VERMONT YANKEE
NUCLEAR POWER CORPORATION

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September 9, 1998
BVY 98-137

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

Subject: **Vermont Yankee Nuclear Power Station**
License No. DPR-28 (Docket No. 50-271)
Reportable Occurrence No. LER 98-17, Rev. 1

As defined by 10CFR50.73, we are reporting the attached Reportable Occurrence as LER 98-17, Rev. 1.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION

Michael A. Balduzzi

Michael A. Balduzzi
Plant Manager

cc: USNRC Region I Administrator
USNRC Resident Inspector – VYNPS
USNRC Project Manager – VYNPS
VT Dept. of Public Service

IE22

NRC Form 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
VERMONT YANKEE NUCLEAR POWER STATION	05000271	01 OF 4

TITLE (4) INADEQUATE DESIGN PACKAGE AND IMPLEMENTATION PROCEDURE RESULTS IN REDUNDANT TRAINS OF THE STANDBY GAS TREATMENT SYSTEM WITH FAN SUPPLY BREAKER TRIP SETPOINTS POTENTIALLY ATTAINABLE WITH NORMAL START IN-RUSH CURRENT.

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) 05000
06	01	98	98	-- 17 --	01	09	09	98	N/A	

OPERATING MODE (9)	N
POWER LEVEL (10)	02

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)
	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)		OTHER
	20.2203(a)(2)(iii)		50.36(c)(1)	X	50.73(a)(2)(v)		
	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)
MICHAEL A. BALDUZZI, PLANT MANAGER	802-257-7711

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	EC	BKR	W120	YES	NA				
NA					NA				

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

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

On 06/01/98 Vermont Yankee (VY) identified that the "B" Standby Gas Treatment System (SBGTS) train was vulnerable to premature tripping of its fan supply breaker on over-current. The vulnerability existed because a 1992 design package and its installation procedure did not require that the over-current trip setpoint be established during the installation. On 06/01/98 the "B" SBGTS failed to start as required during a High Pressure Coolant System surveillance test. An investigation determined that its fan supply breaker over-current trip setpoint was on the "0" setting (low), rather than on "4" (the setting required by its VY motor data sheet). VY then evaluated the setpoints required for other 480 Vac, and 125 Vdc breakers as documented on the applicable motor data sheets. During the 1992 design installation, the "A" SBGTS fan supply breaker had also been set on "0" rather than "4" as required. The "B" fan supply breaker trip setpoint was corrected on 6/1/98. The "A" fan supply breaker trip setpoint was corrected on 6/4/98. Both the "A" and "B" SBGTS fans have been proven reliable during monthly surveillance testing since the 1992 design implementation which installed both breakers. No fan failures/problems have occurred which could be attributed to the low over-current trip setpoint. The accuracy of the over-current trip device for the subject supply breakers is such that it was likely that the loads would start on demand with the 1992 setting, but possible that the supply breakers could trip on normal inrush. Each fan had started, and operated successfully, approximately 60 times since the 1992 design installation. Therefore this event presented no significant increase in risk to public health and safety.

EVENT DESCRIPTION

On 06/01/98, at 1709, with a plant startup in progress and reactor power < 5%, VY was in the process of performing High Pressure Coolant Injection (HPCI, EIIS=BT) system testing when the "B" SBGTS (EIIS=BH) failed to start. The "B" SBGTS train was declared inoperable, and a 7 day Limiting Condition for Operation (LCO) was entered. The SBGTS is required to be operated during HPCI system operation to provide an exhaust path for the HPCI system gland seal exhauster. Maintenance personnel were dispatched to determine the reason for the trip of the "B" SBGTS fan. It was identified that the supply breaker (EIIS=BKR) over-current trip setting was set on "0" (low) rather than on "4" as required by the VY motor data sheet. The supply breaker is a Westinghouse model number HFA3035ML. At 1910, the "B" SBGTS fan supply breaker trip setting was corrected and the system declared operable, and the LCO exited.

From 06/02/93 to 06/08/98, VY evaluated the setpoints required for other 480 Vac and 125 Vdc breakers, as documented on the applicable motor data sheets. The evaluation consisted of comparing the Motor Data Sheets for safety class breakers with the plant equipment maintenance database (MPAC). That evaluation identified that one safety class breaker supplying a non-safety load was set higher than the data sheet required. The as-found setpoint was assessed to have no detrimental effect upon any safety system.

On 06/02/98 it was recognized that the "A" SBGTS train was also potentially affected by a low instantaneous over-current trip setpoint. It had been observed that the "A" SBGTS fan supply breaker had also been set on "0" vice "4." A work order request was therefore generated. On 06/03/98 the work order request was approved and the "A" SBGTS fan supply breaker was set to the proper position on 06/04/98.

