

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

January 7, 2004

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

Serial No.: 03-624
NAPS: JHL
Docket Nos.: 50-338, 339
License Nos.: NPF-4, 7

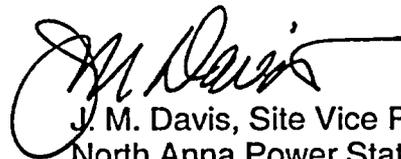
Dear Sirs:

Pursuant to 10CFR50.73, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Power Station Units 1 and 2.

Report No. 50-338, 339/2003-005-00

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

Very truly yours,



J. M. Davis, Site Vice President
North Anna Power Station

Enclosure

Commitments contained in this letter: None

cc: United States Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, Georgia 30303-8931

Mr. M. T. Widmann
NRC Senior Resident Inspector
North Anna Power Station

IE22

LICENSEE EVENT REPORT (LER)

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

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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 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.

FACILITY NAME (1) NORTH ANNA POWER STATION , UNIT 1	DOCKET NUMBER (2) 05000 - 338	PAGE (3) 1 OF 5
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TITLE (4)
Inoperable Hydrogen Recombiner Due to Inadequate Work Practices

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 NAME	DOCUMENT NUMBER
11	10	2003	2003	-- 002 --	00	01	07	2004	North Anna Power Station, Unit 2	05000-339

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)									
POWER LEVEL (10) 100 %	<input type="checkbox"/>	20.2201(b)	<input type="checkbox"/>	20.2203(a)(3)(ii)	<input type="checkbox"/>	50.73(a)(2)(ii)(B)	<input type="checkbox"/>	50.73(a)(2)(ix)(A)		
	<input type="checkbox"/>	20.2201(d)	<input type="checkbox"/>	20.2203(a)(4)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(x)		
	<input type="checkbox"/>	20.2203(a)(1)	<input type="checkbox"/>	50.36(c)(1)(i)(A)	<input type="checkbox"/>	50.73(a)(2)(iv)(A)	<input type="checkbox"/>	73.71(a)(4)		
	<input type="checkbox"/>	20.2203(a)(2)(i)	<input type="checkbox"/>	50.36(c)(1)(ii)(A)	<input type="checkbox"/>	50.73(a)(2)(v)(A)	<input type="checkbox"/>	73.71(a)(5)		
	<input type="checkbox"/>	20.2203(a)(2)(ii)	<input type="checkbox"/>	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(v)(B)	<input type="checkbox"/>	OTHER		
	<input type="checkbox"/>	20.2203(a)(2)(iii)	<input type="checkbox"/>	50.46(a)(3)(ii)	<input type="checkbox"/>	50.73(a)(2)(v)(C)	<input type="checkbox"/>	Specify in Abstract below or in NRC Form 366A		
	<input type="checkbox"/>	20.2203(a)(2)(iv)	<input type="checkbox"/>	50.73(a)(2)(i)(A)	<input type="checkbox"/>	50.73(a)(2)(v)(D)				
	<input type="checkbox"/>	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)(B)	<input type="checkbox"/>	50.73(a)(2)(vii)				
<input type="checkbox"/>	20.2203(a)(2)(vi)	<input type="checkbox"/>	50.73(a)(2)(i)(C)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)					
<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)(B)					

LICENSEE CONTACT FOR THIS LER (12)

NAME J. M. Davis, Site Vice President	TELEPHONE NUMBER (Include Area Code) (540) 894-2101
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On November 10, 2003, at 1030 hours, with Units 1 and 2 operating at 100 percent power, testing of the Unit 2 hydrogen recombinder was being conducted. During testing, the hydrogen recombinder tripped from a low flow condition while attempting to place it in service. An investigation determined that the high and low side isolation valves for the instrument lines to the hydrogen recombinder flow transmitter were closed when they should have been open. This condition existed for greater than the 30-day completion time permitted by Technical Specification 3.6.9. Therefore, this event is reportable pursuant to 10 CFR 50.73 (a)(2)(i)(B) for a condition prohibited by Technical Specifications. The cause of the isolation valves being closed was determined to be inadequate work practices. The isolation valves were subsequently opened and the hydrogen recombinder was successfully started. Testing was satisfactorily completed. This event posed no significant safety implications because no conditions requiring the use of the hydrogen recombinder were experienced during the time the hydrogen recombinder was inoperable. Therefore, the health and safety of the public were not affected by this event.

