



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

May 30, 2014

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  
Renewed 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 50-259/2014-002-00**

The enclosed Licensee Event Report provides details of a Browns Ferry Nuclear Plant (BFN) condition where Diesel Generator A was inoperable for longer than allowed by Technical Specifications. The Tennessee Valley Authority (TVA) is submitting this report in accordance with 10 CFR 50.73(a)(2)(i)(B), as any operation or condition prohibited by Technical Specifications.

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

Respectfully,

K. J. Polson  
Site Vice President

Enclosure: Licensee Event Report 50-259/2014-002-00 – Diesel Generator  
Inoperable due to Fuel Oil Leak.

cc (w/ Enclosure):

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

IE22  
NRR

**ENCLOSURE**

**Browns Ferry Nuclear Plant  
Unit 1**

**Licensee Event Report 50-259/2014-002-00**

**Diesel Generator Inoperable due to Fuel Oil Leak**

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**See Enclosed**

<b>NRC FORM 366</b> <small>(01-2014)</small>		<b>U.S. NUCLEAR REGULATORY COMMISSION</b>			<b>APPROVED BY OMB NO. 3150-0104</b>		<b>EXPIRES 01/31/2017</b>												
<b>LICENSEE EVENT REPORT (LER)</b>										<small>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 and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollections.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.</small>									
1. FACILITY NAME Browns Ferry Nuclear Plant (BFN), Unit 1					2. DOCKET NUMBER 05000259			3. PAGE 1 of 11											
4. TITLE: Diesel Generator Inoperable due to Fuel Oil Leak																			
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								
03	31	2014	2014	002	00	05	30	2014	BFN, Unit 2		05000260								
									FACILITY NAME		DOCKET NUMBER								
									BFN, Unit 3		05000296								
9. OPERATING MODE  1			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)																
10. POWER LEVEL  100			<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)													
			<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)													
			<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)													
			<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)													
			<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)													
			<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)													
			<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)													
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER																
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<small>Specify in Abstract below or in NRC Form 366A</small>																
12. LICENSEE CONTACT FOR THIS LER																			
FACILITY NAME Eric Bates, Licensing Engineer								TELEPHONE NUMBER (Include Area Code) 256-614-7180											
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										
C	DC	PSF	E147	Y															
14. SUPPLEMENTAL REPORT EXPECTED						15. EXPECTED SUBMISSION DATE			MONTH	DAY	YEAR								
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO									N/A	N/A	N/A								
<small>ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)</small>																			
<p>On March 31, 2014, based on the report obtained from the Tennessee Valley Authority (TVA) Central Laboratory, a revision was made to a past operability evaluation that determined Diesel Generator A was inoperable from March 5, 2013 at 0505 central standard time (CST) until November 23, 2013 at 2004 CST, which was longer than allowed by Technical Specifications. The inoperability was a result of a fuel oil leak originating from a threaded pipe nipple.</p> <p>On November 23, 2013, common Diesel Generator (DG) A was operated for performance of its routine 24-hour surveillance test. The DG A was fully loaded at 1210 CST, and at 1430 CST, a fuel oil leak of approximately 100 drops per minute was discovered on the discharge line of the engine-driven fuel oil pump. The DG was secured and an inspection of the discharge line identified a circumferential thru-wall crack on the underside of the pipe nipple threaded into the pump discharge check valve. The leaking pipe nipple was removed and replaced. A section of the failed pipe nipple was sent to the TVA Central Laboratories Services for failure analysis who issued a report that identified the direct cause of the failure as low-stress/high-cycle fatigue.</p> <p>The root causes identified were that the existing configuration of the engine-driven fuel oil pump discharge piping on DG A does not provide sufficient margin to allow for minor variations in maintenance and that workers improperly reassembled the pipe union on DG A fuel oil piping while performing the 12-year inspection.</p>																			

**LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET**

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FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
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Browns Ferry Nuclear Plant, Unit 1	05000259	2014	- 002	- 00	2 of 11

**NARRATIVE**

**I. Plant Operating Conditions Before the Event**

On March 31, 2014, Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3, were in Mode 1 at approximately 100 percent power.

