

U.S. NUCLEAR REGULATORY COMMISSION
LICENSEE EVENT REPORT

CONTROL BLOCK / / / / / / / (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)									
/0/1/	/V/A/N/A/S/2/ (2)	/0/0/-/0/0/0/0/0/-/0/0/ (3)			/4/1/1/1/1 (4)		/ / / (5)		
	LICENSEE CODE	LICENSE NUMBER			LICENSE TYPE		CAI		
/0/1/	REPORT								
	SOURCE /L/ (6)	/0/5/0/0/0/3/3/9/ (7)	/0/6/2/6/8/0/ (8)	/0/7/0/7/8/0/ (9)					
		DOCKET NUMBER	EVENT DATE	REPORT DATE					
EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)									
/0/2/	/ On June 26, 1980, with the unit in Mode 3, while performing channel calibra-								
/0/3/	/ tions on the pressurizer press. protection channels, it was found that the								
/0/4/	/ pressurizer protection Ch. I, II and III indicated values below actual RCS								
/0/5/	/ pressure. This is contrary to T.S. 2.2.1 and T.S. 3.3.2.1. Since the fission								
/0/6/	/ product inventory is negligible and the pressurizer press. control channels								
/0/7/	/ were indicating the correct RCS pressure, the health and safety of the general								
/0/8/	/ public were not affected. Reportable pursuant to T.S. 6.9.1.8.b.								
	SYSTEM	CAUSE	CAUSE	COMP.	VALVE				
	CODE	CODE	SUBCODE	SUBCODE	SUBCODE				
/0/9/	/I/A/ (11)	/E/ (12)	/B/ (13)	/I/N/S/T/R/U/ (14)	/T/ (15)	/Z/ (16)			
	LER/RO	EVENT YEAR	SEQUENTIAL	OCCURRENCE	REPORT	REVISION			
(17)	REPORT		REPORT NO.	CODE	TYPE	NO.			
	NUMBER	/8/0/	/-/	/0/3/1/	/ \ /	/0/1/	/T/	/-/	/0/
ACTION	FUTURE	EFFECT	SHUTDOWN	ATTACHMENT	NPRD-4	PRIME COMP.	COMPONENT		
TAKEN	ACTION	ON PLANT	METHOD	SUBMITTED	FORM SUB.	SUPPLIER	MANUFACTURER		
/E/ (18)	/E/ (19)	/Z/ (20)	/Z/ (21)	/0/0/0/0/ (22)	/Y/ (23)	/N/ (24)	/N/ (25)	/1/2/0/4/ (26)	
CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)									
/1/0/	/ The cause of the low pressure shift in the transmitters is due to a "pressure								
/1/1/	/ set" of the bourdon tube within the transmitters which occurs after the first								
/1/2/	/ prolonged operation at normal operating pressure. The transmitters were cali-								
/1/3/	/ brated upon discovery of this event and will be calibrated periodically to								
/1/4/	/ determine any additional shift in output.								
	FACILITY	METHOD OF							
	STATUS	%POWER	OTHER STATUS	DISCOVERY	DISCOVERY DESCRIPTION (32)				
/1/5/	/X/ (28)	/0/0/0/ (29)	/ HOT STANDBY/ (30)	/B/ (31)	/ OPERATOR OBSERVATION /				
	ACTIVITY	CONTENT	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)							
/2/0/	/N/ (44)	NA							
NRC USE ONLY									
/ / / / / / / / / / / / / /									
NAME OF PREPARER W. R. CARTWRIGHT PHONE (703) 894-5151									

80071508/7

Description of Event

On June 26, 1980, with the unit in mode 3, while performing a periodic test on the auxiliary shutdown panel, it was discovered that the pressurizer pressure protection channels disagreed with the pressurizer pressure control channels. Protection Channel I was immediately placed "in test" and transmitter PT-2455 was calibrated. It was found that this transmitter was reading 35.4 psig below actual RCS pressure. Subsequently, Channel II and Channel III were calibrated and they indicated 40.0 psig and 41.6 psig low, respectively.

This is contrary to T.S. 2.2.1 (Table 2.2-1) since the maximum allowable high pressure reactor trip setpoint of 2395 PSIG was exceeded and T.S. 3.3.2.1 (Table 3.3-3) since the maximum allowable setpoint of 2010 psig for the P-11 interlock was exceeded.

The following is a table showing actual as found setpoints of the three pressurizer pressure protection channels for pressurizer pressure-high and P-11 setpoints.

<u>PZR Pressure Channel (Protection)</u>	<u>Reactor Trip (PSIG)</u>	<u>P-11 Psig</u>
I	2420.4	2015.4
II	2425.0	2020.0
III	2426.6	2021.6

Initially this event was classified as a 30 day report; upon further evaluation on July 1, 1980, it was determined to be 14 day reportable pursuant to T.S. 6.9.1.8.b.

Probable Consequences of Occurrence

The consequences of having all three pressure protection channels drift low by an average of 39 psi was to effectively decrease the margins used in the safety analysis by requiring higher RCS pressures to initiate a reactor trip and allowing manually blocking of the low pressure initiated safety injection signal at higher pressures. Since the pressurizer pressure control channels were reading correctly and the event was discovered prior to any significant power levels of the reactor plant, the health and safety of general public were not affected.

Cause of Event

The cause of this event is thought to be a "pressure set" condition of the bourdon tube internal to the pressure transmitter. The fact that after being subjected to 2235 psig for approximately two months, all these transmitters of this design indicated an average of 39 psig below RCS pressure with a standard deviation of only 3.2 psi. The transmitters used in the control channels are of a different design and manufacturer and did not exhibit this trait.

Westinghouse Nuclear Service Division by way of memorandum has confirmed that this problem has existed on other plants using the Barton Pressurizer Pressure Transmitters. After approximately two months of operation these transmitters were found to have a 2.5 to 4.0% low shift in their pressure output signal. After recalibration, however, the "pressure set" stabilizes and shows no deviation upon additional recalibration checks.

Immediate Corrective Action

Upon discovery of a deviation between reading from the pressure protection channels and pressure control channels, a deviation report was written and Protection Channel I was placed in test and recalibrated. At this time it was unknown whether the protection or control channels were indicating incorreced. Upon further investigation, it was discovered that the protection channels were providing the incorrect values. As soon as Channel I was calibrated it was placed in service and Channel II was placed "in test" and calibrated. Channel III was likewise recalibrated.

Scheduled Corrective Action

Periodic checks will be made on the output of the pressure transmitter to ensure that they have stabilized.

Actions Taken to Prevent Recurrence

The performance of periodic testing to check the calibration of the transmitters will prevent recurrence of this event. Control room logs taken every eight hours will be reviewed to compare pressure control channels with pressure protection channels to determine any variance in readings.

Generic Implications

There appears to be a generic problem with the Barton transmitters used at North Anna. This is documented by Westinghouse in correspondence to Vepco. However, the problem appears to exist only when the transmitters are initially put into service. Based on experience with unit 1, the transmitters perform properly after the initial "pressure set".