On 06/11/98, VY performed a field walkdown on a random sample (10%) of safety class 480 Vac breakers. The field settings were compared to the motor data sheets. No discrepancies were noted.

On 07/14/98, while performing a search for similar conditions relative to this event, it was determined that an additional safety class 480 Vac breaker supply breaker over-current trip setting was incorrect. The breaker overcurrent trip device was set on "0" rather than on "3" as required by the VY motor data sheet. This particular breaker was assessed as one in a group of six breakers installed as part of a plant modification that was implemented concurrent with the design change that resulted in the SBGTS vulnerability. Like the SBGTS fans, the affected component (the "B" Standby Fuel Pool Cooling Pump) had operated successfully since its installation in 1992. The Standby Fuel Cooling Pump (SFPC, EIIS=DA) breaker overcurrent trip setting was corrected on the day of discovery.

ROOT CAUSE OF EVENT

The low trip setting existed because a 1992 design package and its associated installation procedure did not require setting the instantaneous over-current trip devices for the breakers installed as part of that design change. This was in conflict with the procedures that governed design package and installation procedure content.

ANALYSIS OF EVENT

The purpose of the secondary containment (EIIS=NH) is to minimize the ground level release of airborne radioactive material and to control this release should an accident occur. The secondary containment system consists of the reactor building, the standby gas treatment system, the reactor building normal heating ventilating and air conditioning system, and the reactor building penetrations.

The SBGTS is provided to limit airborne fission product release to the environment by the use of high efficiency filters and by the maintenance of a negative pressure in the Reactor Building.

The SBGTS is designed to:

1. Maintain a negative pressure in the Reactor Building so that any air leakage will be into the Reactor Building, and

2. Provide sufficient air filtration such that in the event of a design basis accident, release of gaseous contaminants will result in doses which are within the limits specified in 10CFR100.

The SFPC System is designed to

1. Remove the decay heat from the fuel assemblies and maintain fuel pool water temperature at a level which will help maintain the Reactor Building environment within the bounding limits of the environmental qualification of electrical equipment.

2. Minimize the probability of a release of radioactive contaminants to the environs.

Both the "A" and "B" SBGTS fans have been proven reliable during monthly surveillance testing since the 1992 design implementation which installed both breakers. No fan failures/problems have occurred which could be attributed to the low over-current trip setpoint. The accuracy of the over-current trip device for the subject supply breakers is such that it was likely that the loads would start on demand with the 1992 setting, but possible that the supply breaker would trip on normal inrush. Each fan has started, and operated successfully, approximately 60 times since the 1992 design installation. Similarly, the "B" SFPC pump had operated as required since original installation. It is also recognized that the SFPC system was installed in 1992 as a backup to the Normal Fuel Pool Cooling (NFPC) System and the Residual Heat Removal (RHR) System FPC assist mode of operation. Neither the RHR System nor the NFPC System were affected by this event. Therefore this event presented no significant increase in risk to public health and safety.

CORRECTIVE ACTIONS

Immediate Actions:

1. A VY internal event report was initiated to perform a formal cause determination and produce corrective action recommendations. This action is ongoing. Expected completion date, 08/15/98.

2. An evaluation of other safety class 480 Vac and 125 Vdc breakers was performed to ensure that the error made during the 1992 design implementation was not indicative of a generic problem with over-current setpoint control.

   a. This evaluation included a review of the documentation associated with some recent breaker replacements. Those documents properly identified the required over-current trip setpoint verification. This action is complete.

   b. Two safety class breakers, one supplying a non-safety load, the other supplying the safety class SFPC Pump, were found to be set incorrectly. VY internal event reports were initiated to address each of those setpoint issues. This action is complete.

Long Term Corrective Actions:

1. The VY Engineering Support Personnel Training Program Curriculum Committee has reviewed the particulars of this event to determine the need for training on this issue. The action is complete.

2. Procedures governing the generation and implementation of design changes at VY will be enhanced to inpcorporate the lessons learned from this event. The expected completion date is 12/30/98.

ADDITIONAL INFORMATION:

Vermont Yankee has reported the following similar events during the past five years.

LER #	Date	Title
95-06	05/02/95	RCIC System inoperable with isolation valve in closed position due to a tripped supply breaker as a result of a low instantaneous trip setting.
96-21	09/07/96	Inadequate procedural controls of MOV Limit Switch Settings result in a potential common cause failure mode with the capacity to affect multiple safety significant components.
98-19	06/01/98	Failure to Adequately Define Standards For Reducing Contact Forces Caused by Sharp Edges On MOV Internals Results in Six Primary Containment Isolation Valves Being Declared Inoperable.