Treatment System Train C Inoperable Longer Than Allowed by Technical Specifications

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
08	02	2012	2012	- 008 -	01	12	14	2012	BFN, Unit 2	05000260
									FACILITY NAME	DOCKET NUMBER
									BFN, Unit 3	05000296

9. OPERATING MODE

1

10. POWER LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
Mark Acker, Licensing Engineer	256-729-7533

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR
N/A	N/A	N/A

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On August 2, 2012, at 1232 hours Central Daylight Time, the Browns Ferry Nuclear Plant (BFN), Unit 2 Standby Gas Treatment (SGT) Train C relative humidity heater was placed into service which resulted in an Annunciator Alarm, SGT C Filter Bank Heater Element Power Lost. Troubleshooting identified the 2A Motor Control Center (MCC) breaker bucket containing the associated breaker was misaligned resulting in poor contact with the C phase of the electrical supply bus. Only the top retaining device, out of the two required retaining devices, used to secure the breaker bucket in the cubicle, was installed in the MCC. On August 3, 2012, a spare retaining device was installed to replace the missing device. It is unlikely the SGT Train C relative humidity heater would have functioned properly during a seismic event without the bottom retaining device. Therefore, SGT Train C was concluded to have been inoperable from September 12, 2011, when the breaker bucket was removed for maintenance, to August 3, 2012, when the bottom retaining device was installed.

The root cause of this event is the result of an inadequate maintenance instruction that allowed the installation of a breaker bucket in an ITE Gould 5600 Series MCC with a single retaining device.

The corrective actions to prevent recurrence were to revise Maintenance Instructions EPI-0-000-MCC001 and ECI-0-000-BKR008 to address identified issues.

NARRATIVE

I. PLANT CONDITION(S)

At the time of discovery, Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3, were in Mode 1 at 100 percent rated thermal power.

II. DESCRIPTION OF EVENT

A. Event:

On August 2, 2012, at 1232 hours Central Daylight Time (CDT), the BFN, Unit 2, Main Control Room placed the Standby Gas Treatment (SGT) [BH] Train C relative humidity heater [EHTR] into service which resulted in an Annunciator Alarm [ALM], SGT C Filter Bank Heater Element Power Lost. An Auxiliary Unit Operator responded to perform an initial investigation and noted that the local heater run light [IL] located on the 480 Volt (V) SGT Board [BD] appeared to dim when the heater was energized. Troubleshooting identified that voltage from the 480V Alternating Current (AC) supply power to the relative humidity heater would lower and then return to the specified normal voltage. On August 2, 2012, at 1414 hours CDT, after completion of initial troubleshooting, Operations declared SGT Train C inoperable. With the SGT Train C relative humidity heater unable to perform its function, Technical Specifications (TS) Surveillance Requirement 3.6.4.3.1, which requires operating each SGT subsystem for greater than or equal to 10 continuous hours with heaters operating, could not be met. Further troubleshooting identified that the 2A Motor Control Center (MCC) [MCC] breaker [BKR] bucket containing breaker BFN-0-BKR-065-0060 was misaligned resulting in poor contact with the C phase of the electrical supply bus [BU].

The breaker bucket is designed with the electrical bus bar connections located in the bottom of the bucket, held securely in place to the MCC cubicle by two retaining devices located at the top and bottom, centered in the cubicle. The breaker bucket connection stabs were not fully engaged with the electrical bus and only the top retaining device, one of two required retaining devices, was installed in the MCC. On August 3, 2012, a spare retaining device was installed to replace the missing device. On August 3, 2012, at 1517 hours CDT, after satisfactory completion of post maintenance testing, Operations declared SGT Train C Operable.

