

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

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

/0/2/ / On December 26, 1980, with Unit 2 at 99.5 percent power, a turbine first stage /
 /0/3/ / pressure channel failed. This channel is used to generate a high steam line /
 /0/4/ / flow protection setpoint for 1 of 2 high steam line flow protection channels. /
 /0/5/ / This event is reportable pursuant to T.S. 6.9.1.9.b. One high steam line flow /
 /0/6/ / protection channel remained operable. The public health and safety were not /
 /0/7/ / affected. /
 /0/8/ /

SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
/0/9/ /I/B/ (11)	/C/ (12)	/Z/ (13)	/I/N/S/T/R/U/ (14)	/T/ (15)	/Z/ (16)
LER/RO	EVENT YEAR	SEQUENTIAL REPORT NO.	OCCURRENCE CODE	REPORT TYPE	REVISION NO.
(17) REPORT NUMBER	/8/0/	/-/	/1/0/5/	/ / /	/0/3/
				/L/	/-/
					/0/

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
/X/ (18)	/G/ (19)	/Z/ (20)	/Z/ (21)	/0/0/0/0/ (22)	/Y/ (23)	/N/ (24)	/N/ (25)	/F/1/8/0/ (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

/1/0/ / Due to failures in the turbine building ventilation and heating systems, a /
 /1/1/ / turbine first stage transmitter froze. Due to inadequate procedures, channels /
 /1/2/ / required by T.S. to be placed in trip within one hour were not placed in the /
 /1/3/ / trip condition for 63 minutes. Procedures will be revised. Ventilation /
 /1/4/ / problems were corrected and the channel returned to service. /

FACILITY STATUS	%POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
/1/5/ /E/ (28)	/1/0/0/ (29)	/ NA / (30)	/A/ (31)	/ OPERATOR OBSERVATION /

ACTIVITY RELEASED	CONTENT 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 TYPE	DESCRIPTION (43)
/1/9/ /Z/ (42)	/ NA /

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

Description of Event

On December 26, 1980, with Unit 2 at 99.5 percent power, the sensing line of a turbine first stage pressure transmitter (PT-2446) froze causing the transmitter to fail high. Turbine first stage pressure is used to generate a high steam line flow protection setpoint. Due to the failure of the transmitter, one of two high steam line flow protection channels became inoperable. This event is reportable pursuant to T.S. 6.9.1.9.b.

Probable Consequences of Occurrence

The redundancy for high steam line flow protection was reduced. Since high steam line flow protection is designed to detect a steam line break accident and initiate appropriate corrective actions (SI, feedwater isolation, and trip of the main steam isolation valves), protection against a steam line break accident was reduced. In addition to the operable high steam line flow channel the following signals were available for protection against a steam line break accident.

- 1) Pressurizer low pressure
- 2) High differential pressure between steam lines
- 3) High containment pressure
- 4) Overpower reactor trips

The redundancy provided by the P-7 interlock (blocks at power reactor trips during low power operation) was reduced. The redundancy of signals used for P-7 and the operability of all other signals used for P-7 except the one turbine impulse chamber pressure channel, made the effect of the failure on the P-7 signal negligible from a safety standpoint. P-7 could have failed in the conservative direction only.

In addition to the protection functions described above the failed turbine first stage pressure transmitter provides control inputs for steam generator level, control rod, and condenser steam dump control. Because the Unit was at 99.5% reactor power when the failure occurred and the transmitter failed high control functions were not affected. Controls which could have been affected if power had been reduced were either placed under manual control or their first stage pressure input was switched to the operable turbine first stage pressure channel. Control functions were not affected.

The public health and safety were not affected.

Cause of Event

The transmitter failed because its associated sensing line froze. The transmitter sensing line froze because a set of turbine building louvers were mechanically bound in the open position allowing cold outside air emission to the lower level of the turbine building and two local area steam heaters were inoperable.

Immediate Corrective Action

Automatic controls receiving input from the failed turbine first stage pressure transmitter were either placed under manual control or input was switched to the operable turbine first stage pressure transmitter. Operations personnel immediately addressed a "Loss of Vital Instrumentation" procedure. Unfortunately the procedure was inadequate and did not describe the actions to be taken when a turbine first stage pressure channel failed. Due to the inadequacy of the procedure, the high steam flow protection channel which receives an input from the failed turbine first stage pressure channel was not tripped until 63 minutes after the event began. This is contrary to the action statement of the LCO (Action Statement #14 T.S. 3.3.2.1) which requires trip of the inoperable channels within one hour.

The open turbine building louvers were covered, an asbestos blanket was wrapped around the instrument rack containing the failed transmitter and a heat lamp was placed in the instrument rack. The transmitter sensing line was blown down and the turbine first stage pressure channel was declared operable after a channel functional test and channel check.

Scheduled Corrective Action

The "Loss of Vital Instrumentation" procedure will be revised to include appropriate actions to be taken when a first stage pressure channel fails. This change should prevent recurrence of time delays in excess of those specified in the T.S. before appropriate actions are taken in response to a failed turbine first stage pressure channel. Area heaters in the turbine building will be repaired.

A formal winterization program will be developed to insure that freeze protection equipment remains operable. The program will be implemented during the fall of 1981.

Actions Taken to Prevent Recurrence

The initial actions and scheduled corrective action described above should prevent recurrence.

Generic Implications

This event had no generic implications.