

## LICENSEE EVENT REPORT

CONTROL BLOCK / / / / / / (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

/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)  
LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT

/0/1/ REPORT /L/ (6) /0/5/0/0/0/3/3/8/ (7) /0/9/2/8/8/3/ (8) /1/0/2/6/8/3/ (9)  
SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

/0/2/ / On September 28, 1983, with Unit 1 in Mode 3, "B" Steam Generator Main Steam Trip/  
/0/3/ / Valve (TV-MS-101B) required greater than 2 minutes to close when actuated from /  
/0/4/ / the Control Room. The closure delay of this valve during a main steam line break/  
/0/5/ / downstream of the valve would have caused a cooldown of the primary in excess of /  
/0/6/ / expected but within the Safety Analysis Report values for a main steam line break/  
/0/7/ / therefore the health and safety of the public were not affected. This event is /  
/0/8/ / contrary to T.S. 3.7.1.5 and reportable pursuant to T.S. 6.9.1.9.b. /

SYSTEM CAUSE CAUSE COMP. VALVE  
CODE CODE SUBCODE COMPONENT CODE SUBCODE SUBCODE

/0/9/ /C/D/ (11) /E/ (12) /D/ (13) /V/A/L/V/E/X/ (14) /C/ (15) /Q/ (16)  
SEQUENTIAL OCCURRENCE REPORT REVISION  
LER/RO EVENT YEAR REPORT NO. CODE TYPE NO.

(17) REPORT  
NUMBER /8/3/ /-/ /0/6/4/ /-/ /0/3/ /L/ /-/ /0/

ACTION FUTURE EFFECT SHUTDOWN ATTACHMENT NPSD-4 PRIME COMP. COMPONENT  
TAKEN ACTION ON PLANT METHOD HOURS SUBMITTED FORM SUB. SUPPLIER MANUFACTURER

/B/ (18) /G/ (19) /Z/ (20) /Z/ (21) /0/0/0/0/ (22) /Y/ (23) /Y/ (24) /A/ (25) /W/1/1/9/ (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

/1/0/ / The event was caused by an accumulation of corrosion at a check valve which /  
/1/1/ / allows venting of the pilot operated solenoid valve which controls TV-MS-101B. /  
/1/2/ / The check valve was inspected and cleaned. Procedures will be revised to inspect /  
/1/3/ / similar valves on a refueling outage basis. /  
/1/4/ /

FACILITY METHOD OF  
STATUS %POWER OTHER STATUS DISCOVERY DISCOVERY DESCRIPTION (32)  
/1/5/ /G/ (28) /0/0/0/ (29) / NA / (30) /A/ (31) / Operator Observation /

ACTIVITY CONTENT  
RELEASED OF RELEASE AMOUNT OF ACTIVITY (35) LOCATION OF RELEASE (36)  
/1/6/ /Z/ (33) /Z/ (34) / NA / / NA /

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

PERSONNEL INJURIES  
NUMBER DESCRIPTION (41)  
/1/8/ /0/0/0/ (40) / NA /

LOSS OF OR DAMAGE TO FACILITY (43)  
TYPE DESCRIPTION  
/1/9/ /Z/ (42) / NA /

PUBLICITY  
ISSUED DESCRIPTION (45) NRC USE ONLY  
/2/0/ /N/ (44) / NA / / / / / / / / / / / / /

NAME OF PREPARER E. Wayne Harrell

PHONE (703) 894-5151

8311040064 831026  
PDR ADOCK 05000338  
S PDR

#### Description of Event

On September 28, 1983, with Unit 1 in Mode 3, Steam Generator "B" Main Steam Trip Valve, (TV-MS-101B) required greater than 2 minutes to close when actuated from the Control Room. T.S. 3.7.1.5 requires the main steam trip valves to close in less than 5 seconds. This event is reportable pursuant to T.S. 6.9.1.9.b.

#### Probable Consequences of Occurrence

Main Steam Trip Valves (MSTV's) are incorporated into the design of North Anna Power Station to prevent excessive cooldown of the Reactor Coolant System in the event of a main steam line break downstream of the valves. The greater than 2 minute time delay in closing would have allowed a partial blowdown of the affected steam generator. In the event of a main steam line break, steam flow forces would accelerate MSTV closure. Complete venting of the air line would not be required during high steam line flow since the closing forces applied by the steam flow would cause opening air pressure to be relieved thru rupture disc of the control cylinders. Since North Anna has been analyzed for the complete blowdown of one of three steam generators in the Safety Analysis Report the health and safety of the public were not affected.

#### Cause of Event

TV-MS-101B, an air to open valve, uses two series ASCO pilot operated solenoid valves to control supply air to the valve. Parallel to the solenoid valve closest to the control cylinder for TV-MS-101B is a check valve the purpose of which is to allow back flow past the first solenoid valve so that either solenoid valve will be capable of venting off air and closing TV-MS-101B. Subsequent to the event TV-MS-101B was stroke tested using each of the solenoid valves. It was found that TV-MS-101B closed in less than 5 seconds using the first solenoid valve but greater than 5 seconds when the upstream solenoid valve was used. From this information it was determined that the check valve parallel to the first solenoid had jammed in the partially closed position due to corrosion products. The check valve failure was also the cause of the initial incident. When both solenoid valves were actuated simultaneously the supply port pressure of the solenoid valve closest to the control cylinder was vented. The supply port pressure is required on this type of valve to open the valve to the vent position. Had the check valve operated properly, supply port pressure would have been available to the first solenoid valve.

#### Immediate Corrective Action

The immediate corrective action was to clean the failed check valve. Similar check valves in the supply air lines of the remaining steam trip valves were inspected and cleaned during the October 1983 maintenance outage.

Scheduled Corrective Action

Similar check valves in the supply air lines of the Unit 2 steam trip valves will be inspected and cleaned during the next maintenance outage.

Action Taken To Prevent Recurrence

Failed check valve and similarly located check valves on the main steam trip valves will be inspected and cleaned on a refueling outage basis.

Generic Implications

North Anna Power Station uses check valves on all main steam trip valves Units 1 and 2.

# Vepco

VIRGINIA ELECTRIC AND POWER COMPANY

83 NOV 2 4 10:40  
NORTH ANNA POWER STATION

P. O. BOX 402

MINERAL, VIRGINIA 23117

October 26, 1983

Mr. James P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 2900  
Atlanta, Georgia 30303

Serial No. N-83-143  
NO/CLF: dus  
Docket No. 50-338  
License No. NPF-4

Dear Mr. O'Reilly:

Pursuant to North Anna Power Station Technical Specifications, the Virginia Electric and Power Company hereby submits the following License Event Report applicable to North Anna Unit No. 1.

Report No.

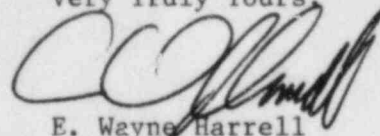
Applicable Technical Specifications

LER 83-064/03L-0

T.S. 6.9.1.9.b

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to Safety Evaluation and Control for their review.

Very Truly Yours,

  
E. Wayne Harrell  
Station Manager

Enclosures (3 copies)

cc: Document Control Desk (1 copy)  
016 Phillips Bldg.  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

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