The last documented evidence of the bottom retaining device being correctly installed in the cubicle is in Work Order (WO) 09-726490-000, performed on December 13, 2010. The 2A MCC breaker bucket was removed and reinstalled using Electrical Corrective Instruction (ECI)-0-000-BKR008, Testing and Troubleshooting of Molded Case Circuit Breakers and Motor Starter Overload Relays, which requires installation of the breaker bucket with top and bottom retaining devices. The next time work was performed on the breaker bucket was for a Preventive Maintenance (PM), under WO 112239630, on September 12, 2011. The 2A MCC breaker bucket was removed and reinstalled using Electrical Preventive Instruction (EPI)-0-000-MCC001, Maintenance and Inspection of 480 V AC and 250 V DC Motor Control Centers, which allows installation of the breaker bucket with a single retaining device. This was the last documented time that the breaker bucket was removed from the cubicle before the August 2, 2012, failure. It

is probable that the bottom retaining device was not re-installed during the execution of the preventive maintenance performed under WO 112239630. It is unlikely the SGT Train C relative humidity heater would have functioned properly during a seismic event without the bottom retaining device installed. Therefore, the past operability evaluation concluded that the SGT Train C relative humidity heater had been inoperable from September 12, 2011, until August 3, 2012, when the bottom retaining device was installed, firmly securing the breaker bucket in the cubicle with the breaker stabs securely engaged to the electrical supply bus.

On May 24, 2012, corrective maintenance was performed on 480V SGT 2A MCC using ECI-0-000-BKR008. Under WO 113517204, the molded case circuit breaker within the bucket was replaced. The bucket was not removed for this work; however, work within the bucket could have exercised the bucket inside the cubicle causing the bottom of the bucket to move outward. This would result in reduced stab engagement if the bottom-center retaining device was missing.

Between May 24, 2012, and August 2, 2012, SGT Train C was operated 11 times as necessary to support plant operations. The last time SGT Train C was placed in service before the August 02, 2012, failure was July 31, 2012. Investigation into the conditions around the SGT Board during this time did not uncover any activity. If the work performed on May 24, 2012, resulted in reduced stab engagement, as stated above, vibrations caused by the main contactor energizing and de-energizing could have further agitated the stab to bus bar connection to the point that the C phase stab had poor contact with the bus bar resulting in the August 2, 2012, SGT C Filter Bank Heater Element Power Lost alarm.

B. Inoperable Structures, Components, or Systems that Contributed to the Event:

There were no inoperable structures, components, or systems that contributed to this event.

C. Dates and Approximate Times of Major Occurrences:

December 13, 2010	Electrical Corrective Instruction, ECI-0-000-BKR008, was performed on the 2A MCC.
September 12, 2011	Electrical Preventive Instruction, EPI-0-000-MCC001, was performed on the 2A MCC.
May 24, 2012	Circuit breaker inside the 2A MCC was replaced.
August 2, 2012, at 1232 hours CDT	Operations received Annunciator Alarm, SGT C Filter Bank Heater Element Power Lost.

August 2, 2012, at 1414 hours CDT	After completion of initial troubleshooting, Operations declared SGT Train C inoperable.
August 3, 2012	Troubleshooting identified that the 2A MCC breaker bucket was not fully engaged with the electrical bus and only one of the two retaining devices was installed. A spare retaining device was installed to replace the missing retaining device.
August 3, 2012, at 1517 hours CDT	After satisfactory completion of post maintenance testing, Operations declared SGT Train C Operable.

D. Other Systems or Secondary Functions Affected

There were no other systems or secondary functions affected.

E. Method of Discovery

Operations received an alarm after placing the SGT Train C relative humidity heater in service. Troubleshooting identified the associated 2A MCC breaker bucket was misaligned resulting in poor contact with the C phase of the electrical supply bus.

F. Operator Actions

There were no operator actions.

G. Safety System Responses

There were no safety system responses.

III. CAUSE OF THE EVENT

A. Immediate Cause

The immediate cause was determined to be the missing bottom retaining device in the breaker bucket of the 2A MCC. This configuration allowed the breaker bucket to become misaligned and resulted in inadequate engagement of the breaker stab to the C phase of the electrical supply bus.

B. Root Cause

The root cause of this event was EPI-0-000-MCC001, Maintenance and Inspection of 480 V AC and 250 V DC Motor Control Centers, provides inadequate instruction by allowing installation of a breaker bucket in an ITE Gould 5600 Series MCC with a single retaining device.

