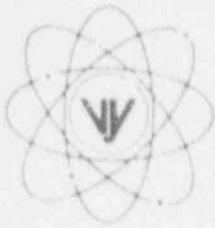


VERMONT YANKEE NUCLEAR POWER CORPORATION



P.O. Box 157, Governor Hunt Road
Vernon, Vermont 05354-0157
(802) 257-7711

June 27, 1991
VYV # 91-140

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

REFERENCE: Operating License DPR-28
Docket No. 50-271
Reportable Occurrence No. LER 91-06, Supplement 1

Dear Sirs:

As defined by 10 CFR 50.73, we are reporting the attached Reportable Occurrence as LER 91-06, Supplement 1.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

Donald A. Reid
Plant Manager

cc: Regional Administrator
USNRC
Region I
475 Allendale Road
King of Prussia, PA 19406

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PDR ADOCK 05002271
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NRC Form 366 U.S. NUCLEAR REGULATORY COMMISSION (6-89)					APPROVED OMS NO.3150-0104 EXPIRES 4/30/92 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3160-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20603.																					
LICENSEE EVENT REPORT (LER)																										
FACILITY NAME (1) VERMONT YANKEE NUCLEAR POWER STATION										DOCKET NO. (2) 0 | 5 | 0 | 0 | 0 | 2 | 7 | 1					PAGE (3) 0 | 1 | OF | 0 | 3											
TITLE (4) Loss of 'B' Loop Shutdown Cooling due to Pressure Switch Activation																										
EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																	
MONTH	DAY	YEAR	YEAR	SEQ. #	REV#	MONTH	DAY	YEAR	FACILITY NAMES			DOCKET NO.(S)														
0	3	1	4	9	1	9	1	-	0	0	6	-	0	1	0	7	0	1	9	1				0 | 5 | 0 | 0 | 0 |		
OPERATING MODE (9) N THIS REPORT IS SUBMITTED PURSUANT TO REQ'MTS OF 10CFR §: <input checked="" type="checkbox"/> ONE OR MORE (11)																										
POWER LEVEL (10)		0 | 0 | 0		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)																
				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 DONALD A. REID, PLANT MANAGER										TELEPHONE NO. 8 | 0 | 2 | 2 | 5 | 7 | - | 7 | 7 | 1 | 1																
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																										
CAUSE	SYST	COMPNT	MFR	REPORTABLE TO NPRDS	.....	CAUSE	SYST	COMPNT	MFR	REPORTABLE TO NPRDS	.....														
X	B	0		N	.....	N/A					.....														
N/A					.....	N/A					.....														
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MO	DA	YR												
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										NO		0	5	2	9	9	2									
ABSTRACT (Limit to 1400 spaces, i.e., approx. fifteen single-space typewritten lines) (16)																										
<p>On 03/14/91 at 0450 hours, with Reactor vessel cooldown in progress following a reactor scram on 03/13/91 (subject of Licensee Event Report 91-05), and with the "B" loop Residual Heat Removal (RHR)(BO*) system flushed and lined up for Shutdown Cooling, a Group 4 Primary Containment Isolation Signal (PCIS)(JM)* was received during two attempted starts of the "B" RHR pump. The Group 4 Isolation signal resulted in a trip of the "B" RHR pump and closure of Shutdown Cooling Suction Isolation valves. The second failed pump start attempt was initiated at 0455 hours. At 0504 hours, after isolations were reset a second time, the "D" RHR pump was successfully started on the "B" RHR loop. Shutdown Cooling remained in operation on the "B" RHR loop for the duration of the shutdown. The reactor was returned to critical on 03/18/91 at 0055 hours.</p> <p>The "Root Cause" of this event has not yet been determined. Results of root cause investigations and testing completed to date have been inconclusive in identifying the exact cause of the pressure surge in the "B" RHR loop which occurred after the "B" RHR pump was started. More comprehensive testing is presently being planned for the upcoming 1992 Refueling Outage. Appropriate corrective actions will be developed based upon analysis of test results and will be reported to the commission in a supplemental LER.</p>																										
*Energy Information Identification System (EIIS) Component Identifier																										

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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WITH THIS INFORMATION COLLECTION REQUEST:
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BURDEN ESTIMATE TO THE RECORDS AND REPORTS
MANAGEMENT BRANCH (P-530), U.S. NUCLEAR
REGULATORY COMMISSION, WASHINGTON, DC
20555, AND TO THE PAPERWORK REDUCTION
PROJECT (3160-0104), OFFICE OF MANAGEMENT
AND BUDGET, WASHINGTON, DC 20603.