**II. Description of Events**

**A. Event:**

On March 13, 2013, BFN staff performed the 12-year inspection of the standby diesel generator (DG) [DG] engine for DG A. The DG A 12-year inspection / preventative maintenance (PM) was completed and DG A satisfactorily tested with no leaks. The 12-year inspection replaced many components, including the engine driven and motor driven fuel oil [DC] pumps [P]. This required disconnecting the discharge piping via the union directly upstream of the nipple [PSF] that failed.

During surveillance testing on April 18, 2013, the union that was disconnected and connected as part of the 12 year PM work was identified as leaking and correctly tightened. No other leaks were found in the fuel oil piping. Additionally, no maintenance was performed on the union between the performance of the 12-year PM in March 2013 and the April 2013 monthly surveillance that identified the leak.

The union was not tightened correctly during the 12-year inspection and at some point after the end of the PM work, the union loosened to the point that it began to vibrate. This resulted in amplified vibration along the piping creating additional stresses in the threads of the nipple.

On November 23, 2013, DG A was fully loaded for performance of the Diesel Generator 24 Hour Run. At 1430, a fuel oil leak of approximately 100 drops per minute (dpm) was discovered near the engine driven fuel oil pump. DG A was unloaded and secured. The pipe nipple was repaired and the elbow replaced and DG A satisfactorily completed its post-maintenance testing and was returned to service.

A portion of the pipe nipple was sent to the Tennessee Valley Authority (TVA) Central Laboratories Services (Central Labs) for analysis to determine the material composition for an appropriate replacement part as well as the failure mechanism. The pipe nipple material was determined to be 1/2 inch O.D. schedule 40 red brass. Central Labs also found two beach marks that indicate step changes in crack propagation which indicates a period of increased vibration that may be associated with amplified vibrations. TVA Central Labs identified the failed pipe nipple material as annealed "red brass" and the failure mechanism as low-stress / high-cycle fatigue.

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**NARRATIVE**

TVA initiated a Service Request which lead to Problem Evaluation Report (PER) 822199. PER 822199 generated a Root Cause Analysis (RCA) that included a corrective action to update the past operability evaluation (POE) based on the information contained in the RCA.

On March 31, 2014, the corrective action to update the POE was completed. The updated POE determined DG A was inoperable from March 5, 2013 at 0505 hours central standard time (CST) until November 23, 2013 at 2004 CST due to the fuel oil leak. DG A was repaired, tested, and declared Operable on November 25, 2013 at 1645.

**B. Status of structures, components, or systems that were inoperable at the start of the event and that contributed to the event:**

There were no structures, components, or systems that were inoperable at the start of the event that contributed to the event.

**C. Dates and approximate times of occurrences:**

Dates & Approximate Times	Occurrence
March 5, 2013	Engine driven and motor driven fuel oil pump replaced in accordance with 12-year inspection.
March 13, 2013	Completed WO 09-722300-000, Perform 12-Year Inspection of Standby DG Engine, Per MPI-0-082-INS005 for DG A. DG A returned to service.
April 18, 2013, at 1231 CDT	During Monthly testing of DG A fuel oil leaking from the discharge of the engine driven fuel oil pump.
November 23, 2013, at 1430 CST	A fuel oil leak of approximately 100 drops per minute (dpm) was discovered near the engine driven fuel pump.
November 23, 2013, at 2004 CST	DG A removed from service to repair fuel oil leak.

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**NARRATIVE**

**Dates & Approximate Times**

**Occurrence**

November 25, 2013

Pipe nipple is repaired and elbow is replaced. Post-maintenance test completed satisfactorily on DG A.

November 25, 2013, at 1645 CST

DG A returned to service and declared Operable.

December 16, 2013

Failed pipe nipple material identified as annealed "red brass", failure mechanism determined as low-stress / high-cycle fatigue.

January 10, 2014

POE 813007/822199 Revision 1 determined DG A inoperable due to the fuel oil leak from 11/23/2013 1430 CST until 11/23/2013 at 2004 CST.

January 31, 2014

RCA 822199 approved. Corrective Action initiated to update the POE based on information obtained during the RCA investigation.

