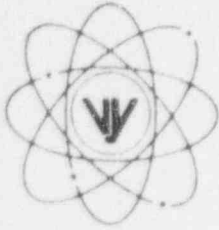


# VERMONT YANKEE NUCLEAR POWER CORPORATION



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

January 29, 1997  
BVY 97-18

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

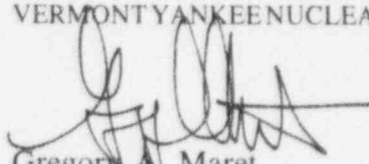
Reference: (a) License No. DPR-28 (Docket No. 50-271)

Subject: Occurrence No. LER 96-031

As defined by NUREG 1022, Second Draft, Revision 1, we are reporting the attached occurrence as a voluntary License Event Report, LER 96-031.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION



Gregory A. Maret  
Plant Manager

cc: USNRC Region 1 Administrator  
USNRC Resident Inspector - VYNPS  
USNRC Project Manager - VYNPS

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LICENSEE EVENT REPORT (LER)

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 20566-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	VERMONT YANKEE NUCLEAR POWER STATION	DOCKET NUMBER ( )	PAGE (3)
		05000271	01 OF 3

TITLE (4) Alternate Rod Insertion/Recirc Pump Trip due to Inadvertent False Low Water Level Signal on a Level Transmitter during backfill of a Reference Leg

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 NO.(S)	
10	09	96	96	-- 031 --	00	01	29	97	N/A	05000	

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: CHECK ONE OR MORE (11)								
		20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)					
POWER LEVEL (10)	0	20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	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)	X 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 NO. (Include Area Code)
GREGORY A. MARET, PLANT MANAGER	802-257-7711

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
NA					.....	NA				
NA					.....	NA				

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		MO	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	N	NO						

**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)  
 This LER is being submitted on a voluntary basis as requested in NUREG 1022, Second Draft, Revision 1, Section 2.5. On 10/9/96 at 2249 hours and with the plant shutdown for a refueling outage, an Alternate Rod Insertion/Recirculation Pump Trip (ARI/RPT) occurred when a technician was backfilling the reference leg for a wide range reactor water level transmitter that is shared by an ARI/RPT level transmitter. The reference leg was being backfilled, from the demineralized water transfer system, following replacement of jet pump instrument three valve manifolds. As the reference leg can potentially be drained during performance of this type of work, it was being refilled to ensure that it was functional. Following the ARI/RPT trip, a manual scram was inserted in accordance with plant procedures. The root cause of this event is a personnel error in that the technician performing the work failed to review the elements of the installation instructions in sufficient detail. A contributing cause of this event was insufficient detail in the Work Order used to perform this task. Immediate corrective actions included cessation of the backfill procedure and resetting the ARI/RPT and the scram. Subsequent corrective action included refresher training for personnel involved in the event and a discussion with each shift regarding attention to detail. During this event, the plant was in a cold shutdown condition with all control rods fully inserted, therefore, this ARI/RPT trip was not a necessary action and there was no danger to the health and safety of the public.

NRC Form 366 U.S. NUCLEAR REGULATORY COMMISSION (4-95)		APPROVED BY OMB NO. 3150-0104 EXPIRES 04/30/98				
LICENSEE EVENT REPORT (LER)		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 20566-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.				
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
VERMONT YANKEE NUCLEAR POWER CORPORATION		05000271	YEAR	SEQUENTIAL NUMBER	REV #	02 OF 3
			96	-- 031 --	0	

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

DESCRIPTION OF EVENT

This LER is being submitted on a voluntary basis as requested in NUREG 1022, Second Draft, Revision 1, Section 2.5. On 10/9/96 at 2249 hours with the plant shutdown for a refueling outage, an Alternate Rod Insertion/Recirculation Pump Trip (ARI/RPT) (EISS=JC) occurred. Immediately following this event, Control Room personnel manually inserted a scram signal in accordance with approved plant procedures. This event occurred while a technician was backfilling the reference leg, via the shutdown wide range reactor water level transmitter, which is a common reference leg shared by an ARI/RPT level transmitter and other level, and pressure transmitters. The flow path used to fill the reference leg was through the level transmitter low pressure side, the transmitter bypass valve and the transmitter high pressure side valve and ultimately into the reactor vessel. The reference leg was being backfilled, from the demineralized water transfer system, following replacement of jet pump instrument three valve manifolds. The jet pump three valve manifolds share a common tap with the low side of the shutdown wide range reactor level instrument. The work involved in replacing these manifolds could potentially drain the reference leg which would result in erroneous level readings. Subsequently, the reference leg was being refilled to ensure the attached transmitters were functional.

CAUSE OF EVENT

The root cause of this event is a personnel error. This error was a cognitive error in that the technician performing the work failed to sufficiently review the elements of the installation instructions in sufficient detail. A contributing cause of this event was insufficient detail in the Work Order used to perform this task.

ANALYSIS OF EVENT

The ARI/RPT Systems are designed to provide a means to reduce the probability of a failure to scram or mitigate the consequences in the unlikely event that an anticipated transient occurs and control rods fail to insert. The ARI System provides an alternate means to initiate control rod insertion in the event of a failure of the Reactor Protection System. The Recirculation Pump Trip System is provided to initiate a reduction in reactor power to mitigate the affects of a failure to insert the control rods. These systems function to prevent damage to the nuclear system process barrier. The system is actuated by either a low-low reactor water level, after an approximately ten second delay, or high reactor pressure.

The ARI/RPT system was tripped on a false low-low reactor water level signal while the plant was shutdown for a refueling outage. At the time the event occurred, all control rods were already fully inserted in the core and the reactor recirculation pumps were not running. Due to the conditions at the time of the event, this action produced no transients on the core or caused any change of state of the reactor. Other level and pressure instruments also use this common reference leg; however, during the shutdown, the systems affected by these instruments were also shutdown and were not affected.

Had this event occurred while the reactor was at power, the scram resulting from the control rod insertion would have caused the reactor to shutdown and the Recirculation Pumps to trip. This type of trip would result in a transient, analyzed in the Final Safety Analysis Report (FSAR), which is the expected result of the actuation of this system.

Vermont Yankee uses a total of four reference legs which provide a reference level for various instruments that provide protective action signals as well as indication. Similar problems could occur with any of the reference legs; however, corrective actions will evaluate the backfill process and provide more detailed work order pre-plans to preclude a similar event.

There is no threat to the health and safety of the public and no safety consequences resulted from this event.

LICENSEE EVENT REPORT (LER)

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REV #		
VERMONT YANKEE NUCLEAR POWER CORPORATION	05000271	96	-- 031 --	0	03 OF 3	

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

CORRECTIVE ACTIONS

Immediate:

- 1) Personnel involved in this event attended refresher training on the proper research methods expected to be used when preparing to perform a backfill evolution.
- 2) I & C Department outage shifts were counseled at shift turnover meetings for the need to take time to make sure jobs are done correctly. The effects of long outage work periods were also stressed to ensure that shift personnel were aware of this and would take extra care to work safely and correctly.

Long Term

- 1) The I & C Department has been tasked to evaluate the backfill process and develop more detailed Work Order Pre-Plans, or a procedure matrix, to indicate transmitters affected when any given transmitter needs to be backfilled. This is expected to be completed by 6/30/97.

ADDITIONAL INFORMATION

No similar events have been reported to the Commission within the last five years.