C. Contributing Factors

The event had two contributing causes. First, Electrical Maintenance craft personnel failed to follow procedure NPG-SPP-01.2, Administration of Site Technical

NARRATIVE

Procedures, with respect to requirements for procedure use and adherence by not stopping and questioning problematic procedure steps. Second, Electrical Maintenance Qualification Standards EMQ001.088, and EMQ001.015 do not identify the importance of adequately securing a MCC bucket in the cubicle.

IV. ANALYSIS OF THE EVENT

TVA is submitting this report in accordance with 10 CFR 50.73(a)(2)(i)(B), as any operation or condition which was prohibited by the plant's TS.

The SGT System is a common system for BFN, Units 1, 2, and 3. The BFN Units, 1, 2 and 3, TS Limiting Condition for Operation (LCO) 3.6.4.3, Standby Gas Treatment (SGT) System, requires three SGT subsystems to be Operable, during Modes 1, 2, and 3, and during operations with a potential for draining the reactor vessel (OPDRVs). With one SGT subsystem inoperable, TS 3.6.4.3 Required Action A.1 requires the SGT subsystem to be restored to Operable status in 7 days. If the SGT subsystem cannot be restored to Operable status in 7 days, while in Mode 1, 2, or 3, TS 3.6.4.3 Required Actions B.1 and B.2 require the unit to be in Mode 3 in 12 hours and in Mode 4 in 36 hours. If the SGT subsystem cannot be restored to Operable status in 7 days, during OPDRVs, TS 3.6.4.3 Required Actions C.1 and C.2 require immediate placement of two Operable SGT subsystems in operation and immediate initiation of actions to suspend OPDRVs. With two or three SGT subsystems inoperable in Mode 1, 2, or 3, TS 3.6.4.3 Required Action D.1 requires immediate entry into LCO 3.0.3, which would require actions to be initiated within 1 hour to place the unit in Mode 2 within 10 hours, Mode 3 within 13 hours, and Mode 4 within 37 hours. Also, LCO 3.0.4 prohibits Mode changes when an LCO is not met except under certain conditions that were not applicable to this event.

BFN, Units 1, 2, and 3, operated with SGT Train C inoperable from September 12, 2011, to August 3, 2012. Since it was not recognized that SGT Train C was inoperable until the completion of the past operability evaluation, BFN, Units 1, 2 and 3, operated with one inoperable SGT subsystem for longer than allowed by TS 3.6.4.3 Required Action A.1, i.e., 7 days.

The BFN Operations logs were reviewed to determine if other SGT trains/subsystems were inoperable during the time period of the SGT Train C inoperability. The results of the review are as follows.

- January 25, 2012, to January 29, 2012 — SGT Train A inoperable
- April 26, 2012, to April 30, 2012 — SGT Train A inoperable
- May 4, 2012, from 1749 hours CDT to 2248 hours CDT — SGT Train A inoperable
- May 30, 2012, to May 31, 2012 — SGT Train A inoperable
- June 6, 2012, to June 12, 2012 — SGT Train B inoperable
- July 30, 2012, to August 1, 2012 — SGT Train A inoperable

Since it was not recognized that two SGT trains were inoperable concurrently until completion of the past operability evaluation, BFN, Units 1, 2, and 3, operated with two inoperable SGT subsystems for longer than allowed by TS 3.6.4.3 Required Action D.1,

i.e., longer than the times allowed by LCO 3.0.3, during each of the time periods listed above.

The review of the BFN Operations logs also determined that, for BFN, Unit 3, from April 15, 2012, until April 16, 2012, OPDRVs were performed during a refueling outage. Since it was not recognized that SGT Train C was inoperable until completion of the past operability evaluation, BFN, Unit 3, did not comply with TS 3.6.4.3 Required Actions C.1 and C.2, i.e., immediately place two Operable SGT subsystems in operation and immediately initiate actions to suspend OPDRVs.

During the time period from September 12, 2011, to August 3, 2012, since it was not recognized that SGT Train C was inoperable until completion of the past operability evaluation, the following Mode changes were performed which were prohibited by LCO 3.0.4.