March 31, 2014

POE 813007/822199 Revision 2 determined DG A inoperable due to the fuel oil leak from 03/05/2013 at 0505 CST until 11/23/2013 at 2004 CST. Total inoperability period from 3/5/2013 at 0505 CST, until 11/25/2013 at 1645 CST.

**D. Manufacturer and model number (or other identification) of each component that failed during the event:**

The nipple was Schedule 40, 1/2 inch red brass, brazed to the elbow on one end and threaded for the check valve on the other.

**E. Other systems or secondary functions affected:**

TVA is reviewing plant conditions to determine which, if any, other system or secondary functions are affected.

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**NARRATIVE**

BFN is a 3-Unit site with DGs shared between units. Due to the complexity of the shared systems, the length of time DG A was inoperable, and Units operating in multiple Modes during the DG A period of inoperability, TVA is performing a study to determine the combinations and impacts of structures, systems, or components (SSCs) that may have been inoperable during the same period DG A was inoperable. In accordance with NUREG 1022, Event Report Guidelines - 10 CFR 50.72 and 50.73, the results of this study will be reported in a revised LER "if it would significantly change the reader's perception of the course, significance, implications, or consequences of the event or if it results in substantial changes in the corrective action planned."

**F. Method of discovery of each component or system failure or procedural error:**

During routine testing of DG A fuel oil was discovered leaking from the discharge of the fuel oil engine driven pump discharge piping.

**G. The failure mode, mechanism, and effect of each failed component, if known:**

TVA Central Labs Report determined the failure occurred due to corrosion exacerbated, low-stress/high-cycle fatigue. Failure of the engine driven fuel oil pump discharge line may cause the loss of enough fuel oil to prevent the Diesel Generator from completing the required 7-day mission time. The POE conservatively assumed that DG A was inoperable due to a fuel oil leak from 3/05/2013 0505 CST to 11/23/2013 2004 CST because it is not known how quickly, or if, the fitting crack would have propagated to the point of preventing DG A from completing its 7-day mission time.

**H. Operator actions:**

At the time of discovery, no operator actions were required or performed for this condition. On November 23, 2013, when the fuel oil leak was discovered, DG A was manually shutdown.

**I. Automatically and manually initiated safety system responses:**

There were no automatic or manually initiated safety system responses associated with this condition.

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**III. Cause of the event**

**A. The cause of each component or system failure or personnel error, if known:**

Direct Cause

The direct cause of the piping nipple failure was low-stress/high-cycle fatigue.

Root Causes

1. The existing configuration of the engine-driven fuel oil pump discharge piping on DG A does not provide sufficient margin to allow for minor variations in maintenance.
2. Workers improperly reassembled pipe union on DG A fuel oil piping after the 12-year PM.

**B. The cause(s) and circumstances for each human performance related root cause:**

The union was tightened during the 12-year inspection using skill of the craft. The fact that the union subsequently leaked is indicative of a less than adequate work practice. Why the performance issue occurred could not be determined, the technician is no longer at BFN. No other similar performance issues were identified during similar DG maintenance activities.

**IV. Analysis of the event:**

The TVA is submitting this report in accordance with 10 CFR 50.73(a)(2)(i)(B), as any operation or condition prohibited by TS. The following TS were exceeded.

On March 31, 2014, the POE associated with DG A fuel oil leak was updated and determined that DG A had been inoperable due to a fuel oil leak from March 5, 2013 at 0505 CST until November 23, 2013 at 2004 CST.

BFN Units 1, 2, and 3 Technical Specifications (TS) contain Limiting Condition for Operation (LCO) DGs in LCO 3.8.1 AC Sources - Operating and LCO 3.8.2, "AC Sources - Shutdown." DG A is a Unit 1 and 2 DG. BFN Units 1 and 2 TS LCO 3.8.1.b requires that Unit 1 and 2 DGs with two divisions of 480 V load shed logic and common accident signal be operable in Modes 1, 2, and 3. BFN Unit 3 TS LCO 3.8.1.c requires Unit 1 and 2 DG(s) capable of supplying the Unit 1 and 2 4.16 kV shutdown board(s)



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required by BFN Unit 3 LCO 3.8.7, "Distribution System - Operating," to be operable in Modes 1, 2, and 3.

