

**Virginia Electric and Power Company
North Anna Power Station
P. O. Box 402
Mineral, Virginia 23117**

November 23, 2011

Attention: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Serial No.: 11-585
NAPS: MPW
Docket Nos.: 50-339
License Nos.: NPF-7

Dear Sirs:

Pursuant to 10CFR50.73, Virginia Electric and Power Company hereby submit the following Licensee Event Report applicable to North Anna Power Station Unit 2.

Report No. 50-339/2011-001-00

This report has been reviewed by the Facility Safety Review Committee and will be forwarded to the Management Safety Review Committee for its review.

Sincerely,



N. Larry Lane
Site Vice President
North Anna Power Station

Enclosure

Commitments contained in this letter: None

cc: United States Nuclear Regulatory Commission
Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

NRC Senior Resident Inspector
North Anna Power Station

JEAD
NRC

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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 the 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.

1. FACILITY NAME North Anna Power Station , Unit 2	2. DOCKET NUMBER 05000 339	3. PAGE 1 OF 4
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4. TITLE
Inoperable Emergency Diesel Generator Due to Coolant 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	DOCUMENT NUMBER
09	28	2011	2011	-- 001 --	00	11	23	2011	FACILITY NAME	DOCUMENT NUMBER
										05000
										05000

9. OPERATING MODE 3	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
10. POWER LEVEL 0%	<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)(viii)(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 checked="" 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 checked="" 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 type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)						

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME F. Mladen, Director Station Safety and Licensing	TELEPHONE NUMBER (Include Area Code) (540) 894-2108
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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
D	EK	DG	F010	Y					

14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR

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

On August 23, 2011, at 1440 hours with Units 1 and 2 offline, as a result of the Central Virginia earthquake, the Unit 2 "H" (2H) emergency diesel generator (EDG) was manually tripped due to a coolant system leak forty-nine minutes after its demand start due to a loss of offsite power. A Root Cause Evaluation determined the 2H EDG could have developed a coolant leak during its next operation (i.e., post maintenance or periodic testing or a demand start). On September 28, 2011 a completed prior operability evaluation determined the 2H EDG gasket failure resulted in fault exposure unavailable hours totaling 337.6 hours. During the fault exposure unavailable hours, approximately fourteen days, the limiting action of TS 3.8.1.b was entered three times. Had a demand start of the 2H EDG occurred during any of these times the gasket failure could have occurred resulting in more than one inoperable EDG. This event is reportable pursuant to 10 CFR 50.73(a)(2)(v)(A), 50.73(a)(2)(v)(B), and 50.73(a)(2)(v)(D) for a condition that could have prevented fulfillment of the safety function of a system required to maintain the reactor in a safe shutdown condition, remove residual heat, and mitigate the consequences of an accident. The event posed no significant safety implications and the health and safety of the public were not affected by the event.

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CONTINUATION SHEET

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NARRATIVE

1.0 DESCRIPTION OF THE EVENT

On August 23, 2011, at 1440 hours with Units 1 and 2 offline in Mode 3, as a result of the Central Virginia earthquake, the Unit 2 "H" (2H) emergency diesel generator (EDG) (EIS Component DG, System EK) was manually tripped due to a coolant system leak (EIS System LB) forty-nine minutes after its demand start due to a loss of offsite power. The Unit 1 "H" and "J" EDGs and Unit 2 "J" EDG continued to operate. The alternate AC diesel generator (EIS Component DG) was aligned to feed the 2 "H" emergency bus (EIS Component BU, System EB). Following restoration of each of the Reserve Station Service Transformers (EIS Component XFMR, System EA) all emergency busses were powered from offsite power. The EDGs and the alternate AC diesel generator were shut down and returned to standby condition.

A Root Cause Evaluation (RCE) determined the 2H EDG could have developed a coolant leak during its next operation (i.e., post maintenance or periodic testing or a demand start). Subsequently an evaluation was performed to determine prior operability of the 2H EDG.

On September 28, 2011 a completed prior operability evaluation determined the 2H EDG gasket failure resulted in fault exposure totaling 337.6 unavailable hours. In order to determine the length of time the 2H EDG was considered inoperable, fault exposure hours were estimated in accordance with the Data Element Manual (DEM) INPO 04-004 section 4.3.3 "Fault Exposure hours".