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NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

1.0 DESCRIPTION OF THE EVENT

On November 10, 2003, at approximately 1030 hours, with Units 1 and 2 operating at 100 percent power, testing of the hydrogen recombiner, 2-HC-HC-1 (EIS System BB, Component RCB) was being conducted in accordance with periodic test 0-PT-213.37, Hydrogen Recombiner 2-HC-HC-1 Flow Test. Within 60 seconds of the start of the test, the hydrogen recombiner tripped due to a low flow condition. Operations verified the valve line up (as listed in 0-PT-213.37) and a second attempt to start 2-HC-HC-1 was made with the same result; the hydrogen recombiner tripped after a brief period (approximately 60 seconds). The control circuit logic is such that the hydrogen recombiner will trip after 60 seconds of low flow. During this second attempt, Operations verified hydrogen recombiner flow indication never moved from zero.

While investigating why 2-HC-HC-1 was not indicating flow, Operations determined that the high and low side isolation valves 2-HC-94 and 2-HC-95 (EIS Component ISV) were closed. The closure of these two valves prevented the hydrogen recombiner flow transmitter, 2-HC-FT-200 (EIS Component FT), from sensing flow through the hydrogen recombiner. This caused the hydrogen recombiner to trip from an indicated low flow condition.

Operations reviewed procedure 0-OP-63A, Valve Checkoff-Containment Atmosphere Cleanup and drawing 11715-FM-106A-Sheet 4 and determined valves 2-HC-94 and 2-HC-95 were required to be open. Operations opened valves 2-HC-94 and 2-HC-95 and the hydrogen recombiner was placed in service. Periodic test 0-PT-213.37 was completed satisfactorily at 1746 hours.

A subsequent review determined, through the use of computer narrative logs, tagging records for the Containment Atmospheric Clean-up System (HC), and work history, that the last verifiable time that valves 2-HC-94 and 2-HC-95 were open was August 21, 2003 (during the previous performance of 0-PT-213.37). With this established timeline, all events (maintenance, testing, Operations actions, etc.) for both Unit 1 and 2 hydrogen recombiners (so as to eliminate unit transposition errors) were developed. Each event was reviewed and technical information used to eliminate the event as a possible cause for the valve misposition. It was determined that the most likely event that mispositioned valves 2-HC-94 and 2-HC-95 was the performance of 0-PT-213.37 on August 21, 2003.

Technical Specification 3.6.9 requires two operable hydrogen recombiners. An inoperable hydrogen recombiner must be restored to operable within 30 days or the affected Unit must be in Mode 3 within 6 hours. The valve misposition existed for greater than the 30-day completion time. As described above, Operations opened valves 2-HC-94 and 2-HC-95 and the hydrogen recombiner was placed in service. Testing was completed satisfactorily. This event is reportable pursuant to 10 CFR 50.73 (a)(2)(i)(B) for a condition prohibited by Technical Specifications.

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In addition, there were two occasions when the Unit 1 hydrogen recombiner was inoperable while undergoing maintenance or testing during the time the Unit 2 hydrogen recombiner was inoperable. The Unit 1 hydrogen recombiner was returned to operable within a short timeframe. The 7-day Technical Specification allowed outage time was not exceeded during the time there were two inoperable hydrogen recombiners.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

The Containment Atmosphere Cleanup System and its components are common to both reactor units. The two skid-mounted hydrogen recombiners are connected to the reactor containments, and the system is designed to allow either hydrogen recombiner to be operational on either containment structure to maintain the hydrogen concentration below four volume percent following a design basis accident (DBA). To ensure operability of the hydrogen recombiner system in the event of a single failure of any component, the system is arranged in two redundant trains. Each hydrogen recombiner is capable of being powered from either unit's emergency buses.