For Units 1 and 2 TS when a Unit 1 and 2 DG is inoperable in Modes 1, 2, or 3, LCO 3.8.1 Condition B, one required Unit 1 and 2 DG inoperable, is entered. Four other Conditions (F, G, H, and J) may be entered depending on other AC source's Operability. For Unit 3 TS when a Unit 1 and 2 DG is inoperable in Modes 1, 2, or 3, LCO 3.8.1, Condition K, one or more Unit 1 and 2 DGs inoperable, is entered.

For Units 1 and 2, LCO 3.8.1, Condition B contains five Required Actions with associated Completion Times ranging from one hour to 21 days. If the Required Actions and associated Completion Times are not met Condition I is entered requiring the Unit to be placed in Mode 3 within 12 hours and Mode 4 within 36 hours. Because DG A was inoperable for greater than 21 days and Units 1 and 2 were not placed in Mode 3 within 12 hours and Mode 4 within 36 hours, BFN Units 1 and 2 were in a condition prohibited by TS, reportable under 10 CFR 50.73.

For Unit 3, LCO 3.8.1, Condition K contains two Required Actions with associated Completion Times ranging from four hours to 30 days. After 30 days, Unit 3 TS requires declaring the affected Standby Gas Treatment (SGT) subsystem and Control Room Emergency Ventilation subsystem inoperable. Unit 3 TS 3.6.4.3, Standby Gas Treatment (SGT) System and TS 3.7.3, Control Room Emergency Ventilation (CREV) System allow one SGT subsystem and one CREV subsystem to be inoperable for seven days. If these inoperable subsystems are not restored within seven days these TS require the Unit be placed in Mode 3 within 12 hours and Mode 4 within 36 hours. Because DG A was inoperable for greater than 37 days and Unit 3 was not placed in Mode 3 within 12 hours and Mode 4 within 36 hours, BFN Unit 3 was in a condition prohibited by TS, reportable under 10 CFR 50.73.

In addition to the TSs discussed above the following TS applied but were not entered as required; TS 3.4.7, Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown; 3.5.1 ECCS – Operating; 3.7.1 Residual Heat Removal Service Water (RHRSW) System and Ultimate Heat Sink (UHS); and 3.7.2 Emergency Equipment Cooling Water (EECW) System and Ultimate Heat Sink (UHS).

BFN is a 3-Unit site with DGs shared between units. Due to the complexity of the shared systems, the length of time DG A was inoperable, and Units operating in multiple Modes during the DG A period of inoperability, TVA is performing a study to determine the combinations and impacts of structures, systems, or components (SSCs) that may have been inoperable during the same period DG A was inoperable. In accordance with NUREG 1022, Event Report Guidelines - 10 CFR 50.72 and 50.73, the results of this

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study will be reported in a revised LER "if it would significantly change the reader's perception of the course, significance, implications, or consequences of the event or if it results in substantial changes in the corrective action planned."

**V. Assessment of Safety Consequences**

To address the impact of these TS violations/inoperabilities, a Probabilistic Risk Assessment (PRA) was performed to determine the safety significance of the period of inoperability. The PRA assessment concluded that while the DG A was considered inoperable due to the fuel leak, it would have functioned as assumed in the PRA analysis; therefore, there is no impact to Core Damage Frequency or Large Early Release Frequency because of this condition.

**A. Availability of systems or components that could have performed the same function as the components and systems that failed during the event:**

DG A is associated with Division I equipment, as is DG B. DG C and DG D are associated with Division II equipment which is redundant to the Division I equipment. For the long term (greater than 10 minutes), three of the Unit 1 and 2 diesel generators, paralleled with the three respective Unit 3 diesel generators, shall be adequate to supply all required loads for the safe shutdown and cooldown of all three units in the event of loss of offsite power and a design basis accident in any one unit.

However, due to the length of time DG A was unknowingly inoperable, other components were rendered inoperable to perform maintenance, or may have been inoperable due to a failure.

