

PRIORITY ATTENTION REQUIRED MORNING REPORT - REGION I MAY 31, 1994

Licensee/Facility:

Notification:

Vermont Yankee Nuclear Power Corp. MR Number: 1-94-0061

Vermont Yankee 1

Date: 05/31/94

Vernon, Vermont

SRI PC

Dockets: 50-271

BWR/GE-4

Subject: REACTOR CLEANUP ISOLATION/REACTOR COOLANT RELEASE

Reportable Event Number: 27319

Discussion:

On May 31, 1994 at 5:26 p.m., the reactor water cleanup (RWCU) system isolated on high inlet temperature. Coincidentally, alarms in the control room indicated elevated radiation levels (20 mr/hr) in the reactor building (RB), a 3-fold increase in radioactive gas concentration (maximum 690 cpm) in the RB, a 2-fold increase in particulate concentrations (maximum 4000 cpm) in the RB, and a high water level in the RB floor and equipment sumps. Based on control room indications, the Shift Supervisor conservatively secured access to the RB pending the conduct of radiation and contamination surveys. At 5:35 p.m. both RB sump alarms cleared and at 5:56 p.m. the RB was entered for surveys. The licensee has preliminarily determined that an electrical fire in the RWCU control panel caused air-operated valve AO-40A to fail open pressurizing RWCU low pressure piping. This increase in pressure was mitigated by the actuation of relief valve, SR-36 (set at 150 psig). SR-36 is hard piped through the RB floor drain system to the RB sumps. Based on totalizer readings, 220 gallons of reactor coolant were discharge into the RB floor drain system.

The actuated relief valve caused increased flow in the RWCU system and an approximate 2- inch reactor water level decrease from the steady state water level of 160". The decrease in reactor water level was automatically mitigated by an increase in feedwater flow causing a subsequent short-duration reactor power transient to 1614 MWt from an initial power level of 1594 MWt (100% rated power). When the RWCU system isolated on high inlet water temperature, the relief pathway was isolated and the reactor water level transient was terminated.

The leakage of reactor coolant into the RB floor drain system through SR-36 caused an increase in radioactive gas and particulate levels as detected by the RB radiation monitoring system; however, subsequent air monitoring showed no increase. Contamination surveys near the supplemental fuel pool cooling system (located directly below the RWCU system) identified approximately 30kcpm/100sqcm general area and 800 mRad-beta near one floor drain indicating that the floor drain "backed

up" when the relief valve lifted. Lower levels of radioactive concentrations have also been identified on most areas in the RB. The licensee identified a few gallons of reactor coolant and RWCU demineralizer resin in the vicinity of the floor drain.

The licensee continues its investigation. Corrective actions include root cause determination, continuing assessment of reactor water level chemistry, and fire protection concerns. Major repair efforts are focused

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on restoring the "B" RWCU subsystem to service and assuring that low pressure piping has not been damaged by the overpressurization event.

Regional Action:

The resident inspectors will continue to monitor licensee actions.

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             John Shedlosky                (215)337-5171

LICENSEE: VERMONT YANKEE NUCLEAR POWER CORP.  
SITE: VERMONT YANKEE 1                    EN NUMBER:27319  
DOCKET: 05000271                    EVENT DATE: 05-30-94  
RX TYPE: BWR                    EVENT TIME: 17:26  
VENDORS: GE-4                    NOTIFY DATE: 05-31-94  
EMERGENCY CLASS: N/A REGION: 1 STATE: VT    TIME: 01:14  
OPS OFFICER: RUDY KARSCH  
10 CFR SECTION: AHIN 50.72(b)(1)(vi)    OTHER HIND TO SAFE OP  
UNIT SCRAM RX INIT INITIAL MODE    CURR CURRENT MODE  
             CODE CRIT PWR                    PWR  
1    N    Y    100    POWER OPERATION    100    POWER OPERATION

ACCESS TO THE SPENT FUEL POOL HEAT EXCHANGER ROOM RESTRICTED DUE TO RADIATION FROM A REACTOR WATER CLEANUP SYSTEM (RWCU) RESIN SPILL.

THE LICENSEE RECOGNIZED THAT THIS WAS A REPORTABLE EVENT AT 0055 EDT ON 5/31/94. A SHORT CIRCUIT IN AN RWCU RELAY CAUSED OPENING OF AIR OPERATED VALVE (SP-40A), DISCHARGE OF PRECOAT TANK AND INLET TO RWCU PUMP. THE INLET PIPING IS LOW PRESSURE & LOW TEMPERATURE PIPING PROTECTED BY A TEMPERATURE INTERLOCK AND A RELIEF VALVE WHICH DRAINS TO THE RAD WASTE SYSTEM. THE RELIEF VALVE LIFTED AND THE INCREASED SYSTEM FLOW EVENTUALLY CAUSED A HIGH TEMPERATURE ISOLATION AND RWCU PUMP TRIP. HOWEVER, APPROXIMATELY 300 GALLONS OF COOLANT WAS RELIEVED TO THE RAD WASTE DRAIN. LATER THE LICENSEE DISCOVERED THAT A PLEXIGLAS SECTION OF THE RAD WASTE DRAIN IN THE SPENT FUEL POOL HEAT EXCHANGER ROOM, UNDERNEATH THE RWCU ROOM, BLEW OUT SCATTERING A

SMALL AMOUNT OF PRECOAT RESIN ON THE WALLS AND FLOOR. ACCESS TO THE ROOM IS RESTRICTED AND ANTI-Cs AND RESPIRATORS ARE REQUIRED. CONTAMINATION WAS MEASURED AT 30K DPM/100 SQ CM, AND A DOSE OF ONE RAD/HR BETA. THE LICENSEE EXPECTS CLEAN UP TO BE COMPLETED BY 1600 EDT ON 5/31/94. THE LICENSEE INFORMED THE VERMONT DEPARTMENT OF PUBLIC SERVICES AND WILL INFORM THE NRC RESIDENT INSPECTOR.

\*\*\*\* RETRACTED BY MAY AT 1425 EDT ON 06/14/94 TAKEN BY ANDREWS  
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BASED ON REVIEW OF THE FEBRUARY 1994 VERSION OF NUGEG-1022, THE LICENSEE HAS DETERMINED THAT THIS EVENT IS NOT REPORTABLE. THE NRC RESIDENT INSPECTOR WILL BE NOTIFIED.

HOO NOTIFIED R1DO (KELLY)