

**Virginia Electric and Power Company
North Anna Power Station
1022 Haley Drive
Mineral, Virginia 23117**

May 9, 2018,

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

Serial No.: 18-157
NAPS: RAP
Docket Nos.: 50-338
License Nos.: NPF-4

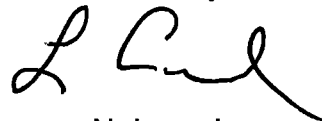
Dear Sirs:

Pursuant to 10CFR50.73, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Power Station Unit 1.

Report No. 50-338/2018-001-00

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

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NRR



LICENSEE EVENT REPORT (LER)
(See Page 2 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 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.

1. FACILITY NAME North Anna Power Station, Unit 1	2. DOCKET NUMBER 05000338	3. PAGE 1 OF 3
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4. TITLE
1-SW-P-1B Failed to Trip During the 1J Blackout Test

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	11	2018	2018	001	00	05	09	2018	FACILITY NAME	DOCKET NUMBER
										05000
										05000

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

5	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
10. POWER LEVEL 0	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
	<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)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
	<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)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A	

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT Larry Lane, Site Vice President	TELEPHONE NUMBER (Include Area Code) (540) 894-2101
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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
A	BI	WEL		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 March 11, 2018, with Unit 1 at 0 percent power in mode 5 and Unit 2 at 100 percent power in mode 1, the Unit 1 "B" Service Water (SW) Pump failed to trip during 1J Emergency Bus blackout testing. The pump did not load shed and sequence back on the bus, as expected, but remained energized by the emergency bus during the auto start of the 1J Emergency Diesel Generator (EDG). This condition was the result of a disconnected wire on sequence timing relay 1-SW-62-1SWEB03 which in turn caused the relay to be inoperable. Investigation of why the wire was disconnected identified the most likely cause to be inadvertent manipulation of the wire during the implementation of an unrelated design change the previous refueling outage. With the inoperable sequence timing relay, this rendered the 1J EDG inoperable, though it was capable to perform its design function. In addition, redundant equipment was removed from service, including the 1H EDG for reasons other than normal testing, over the time period the 1J EDG was inoperable. This is a condition prohibited by Technical Specifications and is reportable in accordance with 10 CFR 50.72(a)(2)(i)(B). The health and safety of the public were not affected by this event.

NRC FORM 366A
(11-2015)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 10/31/2018


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

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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
North Anna power Station, Unit 1	05000338	2018	- 001	- 00

NARRATIVE
1.0 DESCRIPTION OF THE EVENT

On 3/11/2018 while performing 1-PT-83.2, "Simulated Loss of Offsite Power (LOOP) and ESF Actuation" testing, it was determined that the Unit 1 "B" Service Water pump (EIS System – BI, Component – P), 1-SW-P-1B, did not load shed and sequence back on the bus, but remained energized by the 1J emergency bus (EIS System – EA) during auto start of the 1J Emergency Diesel Generator (EDG) (EIS System – EK, Component – DG). Investigation identified a disconnected wire from contact C1 on timer relay 1-SW-62-1SWEB03 and the disconnected wire resulted in a "Required sequence timing relay" being inoperable per Technical Specification (TS) Surveillance Requirement (SR) 3.8.1.16. This also rendered the 1J EDG inoperable though it was still capable of performing its design function. In addition, redundant equipment was removed from service over the time period the 1J EDG was inoperable, including the 1H EDG for reasons other than normal testing. This is a condition prohibited by Technical Specifications and is reportable in accordance with 10 CFR 50.72(a)(2)(i)(B).

Additionally, the "B" Boric Acid Storage Tank (BAST) (EIS System – CB, Component – TK) heater (EIS System – CB, Component – EHTR), 1-CH-EHR-07B, did not load shed during the test. The associated 42X relay was pulled in and was bound. The BAST heater is not part of the acceptance criteria for 1-PT-83.2.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

No significant safety consequences resulted from this event because an Engineering evaluation revealed that the additional loads of 1-SW-P-1B and 1-CH-EHR-07B did not challenge established limits of the 1J EDG and therefore, the design basis was not exceeded. The health and safety of the public were not affected by this event.

3.0 CAUSE

The direct cause of 1-SW-P-1B not stripping off and then properly sequencing onto the bus was the disconnected wire from contact C1 on 1-SW-62-1SWEB03. The direct cause for 1-CH-EHR-07B from not stripping off the bus was 42X relay being bound.

The apparent cause for the disconnected wire was inadvertent manipulation of the wire during maintenance activities associated with a design change the week of 9/18/2016.

NRC FORM 366A
(11-2015)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)
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4.0 IMMEDIATE CORRECTIVE ACTION(S)

The wire was reconnected and the test was completed satisfactorily on 3/12/2018. The 42X relay for 1-CH-EHR-07B was replaced under work order #59203139375 and tested satisfactorily.

5.0 ADDITIONAL CORRECTIVE ACTIONS

The individuals involved with the design change maintenance activities that occurred the week of 9/18/2016 were provided coaching to be aware of their surroundings to ensure inadvertent manipulations do not occur. Extent of condition walk downs and inspections were conducted for each load sequencing relay for Unit 1 and Unit 2. These inspections were performed based on past NGV modifications performed by NSS and relay sequencing timer inspections performed by station electricians. No abnormal or unexpected conditions were identified during the performance of the walk downs and inspections

6.0 ACTIONS TO PREVENT RECURRENCE

The Nuclear Site Services procedure GMP-E-139, Internal Wiring Package, and Engineering procedure 0-GEP-52, Conduct of Post-Modification Testing, will be modified to ensure a close out inspection is performed, inspecting for any potential inadvertent manipulation of equipment or wiring in the surrounding work area. Additionally, the Nuclear Maintenance Manager will monitor Configuration Control Fundamentals under the existing Maintenance Improvement Plan for a period of no less than 6 months and initiate any additional actions needed for performance improvement.

7.0 SIMILAR EVENTS

No similar events have occurred at North Anna.

8.0 MANUFACTURER/MODEL NUMBER

N/A

9.0 ADDITIONAL INFORMATION

Unit 2 continued operating at 100 percent power, mode 1, during this event.