BFN is a 3-Unit site with DGs shared between units. Due to the complexity of the shared systems, the length of time DG A was inoperable, and Units operating in multiple Modes during the DG A period of inoperability, TVA is performing a study to determine the combinations and impacts of structures, systems, or components (SSCs) that may have been inoperable during the same period DG A was inoperable. In accordance with NUREG 1022, Event Report Guidelines - 10 CFR 50.72 and 50.73, the results of this study will be reported in a revised LER "if it would significantly change the reader's perception of the course, significance, implications, or consequences of the event or if it results in substantial changes in the corrective action planned."

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**NARRATIVE**

**B. For events that occurred when the reactor was shut down, availability of systems or components needed to shutdown the reactor and maintain safe shutdown conditions, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident:**

During the period DG A was considered inoperable due to a fuel oil leak, March 5, 2013 at 0505 CST until November 23, 2013 at 2004 CST, Unit 3 was in operation. Unit 2 was shutdown from March 14, 2013 until May 4, 2013 while Unit 1 was shutdown from March 19, 2014 until March 28, 2013.

**C. For failure that rendered a train of a safety system inoperable, an estimate of the elapsed time from discovery of the failure until the train was returned to service:**

When this event was discovered, DG A was returned to service. However, the past operability evaluation determined DG A had been inoperable due to a fuel oil leak from March 5, 2013 at 0505 CST until November 23, 2013 at 2004 CST.

**VI. Corrective Actions**

Corrective Actions are being managed by TVA's corrective action program under PER 822199.

Immediate Corrective Actions

The Operable Unit 1 and 2 DGs were inspected to verify the integrity of the piping/tubing at the time of the event as required by TS 3.8.1 Condition B, Required Action B.4.

The affected piping was repaired and DG A was run for 24 hours and returned to service following the 24-hour run.

During performance of this common mode failure determination, the station inspected the other seven DGs for signs of leakage and visible cracking.

Interim Corrective Actions

Modify the 12-year diesel generator inspection procedure to ensure tightening of the union after reassembly.

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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 and Information Collections Branch (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.

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Corrective Actions to Prevent Recurrence or to Reduce Probability of Similar Events Occurring in the Future

Install a more robust design configuration on Unit 1 and 2 DGs in order to provide improved reliability, similar to Units 3's DGs.

**VII. Additional Information:**

**A. Previous similar events at the same plant:**

A search of PER Cause Evaluation fields using the search terms diesel and fatigue identified a total of 3 PERs which were reviewed for relevance to this failure. One previous similar event was identified.

On April 28, 2011, the DG C was shutdown for failure of a fitting that resulted in a leak in its governor oil system. The RCA determined that the design of the DG C governor oil piping did not compensate for changes in vibrational loading. As a result, the fitting that caused the leak ultimately failed due to fatigue from cyclic, vibrational loads transmitted from neighboring diesel equipment. The failure of the fitting in the governor oil system is similar to this failure in the fuel oil system in that both fittings ultimately failed due to fatigue from cyclic, vibrational loads. While both failures involved a problem with the piping design, Extent of Cause would not prevented this event given the nature of low stress/high cycle fatigue and the maintenance-induced flaw required for this event.

The April 28, 2011 event was reported as Licensee Event Report 50-259/2011-002-00, Loss of Safety Function (SDC) Resulting from Loss of Power from C EDG Due to Oil Leak, dated June 27, 2011. [ML11180A267]

**B. Additional Information:**

There is no additional information.

**C. Safety System Functional Failure Consideration:**

BFN is a 3-Unit site with DGs shared between units. Due to the complexity of the shared systems, the length of time DG A was inoperable, and Units operating in multiple Modes during the DG A period of inoperability, TVA is performing a study to determine the combinations and impacts of structures, systems, or components (SSCs) that may have been inoperable during the same period DG A was inoperable. In accordance with NUREG 1022, Event Report Guidelines - 10 CFR 50.72 and 50.73, the results of this study will be reported in a revised LER "if it would

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significantly change the reader's perception of the course, significance, implications, or consequences of the event or if it results in substantial changes in the corrective action planned."

**D. Scram with Complications Consideration:**

This event did not result in a reactor scram therefore, no unplanned scram with complications occurred.

**VIII. COMMITMENTS**

There are no commitments.