

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

CONTROL BLOCK:

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 (1)

0 1 V A N A S 1 2 0 0 - 0 0 0 0 0 - 0 0 3 4 1 1 1 1 4 5
7 8 9 LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58

CON'T

REPORT
SOURCE

0 1 REPORT SOURCE L 6 0 5 0 0 0 3 3 8 7 1 1 0 6 7 9 8 1 2 1 0 7 9 9
7 8 60 61 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | During a review of system operation, it was discovered that design deficiencies could

0 3 | result in ESF equipment operating less conservatively than assumed in the FSAR.

0 4 | Specifically: systems returning to non-safety mode following reset of ESF; and time

0 5 | delay start systems not going to completion following reset of ESF. SV, HV, RS and SW

0 6 | systems are affected. The safety of the public was not affected. Reportable pursuant

0 7 | to T.S. 6.9.1.8.i.

08 7 8 9 8

SYSTEM CODE S H 11		CAUSE CODE B 12		CAUSE SUBCODE A 13		COMP. SUBCODE Z 14		VALVE SUBCODE Z 15	
EVENT YEAR 7 9 21 22		SEQUENTIAL REPORT NO. 1 4 1 24 25 26 27		OCCURRENCE CODE 0 1 28 29		REPORT TYPE X 30		REVISION NO. 1 32	
ACTION TAKEN X 18		FUTURE ACTION F 19		EFFECT ON PLANT Z 20		SHUTDOWN METHOD Z 21		HOURS 0 0 0 0 22 37 38 39 40	
ATTACHMENT SUBMITTED Y 23		NPRD-4 FORM SUB. N 24		PRIME COMP. SUPPLIER Z 25		COMPONENT MANUFACTURER Z 9 9 9 9 26 44 45 46 47			

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 The exact cause for the nonconservative operation of these ESF Systems is unknown at

1 1 this time, however, a design deficiency by the architect engineer is suspected. The

2 2 problem is being evaluated to determine the corrective actions required.

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1 4 _____ 8

7 8 9
FACILITY STATUS (28) H
% POWER 0 0 0 (29) NA OTHER STATUS (30)
METHOD OF DISCOVERY (31) A DISCOVERY DESCRIPTION (32) Review of System Operation

ACTIVITY CONTENT
RELEASED OF RELEASE AMOUNT OF ACTIVITY (35)
1 6 2 33 2 34 NA
3 8 9 10 11 44

LOCATION OF RELEASE (36)
NA
45 80

PERSONNEL EXPOSURES									
NUMBER			TYPE	DESCRIPTION					
1	7	0	0	0	(37)	Z	(38)	NA	(39)

PERSONNEL INJURIES										
NUMBER			DESCRIPTION							
1	8	0	0	0	40	NA				

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LOSS OF OR DAMAGE TO FACILITY					
TYPE		DESCRIPTION			
1	9	Z	(42)	NA	
7	8	9	10		

7912120 311

NDC USE ONLY

7 8 9 10 68 69 80

PUBLICATION ISSUED DESCRIPTION NA NA

2 0 44 45

NRC USE ONLY

PHONE: ~~703 894 5151~~

Updated Report

Virginia Electric and Power Company
North Anna Power Station #1
Docket No. 50-338
Report No. LER 79-141/01X-1

Attachment: Page 1 of 2

Description of Event

On November 6, 1979, during a review of system operation following a review of system performance during a recent unit trip and subsequent safety injection, it was discovered that the control room air-operated dampers which isolate the control room from outside air on an SI signal return to their non-safety mode when the SI signal is reset. This is contrary to FSAR comment 7.4 which states that two actions are required to return ESF equipment to a non-safety mode. Specifically, it is accomplished by resetting the appropriate actuation signal and subsequently operating the control switch for the device.

A review was immediately initiated to determine if any other deficiencies existed.

The following is a list of potential design deficiencies that were discovered.

The following systems return to their non-safety mode following reset of an ESF signal:

Control Room Habitability System (HV)

Supply Air Damper AOD-HV-160-1

Exhaust Air Damper AOD-HV-161-1

Dampers reopen after the SI signal is reset.

Safeguards Area Ventilation System (HV)

Exhaust Air Dampers AOD-HV-128-1,2,-3,-4

Filter Bank Dampers AOD-HV-107A-1,A-2,A-3,A-4,B-1,B-2,B-3,B-4

Dampers re-position to bypass filters after Containment Depressurization Actuation (CDA) signal is reset.

Containment Ventilation System (HV)

Containment Recirculation Cooler Fan, 1-HV-F-1A,-B

Control Rod Drive Cooling Fan, 1-HV-F-37A,B,C,D,E,F

Fans restart after CDA signal is reset.

Service Water System (SW)

Supply to Air Cooling Coils, MOV-SW-110A,B,-114A,B

Supply to Air Cooling Coils, TV-SW-101A,B

Valves reopen to provide service water to the containment air coolers after CDA signal is reset. This occurs only when the control switch for cooling had previously been placed in the service water position. Normal cooling of the recirculation air coolers is with chilled water.

1541 327

Secondary Vents System (SV)

Air Ejector Air Discharge Valve TV-SV102-1

Air Ejector Air Discharge Valve TV-SV103

With a Hi-Hi radiation signal present, valves reopen to divert air to the containment after Phase A Containment Isolation signal is reset.

The following systems do not go to completion if the CDA signal is reset prior to expiration of the starting time delay relay:

Recirculation Spray System (RS)

Outside Recirculation Spray Pump, 1-RS-P-2A,B

Inside Recirculation Spray Pump, 1-RS-P-1A,B

Service Water System (SW)

RS Heat Exchanger Radiation Monitoring Sample Pumps, 1-SW-P-5,6,7,8

Probable Consequences of Occurrence

The reset capability of ESF signals is required to permit action in the post accident period. With the present design, the protective actions of the affected systems could be prevented or cancelled once the associated actuation signal is reset which is in noncompliance with IEEE Standards. The health and safety of the general public were not affected by this event. Unit 2 systems have the same reset design and are similarly affected.

Cause of Occurrence

The cause of these discrepancies is not known at this time. However, it appears that they may have resulted from a possible design deficiency by Stone and Webster.

Immediate Corrective Action

The problem is being evaluated by Engineering Services to determine what corrective actions are required.

Scheduled Corrective Action

The reset circuitry for the affected ESF equipment will be modified or redesigned, as required.

Actions Taken to Prevent Recurrence

No further actions are required.