

Maine Yankee

RELIABLE ELECTRICITY SINCE 1972

329 BATH ROAD • BRUNSWICK, MAINE 04011 • (207) 798-4100

November 15, 1996

MN-96-164

JRH-96-245

UNITED STATES NUCLEAR REGULATORY COMMISSION

Attention: Document Control Desk

Washington, D. C. 20555

Reference: (a) License No. DPR-36 (Docket No. 50-309)

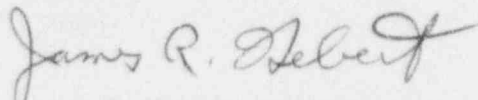
Subject: Maine Yankee Licensee Event Report 96-032, NNS Load Connected to 1E
Power Source Without an Isolation Device

Gentlemen:

Please find enclosed Maine Yankee Licensee Event Report 96-032. This report is submitted in accordance with 10 CFR 50.73(a)(2)(ii).

Please contact us should you have any questions regarding this matter.

Very truly yours,



James R. Hebert, Manager
Licensing & Engineering Support Department

mwf

Enclosure

c: Mr. Hubert Miller
Mr. J. T. Yerokun
Mr. D. H. Dorman
Mr. Patrick J. Dostie
Mr. Uldis Vanags

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION
COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO
THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING
BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33),
U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE
PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET,
WASHINGTON, DC 20503.

FACILITY NAME (1)

Maine Yankee Atomic Power Company

DOCKET NUMBER (2)

50-309

PAGE (3)

1 OF 2

TITLE (4)

NNS Load Connected to 1E Power Source Without an Isolation Device

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 NAME	DOCKET NUMBER
10	16	96	96	-- 032	-- 00	11	15	96	FACILITY NAME	DOCKET NUMBER
										05000
OPERATING MODE (9)		7	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		90%	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		X 50.73(a)(2)(iii)		50.73(a)(2)(x)	
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
James M Taylor, Senior Nuclear Safety Engineer	(207) 882-5683

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On October 16, 1996, the plant was operating at 90% power.

A plant engineer evaluated the condition of having solenoid TV-4001 being powered by 125VAC bus DP/SVAC 3 circuit #1. He concluded the arrangement is a failure to meet Maine Yankee's existing design requirements of system independence for an NNS component as well as system reliability based on environmental qualifications. Solenoid TV-4001, which controls air to PW-A-137 the primary water fill valve to the quench tank, is a NNS non-environmentally qualified component. There is no electrical isolation device in the circuit to separate it from the safety related CIS "B" circuit also powered by DP/SVAC 3 circuit #1. Isolation devices are required for system reliability and independence and must be maintained in accordance with IEEE Standards 279, 308 and 384 and 10CFR50.49.

The safety significance of this event is considered low because a failure of TV-4001 causing DP/SVAC 3 circuit #1 to deenergize would result in the affected Containment Isolation valves closing i.e. moving to their safeguards position. A closure of SL-A-53, one of the affected valves, would result in a loss of reactor coolant pump seal water return flow and a plant shutdown.

Short term corrective action was to isolate the TV-4001 part of the circuit by opening slide links in the MCB and controlling the slide links with a white tag order made out to the Plant Shift Superintendent.

Causal factors will be determined by a root cause analysis performed as part of a close out plan. The results of this analysis will provide the basis for addressing any generic issues identified, determining permanent corrective actions and preventive actions.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Maine Yankee Atomic Power Company	50-309	96	-- 032 --	00	2 OF 2

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

EVENT DESCRIPTION:

While working on a review for Generic Letter 96-01 "Testing of Safety-Related Logic Circuits", a plant engineer discovered an error in a circuit logic diagram. The diagram did not show solenoid TV-4001(SOL) being powered by DP/SVAC 3 circuit #1, which was the "as found" condition. On 10/16/96 the engineer completed his evaluation of this condition and concluded that the arrangement was a failure to meet Maine Yankee's existing design requirements of system independence for an NNS component as well as system reliability based on environmental qualifications. Solenoid TV-4001, which controls air to PW-A-137 (FSV)the primary water fill valve to the quench tank, is a NNS non-environmentally qualified component. Circuit #1 on DP/SVAC 3 is safety class 1E and the supply for the Containment Isolation Signal (CIS) "B" Actuation Circuit (JM)Trip Valves. With no electrical isolation device to separate NNS solenoid TV-4001 from DP/SVAC 3 circuit #1, a failure of TV-4001 could trip it's power supply and associated loads i.e. the CIS "B" Actuation Circuit Trip Valves. A review of design basis information indicated the current basis for this circuit arrangement is that system reliability and independence must be maintained in accordance with IEEE Standards 279, 308 and 384 and 10CFR50.49. Not having an electrical isolation device is a failure to meet these requirements

SAFETY SIGNIFICANCE:

The safety significance of this event is considered low because a failure of TV-4001 causing DP/SVAC 3 circuit #1 to deenergize would cause the affected Containment Isolation valves to move to their safeguards position (shut). Thus a malfunction in the NNS part of the circuit could result in the affected safeguards components still performing their intended safeguard functions even though the circuit design was not in accordance with design basis. A closure of SL-A-53, one of the affected valves, would result in a loss of reactor coolant pump seal water return flow and a plant shutdown.

CAUSAL FACTORS:

Causal factors will be determined by a root cause analysis performed as part of a close out plan. The results of this analysis will provide the basis for addressing any generic issues identified and determining preventive actions.

CORRECTIVE ACTIONS:

Short term corrective action was to isolate the TV-4001 part of the circuit by opening slide links in the MCB and controlling the slide links with a white tag order made out to the Plant Shift Superintendent. PW-A-137 is not normally operated while the plant is at power.

Possible long term corrective action are (1) adding an isolator to the existing circuit and (2) moving TV-4001 to a NNS circuit. Changes to circuit logic diagrams will be made based on the action taken.

Preventive actions will be based on the results of the root cause analysis.

PREVIOUS SIMILAR EVENTS:

No previous LERs have been written for NNS components being powered from a class 1E power source without an isolator in the circuit.