On August 23, 2011, the 2H EDG was performing its design basis accident function up to the point of the gasket failure; therefore, based on guidance from the DEM, the gasket failure resulted in fault exposure totaling 337.6 unavailable hours.

During the fault exposure unavailable hours, approximately fourteen days, the limiting action of Technical Specification 3.8.1.b was entered on August 21, 2011 for the Unit 2 "J" EDG. Had a demand start of the 2H EDG occurred while the 2J EDG was out of service the gasket failure could have occurred resulting in more than one inoperable EDG. With two EDGs inoperable, the capability to maintain the reactor in a safe shutdown condition, remove residual heat, and mitigate the consequences of an accident could have been impaired during a loss of offsite power.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

This event posed no significant safety implications because normal and alternate AC diesel generator power was available during the dates in question. Also, there was no movement of recently irradiated fuel during the time frame.

Following the seismic event the Unit 1 "H" and "J" EDGs and Unit 2 "J" EDG continued to operate after the 2 H EDG was manually tripped. The alternate AC diesel generator was aligned to re-energize the 2 "H" emergency bus. Following restoration of each of the

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Reserve Station Service Transformers all emergency busses were powered from offsite power and the EDGs and the alternate AC diesel generator were shut down. As such, there were no safety consequences as a result of this event.

This event is reportable pursuant to 10 CFR 50.73(a)(2)(v)(A), 50.73(a)(2)(v)(B), and 50.73(a)(2)(v)(D) for a condition that could have prevented fulfillment of the safety function of a system required to maintain the reactor in a safe shutdown condition, remove residual heat, and mitigate the consequences of an accident.

3.0 CAUSE

The direct cause of manually tripping the 2H EDG was a failed gasket causing a coolant leak. The cause of the coolant leak was insufficient procedural guidance for gasket installation. Maintenance procedures did not provide adequate level of detailed instructions on proper installation of the gasket between the exhaust belt and the coolant inlet bypass fitting. Specifically, the procedures lacked guidance on adhesive cure time and details regarding how to tighten the adjusting fastener without impacting the gasket joint compression. The leak did not occur until 49 minutes after the engine started and loaded to the 2H emergency bus. Based on the aforementioned information, Engineering concluded the insufficient clamping force on the gasket in combination with engine vibration, thermal growth and water pressure caused the gasket to fail.

There was an error in the installation of the gasket, but it was installed sufficiently well that it was able to perform its function to contain the coolant water throughout the performance of fourteen (14) monthly surveillance tests, a maintenance break in run and at least two fast start tests over a time period of fourteen (14) months.

4.0 IMMEDIATE CORRECTIVE ACTION(S)

The 2H EDG was manually tripped to prevent further degradation. The alternate AC diesel generator was aligned to feed the 2 "H" emergency bus.

5.0 ADDITIONAL CORRECTIVE ACTIONS

The compensatory and short term corrective actions completed following the coolant leak on the 2H EDG include:

- An initial inspection of all exhaust belt triangle gaskets on all four diesels completed. This was performed using a borescope, due to the limited accessibility, to identify any mis-positioned or extruded gaskets. An additional gasket was identified on 2H EDG and one on 2J EDG. The gaskets were removed, inspected, and determined to be in good condition. The gaskets were replaced and the removed gaskets were sent to the Materials Lab for analysis.

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- Revisions to the applicable procedures provided improved instructions to ensure proper installation.

6.0 ACTIONS TO PREVENT RECURRENCE

Actions to prevent recurrence from the RCE are being tracked in the Central Reporting System to completion.

7.0 SIMILAR EVENTS

LER N2-2004-001-00, Inoperable Unit 2 Emergency Diesel Generators, dated June 29, 2004. The 2H EDG was out of service for scheduled maintenance. A deviating condition was identified which was determined to also be applicable to the 2J EDG. As such the 2J EDG was declared inoperable.

8.0 ADDITIONAL INFORMATION

Description: 02-EE-EG-2H, 2H Emergency Diesel Generator
 Manufacturer: Fairbanks Morse
 Model No.: 38TD8-1/8