



CONNECTICUT YANKEE ATOMIC POWER COMPANY

HADDAM NECK PLANT

RR#1 • BOX 127E • EAST HAMPTON, CT 06424-9341

February 8, 1991
Re: 10CFR50.73(a); (2) (i); (E)

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Reference: Facility Operating License No. DPR-61
Docket No. 50-213
Reportable Occurrence LER 50-213/91-001-00

Gentlemen:

This letter forwards the Licensee Event Report 91-001-00, required to be submitted, pursuant to the requirements of Connecticut Yankee Technical Specifications.

Very truly yours,

John P. Stetz
Station Director

JPS/dl

Attachment: LER 50-213/91-001-00

cc: Mr. Thomas T. Martin
Regional Administrator, Region I
475 Allendale Road
King of Prussia, PA 19406

J. T. Shedlosky
Sr. Resident Inspector
Haddam Neck

9102130342 910208
PDR ADOCK 05000213
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JEER

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Haddam Neck	DOCKET NUMBER (2) 0 5 0 0 0 2 1 3 1	PAGE (3) 1 OF 0 4
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TITLE (4)
Apparent Failure of Main Steam Line Trip Valves to Stroke

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 NAMES		DOCKET NUMBER(S)
0 1	1 1	9 1	9 1	0 1	0 1	0 2	0 8	9 1			0 5 0 0 0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11):											

OPERATING MODE (9) 1	POWER LEVEL (10) 1 1 0 0	20.402(b)	20.405(a)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(ii)	50.36(a)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(iii)	50.36(a)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(iv)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME L. LeBaron, Associate Engineer	TELEPHONE NUMBER 2 1 0 1 3 2 1 6 1 7 1 - 1 2 1 5 1 5 1 6
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

ABSTRACT

On January 11, 1991, at 1230 hours, with the plant in Mode 1 at 100 percent power, all four main steam line isolation trip valves were declared inoperable following the failure of the valves to move during quarterly surveillance testing. A load reduction was initiated at 1325 in accordance with Technical Specification 3.0.3. Subsequent trouble shooting determined that the valves were operable and the problem was that the test switch has to be held in the test position much longer than it used to due to a recent design change which replaced the solenoid valves and pneumatic tubing in the trip valves' testing system. The new tubing has a smaller inside diameter which restricts air flow to the top of the valve's operating piston thus delaying valve movement in the test mode only. The valves were tested satisfactorily and the load reduction was terminated at approximately 1345 hours at 98 percent power. The root cause of the event was that the increased valve response times were not anticipated by the operators. Corrective action consisted of revising the surveillance test procedure to indicate how long the test switch must be held in.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		00	01	00	

TEXT (If more space is required, use additional NRC Form 366A's) (17)

BACKGROUND INFORMATION

A reactor trip signal is generated when steam flow through two of the four main steam (EIIS Code: SB) lines exceeds 110 percent of rated steam flow. This trip will also cause the automatic closure of the main steam line isolation trip valves (MS-TV-1211-1, 2, 3 and 4). The main steam trip valves (MSTV) are verified operable on a quarterly basis by verifying that each valve travels in the closed direction approximately one and one-half inches when the test switch is activated (see Figure 1). Technical Specification 3.7.1.5 requires that each MSTV (EIIS Code: ISV) be operable in Modes 1, 2 and 3. The solenoid operated valves (SOV) which port compressed air to the MSTV operating piston were replaced during the 1989-1990 refueling outage in response to NRC Information Notice 86-57. As part of the design change the 3/8 inch tubing between MS-SOV-1211-1A and MS-SOV-1211-1B was changed from thin wall copper tubing (EIIS Code: TBG) to thick wall stainless steel tubing. Both a full and partial stroke test were performed satisfactorily as part of the pre-operational testing for the design change prior to plant startup.

EVENT DESCRIPTION

On January 11, 1991, at 1230 hours, with the plant in Mode 1 at 100 percent power, all four main steam line isolation trip valves were declared inoperable following the failure of the valves to move during quarterly surveillance testing. A load reduction was initiated at 1325 in accordance with Technical Specification 2.0.3. Subsequent trouble shooting determined that compressed air was being applied to the top of the operating piston as required, but that the test switch had to be held for a much longer period of time (15 seconds) before the valve stem began to move. The valves were tested satisfactorily and the load reduction was terminated at approximately 1345 hours at 98 percent power.

CAUSE OF THE EVENT

The increase in time prior to valve motion was caused by the installation of the smaller inside diameter tubing which restricted air flow to the top of the operating piston. The root cause of this event was that the increased valve response times were not anticipated by the operators.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		1	0 0 1	0 0		

TEXT (If more space is required, use additional NRC Form 388A's) (17)

SAFETY ASSESSMENT

This event is reportable under 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications in that the action statement for Technical Specification 3.7.1.5 does not address the inoperability of more than one main steam line trip valve; therefore, it was necessary to implement Technical Specification Section 3.0.3. The operability of the main steam line trip valves ensures that no more than one steam generator will blowdown in the event of a steam line rupture. This restriction is required to: (1) minimize the positive reactivity effects of the reactor coolant system cooldown associated with the blowdown and (2) limit the pressure rise within containment in the event the steam line rupture occurs within containment. Since the installation of the smaller inside diameter tubing affected only the valves' test system and not the closing time of the valves, this event had no safety impact.