UTILITY NAME (1)	DOCKET NO. (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQ. #	REV#	
VERMONT YANKEE NUCLEAR POWER STATION	05000271	91	-006	-01	02 OF 03

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

DESCRIPTION OF EVENT

On 03/14/91 at 0450 hours, with reactor vessel cooldown in progress following a reactor scram on 03/13/91 (subject of Licensee Event Report 91-05), and with the "B" loop Residual Heat Removal (RHR) system flushed and lined up for Shutdown Cooling, a Group 4 Primary Containment Isolation Signal (PCIS) was received during two attempted starts of the "B" Residual Heat Removal (RHR) pump. The Group 4 Isolation signal resulted in a trip of the "B" RHR pump and closure of Shutdown Cooling Suction Isolation valves. The second pump start attempt was initiated at 0455 hours. After the receipt of each isolation signal, Operations personnel reviewed PCIS Group 4 input parameters to determine the cause of the isolation. Parameters reviewed and found to be within setpoint limits included Reactor Pressure, Drywell Pressure, and Reactor level. Operators noted the momentary clearance of The Shutdown Cooling Permissive interlock coincident with the "B" RHR pump start. Operations personnel subsequently reset the PCIS isolation logic and reopened the Shutdown Cooling Isolation valves. At 0504 hours, after isolations were reset a second time, the "D" RHR pump was successfully started and remained in operation for the duration of the shutdown. No additional aberrations were noted in Shutdown Cooling during this period. The reactor was returned to critical on 03/18/91 at 0055 hours.

A subsequent evaluation was performed of the Shutdown Cooling Permissive Interlock annunciator alarm circuitry and computer trend data relevant to the "B" RHR pump starts. The alarm logic is controlled by two pressure switches which monitor Shutdown Cooling loop pressure. Both switches are remotely connected to the suction line of "B" Recirc. loop piping. The primary purpose of the switches is to protect low pressure RHR piping in the Shutdown Cooling loops by terminating Shutdown Cooling operation at a loop pressure above 130 psi and initiating a PCIS Group 4 isolation. Plant procedures administratively limit Shutdown Cooling operation to <100 psig. Prior to the attempted pump starts, reactor pressure was approximately 50 psig (Steam dome). There was no discernible change in reactor pressure before and after each failed pump start. However, computer data relevant to the PCIS Group 4 isolations confirmed that the Shutdown Cooling Permissive Interlock circuit had momentarily activated each time the "B" RHR pump was started. Based on the pressure switches installed location and an applied Head correction factor, a minimum 40 psi. pressure spike in the "B" loop Recirc. piping was necessary to trip the switches. Suspecting that one of the switches may have drifted out of calibration, setpoints of both switches were checked and found to be within limits.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 366A) (12)

CAUSE OF EVENT

Root Cause investigations relevant to this event are continuing through our root cause/corrective action process. Additional actions completed to date included the temporary addition of instrumentation to monitor pressure at various points in the "B" RHR loop during recent plant shutdowns on 04/23/91 and 06/15/91. Results of the present investigation and testing have been inconclusive in pinpointing the exact cause of the pressure surge in the "B" RHR loop which occurred after the "B" RHR pump was started. More comprehensive testing is presently being planned for the upcoming 1992 Refueling Outage.

ANALYSIS OF EVENT

The events detailed in this report had minimal safety implications.

1. The Primary Containment Isolation System (PCIS) operated as designed and isolated Shutdown Cooling upon sensing a high reactor pressure.
2. Reactor Depressurization and cooldown was maintained during the event using the Main Condenser. All other Emergency Core Cooling Systems were available to provide vessel cooling, if required.

CORRECTIVE ACTIONS

Immediate corrective actions included resetting the PCIS Group 4 isolation and restoration of shutdown Cooling on the "B" loop using the "D" RHR pump.

Corrective actions to preclude recurrence are pending based on additional testing planned during the upcoming 1992 Refueling Outage. A supplement to this report will be forwarded to the commission after the 1992 Refueling Outage.

ADDITIONAL INFORMATION

There have been no similar events of this type reported to the commission in the past five years.