- BFN, Unit 1, started up from a mid-cycle outage and transitioned from Mode 4 to Mode 2 on December 13, 2011, at 1117 hours Central Standard Time.
- BFN, Unit 3, started up from a forced outage and transitioned from Mode 3 to Mode 2 on September 29, 2011, at 1658 hours CDT.
- BFN, Unit 3, started up from a refueling outage and transitioned from Mode 4 to Mode 2 on May 19, 2012, at 2241 hours CDT.
- BFN, Unit 3, recovered from a reactor scram and transitioned from Mode 4 to Mode 2 on May 23, 2012, at 0924 hours CDT.
- BFN, Unit 3, recovered from a reactor scram and transitioned from Mode 3 to Mode 2 on May 24, 2012, at 2225 hours CDT.
- BFN, Unit 3, recovered from a reactor scram and transitioned from Mode 4 to Mode 2 on June 2, 2012, at 1658 hours CDT.

Based on the results of the past operability evaluation and the review of BFN Operations logs, BFN, Units 1, 2 and 3, operated with inoperable SGT subsystem(s) for longer than allowed by TS 3.6.4.3. In addition, due to the inoperability of the SGT subsystem, TS 3.0.4 was not met for each BFN, Unit 1, and BFN, Unit 3, applicable Mode change that occurred since September 12, 2011.

This condition is the result of a missing bottom retaining device in the breaker bucket of the 2A MCC. This configuration allowed the breaker bucket to become misaligned and resulted in inadequate engagement of the breaker stab to the C phase of the electrical supply bus.

The last time the bucket in question was removed prior to the discovery that the lower retaining device was missing, was during preventive maintenance performed on September 12, 2011. Preventive maintenance is performed under EPI-0-000-MCC001. Step 7.4[6.3] of EMI-0-000-MCC001 directs the Electrical Maintenance technician to turn the retaining screw(s) mounted in the top-center and/or bottom-center positions of the bucket until the associated pawl(s) are in the vertical position. Although both of the screws are mentioned, the procedure allows just one of the retaining devices to be engaged in re-installing the bucket. The craft personnel interpreted the procedure steps

from habit as a result of legacy errors in the approved procedure and did not recognize the procedure deficiencies. The phrase "top-center and bottom-center" was changed to "top-center and/or bottom-center" in Revision 62 of EMI-0-000-MCC001 on October 4, 2005, but no reason was given for the change in the revision comments. There is no situation in which only a single retaining device should be used.

It is probable that, during the execution of the preventive maintenance performed under EPI-0-000-MCC001, the bottom retaining device was not re-installed. It could not be determined that the SGT Train C relative humidity heater would have functioned properly during a seismic event without the bottom retaining device installed. Therefore, the past operability evaluation concluded that the SGT Train C relative humidity heater had been inoperable from September 12, 2011, until August 3, 2012, when the bottom retaining device was installed, firmly securing the breaker bucket in the cubicle with the breaker stabs securely engaged to the electrical supply bus.

One factor that contributes to this condition is procedure use and adherence. Proper use of procedure use and adherence should have compelled the Electrical Maintenance technician to stop performance of the procedure on September 12, 2011, upon reaching the words "and/or." Choosing "or" (that is, securing the bucket stabs to the bus bar with a single retaining device) should have conflicted with the basic maintenance practice of ensuring equipment is properly secured upon installation. Electrical Maintenance, FIN Electrical, and Electrical Modifications personnel and supervision were be briefed on the requirements of procedure use and adherence on October 16, 2012.

The second contributing cause is training. Training was identified to be inadequate in that the MCC Training and Qualification program does not address the possible consequences of inadequate installation of MCC buckets into a cubicle and the need to ensure the bucket is secured as designed. Qualification Standards EMQ001.088 and EMQ001.015 were revised to address the importance of adequately securing a MCC bucket in the cubicle.

Extent of Cause

The extent of cause review was limited to procedures for MCCs of 480V or less. Higher voltage electrical distribution panels have rack-out mechanisms rather than buckets to engage and disengage stabs to and from the associated bus bars. Other than EPI-0-000-MCC001, the only other procedure that is used to install MCCs of 480V or less is ECI-0-000-BKR008. At the time of the event ECI-0-000-BKR008 Revision 92 required installation of the breaker bucket with top and bottom retaining devices. On September 24, 2012, ECI-0-000-BKR-008 Revision 93 was approved for use. The updated procedure removed the "and" requirement to replace both the top and bottom retaining devices and replaces those steps with different language that is less definitive. This condition is addressed by the corrective actions to prevent recurrence.

