Maine Yankee
RELIABLE ELECTRICITY SINCE 1972

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June 16, 1994
MN-94-58 JRH-94-141

UNITED STATES NUCLEAR REGULATORY COMMISSION
Attention: Document Control Desk
Washington, DC 20555

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

Subject: Maine Yankee Licensee Event Report 94-008-00, Plant Trip During Main Turbine Load Reduction

Gentlemen:

Please find enclosed Maine Yankee Licensee Event Report 94-008-00. This report is submitted in accordance with 10CFR50.73(a)(2)(iv).

Please contact us should you have questions regarding this matter.

Very truly yours,

James R. Hebert

James R. Hebert, Manager
Licensing & Engineering Support Department

JRH/jag

Enclosure

c: Mr. Thomas T. Martin
Mr. J. T. Yerokun
Mr. E. H. Trottier
Mr. Patrick J. Dostie

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NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Maine Yankee Atomic Power Company	50-309	1 OF 2

TITLE (4)

PLANT TRIP DURING MAIN TURBINE LOAD REDUCTION

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
05	18	94	94	-- 008 --	00	06	18	94	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	7
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.402(b)		20.405(c)	X	50.73(a)(2)(iv)		73.71(b)
	20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)
	20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER
	20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		
	20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Danny P. McDougold, SHIFT TECHNICAL ADVISOR	(207) 882-6321

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

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

On May 18,1994, the reactor tripped from 100% power on loss of load due to a main turbine trip. The main turbine tripped due to a trip of the turbine-driven feedwater pump (TDFP). The TDFP tripped on overspeed when high pressure (HP) steam was manually aligned to the TDFP.

Earlier, an air leak on a 345 KV switchyard breaker required decreasing power to 600 MWE (70% rated power) to allow breaker isolation. Reactor power was maintained at 100% while the main turbine load was being reduced. At 80% rated output, the main turbine extraction steam did not have sufficient pressure to run the TDFP and therefore HP steam had to be aligned. The control room recognized that the HP governor valve was cycling and dispatched an operator to open the HP isolation valve. Since the HP governor valve already had a high open demand signal, the pump tripped on overspeed.

The root cause of the plant trip was inadequate procedural guidance. Changes have been made to the procedure to prevent recurrence. A more formal root cause evaluation may include recommendations to further enhance operating the pump under all conditions.

The high pressure (HP) steam manual isolation valve (V) to the HP governor valve on the turbine-driven feed pump (TDFP)(P) is normally maintained closed during full power operations. The main turbine (TRB) extraction steam (ES) supplies steam to the TDFP through the low pressure (LP) governor valve. At lower power levels the ES pressure alone can not adequately run the TDFP at the speed necessary to supply the required feedwater flow rate.

At 1445 on May 18, 1994, an operator reported an air leak on B phase of breaker K-378-1 in the 345 KV switchyard. The plant reduced main turbine load to 80% by opening turbine bypass valves and steam dump valves to the condenser. The intent was to maintain reactor power stable, reduce generator output to 600 MWE (70% rated output) , isolate the breaker, and then return the plant to 900 MWE.

At 80% main turbine load, the control room operators recognized that the LP governor valve was 100% open and the HP governor valve was cycling open. An operator was immediately dispatched to open the HP isolation valve. Upon opening the HP isolation valve, the TDFP tripped on overspeed since the HP governor valve had a high open demand signal.

At 2025, the reactor (RCT) automatically tripped from 100% power on loss of load due to a main turbine trip. The main turbine tripped due to a trip of the TDFP. The trip logic performed as expected.

Emergency Core Cooling (BQ)(BP)(BE) was not required and did not initiate. Emergency Feedwater (BA) automatically initiated as expected following a trip from full reactor power. No technical specification limits or safety limits were exceeded. Pressurizer (PZR) power operated relief and code safety valves (RV) were not challenged. Steam generator code safety valves were not challenged.

No similar occurrences have been reported by LER.

The root cause of the plant trip was inadequate procedural guidance. The associated procedure did not address opening the isolation valve during the turbine load reduction. Changes have been made to the procedure to prevent recurrence. A more formal root cause evaluation is in progress and may include recommendations to further enhance operating the pump under all conditions.