This event posed no significant safety implications because no conditions requiring the use of the hydrogen recombiner were experienced during the time the hydrogen recombiner was inoperable. In the event of a DBA where control of the Unit 2 containment hydrogen concentration was required, the Unit 1 hydrogen recombiner could have been aligned to the Unit 2 containment or the Unit 2 containment could have been vented to the process vent system (EISS System WE). Therefore, the health and safety of the public were not affected by this event.

3.0 CAUSE

A root cause evaluation of the event was performed. The cause of the valve misposition was inadequate work practices, in that, documents were not followed correctly.

0-PT-213.37 requires I&C technicians install test equipment (in parallel with a permanently installed flow transmitter 2-HC-FT-200) to support the test. The steps to install/remove the test equipment do not state that 2-HC-94 and 95 are to be manipulated. Since the system is isolated, manipulation of these valves is not required to install test equipment. The I&C technicians involved do not recall operating these valves for this evolution. The expectation is that I&C only operate instrument valves when the procedure specifically states to operate the valve. The technicians may have had a mindset to close these valves because:

- The calibration procedure (ICP-HC-2-HC-1) for the installed flow transmitter (2-HC-FT-200) has steps to shut/open the isolation valves (2-HC-94 and 95).
- When performing instrument calibration maintenance on any instrument, isolation of the instrument is essential to ensure correct calibration.

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A contributing cause of the event was managerial methods due to policies not being adequately defined. Virginia Power Administrative Procedure (VPAP) 1401, Conduct of Operations states that instrument valves may be operated by qualified instrument technicians but does not provide any specific guidance. The expectation is that valves will only be operated by I&C technicians in accordance with an approved procedure. However, there is no written guidelines or a department administrative procedure that defines valve operation. I&C may be most vulnerable when supporting other departments. I&C procedures are written such that the instrument is removed and returned to service including verifications. However, when working in support of other departments, the procedure being used by the I&C technicians may not include this level of instruction which may place the technician into a knowledge based situation to determine what is allowed.

4.0 IMMEDIATE CORRECTIVE ACTION(S)

Operations personnel reviewed procedure 0-OP-63A, Valve Checkoff-Containment Atmosphere Cleanup and drawing 11715-FM-106A-Sheet 4 and determined valves 2-HC-94 and 2-HC-95 were required to be open. Operations opened valves 2-HC-94 and 2-HC-95 and the hydrogen recombiner was placed in service. Periodic test 0-PT-213.37 was completed satisfactorily at 1746 hours.

5.0 ADDITIONAL CORRECTIVE ACTIONS

A root cause evaluation was performed. The following corrective actions from the root cause evaluation were implemented.

Operations verified that 1-HC-89 and 1-HC-90 (low side and high side isolation valves, for 1-HC-FE-100, Unit 1 Hydrogen Recombiner) were open.

Immediate temporary administrative controls for I&C technicians operating instrument valves were implemented.

6.0 ACTIONS TO PREVENT RECURRENCE

Management approved corrective actions to address the root cause of the event are being tracked in the Corrective Action System and are described below.

Review the I&C development program to ensure recently developed departmental administrative guidance for I&C technicians operating instrument valves is incorporated. Revise lesson plans as appropriate.

Develop (or add to existing) scenario training that re-enforces recently developed departmental administrative guidance for I&C technicians operating instrument valves.

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NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

Develop departmental administrative guidance for I&C technicians operating instrument valves. Guideline shall address procedure usage, required documentation, and verification. Communicate this guideline to all I&C personnel.

Additional corrective actions beyond the root cause of the event are also being tracked in the Corrective Action System.

7.0 SIMILAR EVENTS

LER 50-339/95-003-00 dated November 29, 1995 documents a valve misposition event that rendered the containment personnel air lock outer door inoperable.

8.0 ADDITIONAL INFORMATION

None