Extent of Condition

The extent of condition covers other ITE Series 5600 MCCs and safety related 480V and smaller MCCs that were installed incorrectly. A sampling inspection of the 480V SGT

NARRATIVE

Board and Radwaste Board 3 was completed on September 21, 2012, to ensure that all breaker buckets in the ITE 5600 Series MCC cubicles are installed correctly. The only identified defect was on the 480V SGT Board. Breaker bucket 2F is currently installed with only the top-center retaining device present. The bottom-center retaining device was removed from this compartment to replace the original missing device from compartment 2A. Breaker bucket 2F is a spare compartment and this poses no safety significance for any plant system. A second sampling inspection was performed on safety related, 480V and smaller, MCC boards that contain other types of MCC buckets. This inspection was completed on November 10, 2012, and no deficiencies were identified.

V. ASSESSMENT OF SAFETY CONSEQUENCES

The function of the SGT System is to ensure that radioactive materials that leak from the primary containment into the secondary containment following a Design Basis Accident are filtered and adsorbed prior to exhausting to the environment. The SGT System consists of three redundant 50 percent capacity subsystems, each with its own dampers [DMP], charcoal filter [FLT] train, and controls. The SGT subsystems share common supply and exhaust ductwork [DUCT]. The function of the relative humidity heaters of the SGT trains is to protect the charcoal adsorber from moisture, which reduces the effectiveness of the charcoal adsorber. However, the BFN radiological dose analyses do not take credit for the SGT charcoal adsorbers. As a result, while SGT Train C was determined to be inoperable from September 12, 2011, to August 3, 2011, the ability of SGT Train C to perform its radioactive release control function as assumed in the BFN radiological dose analyses was maintained during this time period.

Therefore, the TVA concludes that the health and safety of the public were not affected by this event.

VI. CORRECTIVE ACTIONS - The corrective actions are being managed by TVA's corrective action program.

A. Immediate Corrective Actions

A spare retaining device was installed in the 2A MCC breaker bucket to replace the missing device.

B. Corrective Actions to Prevent Recurrence

Revised sections of EPI-0-000-MCC001 and ECI-0-000-BKR008 pertaining to ITE Series 5600 MCCs to correct identified deficiencies.

VII. ADDITIONAL INFORMATION

A. Failed Components

There were no failed components.

NARRATIVE

B. Previous Similar Events

A search of LERs for BFN, Units 1, 2, and 3, for approximately the past five years identified LER 50-259/2009-003, A Train Standby Gas Treatment System Inoperable Longer Than Allowed By The Technical Specifications. The corrective actions to prevent recurrence for LER 50-259/2009-003 include the following.

- Revision of plant procedures to include additional actions when a relative humidity heater alarm is received and to include verification of relative humidity heater capacity using an ammeter and volt meter.
- Performance of focused group meetings to reiterate the need to issue PERs when issues with TS equipment arise.
- Identification and replacement of other under current relays of the same vintage as the failed relative humidity heater relay.
- Establishment of preventive maintenance to perform thermography of SGT System relative humidity heater under current relays.

Previous corrective actions failed to prevent the current condition because the condition causing LER 50-259/2009-003 was due to a relay failure and the current condition is due to inadequate engagement of the breaker stab to the C phase of the electrical supply bus.

A search on similar conditions of PERs for BFN, Units 1, 2, and 3, for approximately the past five years identified PERs 62609, 155317, 174416, 174597, and 220860.

C. Additional Information

The corrective action documents for this report are PERs 590208 and 604350.

D. Safety System Functional Failure Consideration:

In accordance with NEI 99-02, this issue is not considered a safety system functional failure.

E. Scram With Complications Consideration:

This condition did not include a reactor scram.

VIII. COMMITMENTS

There are no commitments.