CORRECTIVE ACTION

Corrective action consisted of revising the surveillance test procedure to indicate how long the test switch must be held in the test position before the valve will begin to move.

ADDITIONAL INFORMATION

None

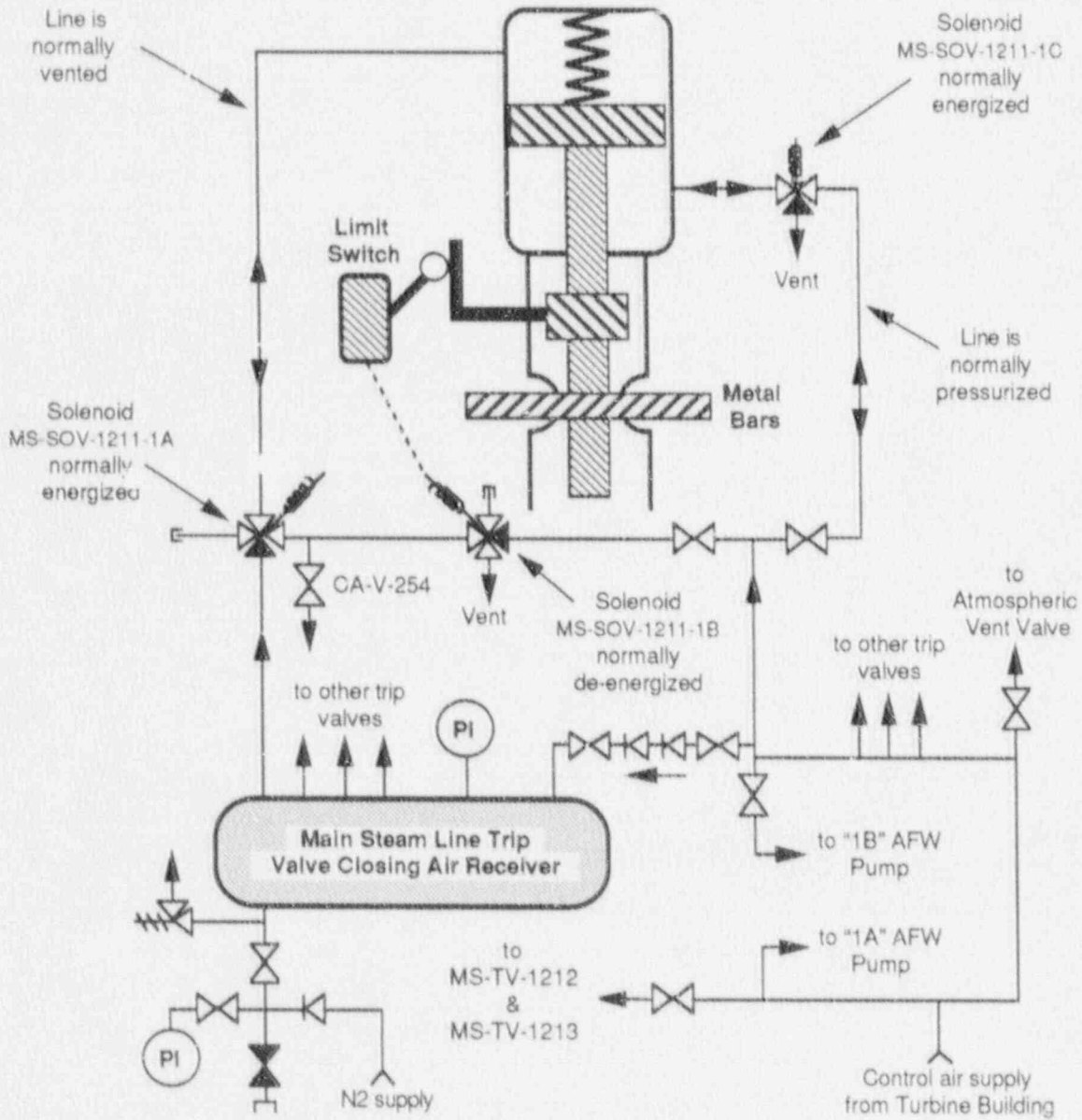
PREVIOUS SIMILAR EVENTS

None

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		YEAR 91	SEQUENTIAL NUMBER 001	REVISION NUMBER 00	04	OF 04

TEXT (If more space is required, use additional NRC Form 305A's) (17)

Figure 1
MSTV Solenoid Valve Arrangement



1. A closed signal de-energizes MS-SOV-1211-1A allowing air pressure to be applied to the top of the operating cylinder and de-energizes MS-SOV-1211-1C allowing air to vent from the bottom of the cylinder. Air pressure, assisted by spring force, drives the MSIV closed.
2. An open signal energizes MS-SOV-1211-1C allowing air pressure to be applied to the bottom of the operating cylinder and energizes MS-SOV-1211-1A allowing air to vent from the top of the cylinder. The air pressure raises the operating piston, compressing the spring and opening the valve.
3. MS-SOV-1211-1B is only energized when the test switch is actuated. When MS-SOV-1211-1B is energized it blocks the vent port and aligns control air pressure to both the top and bottom of the MSIV operating air piston. This allows spring pressure to start to close the MSIV. After the MSIV travels a predetermined amount, the limit switch actuates to de-energize MS-SOV-1211-1B. Control air is vented from the top of the operating piston allowing control air on the bottom of the piston to reopen the MSIV.