



VERMONT YANKEE NUCLEAR POWER CORPORATION

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March 29, 1991
VYV #91-093

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 91-04

Dear Sirs:

As defined by 10 CFR 50.73, we are reporting the attached Reportable Occurrence as LER 91-04.

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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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 5
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TITLE (4) INCOMPLETE SURVEILLANCE TESTING OF REACTOR PROTECTIVE SYSTEM LOGIC INSTRUMENT CHANNELS DUE TO INADEQUATE PROCEDURES

EVENT DATE (5) MONTH DAY YEAR 0 2 2 8 9 1 9 1	LER NUMBER (6) YEAR SEQ. # REV# - 0 0 4 - 0 0 0	REPORT DATE (7) MONTH DAY YEAR 0 3 2 9 9 1	OTHER FACILITIES INVOLVED (8) FACILITY NAMES DOCKET NO.(S) 0 5 0 0 0
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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) 1 0 0	20.402(b)	20.405(c)	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)	X 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. AREA CODE 8 0 2 2 5 7 7 7 1 1
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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
D					N/A				
N/A					N/A				

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MO	DA	YR
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ABSTRACT (Limit to 1400 spaces, i.e., approx. fifteen single-space typewritten lines) (16)

On 2/28/91, with the reactor operating at 100% power, it was identified that two Reactor Protection System (RPS) (EIS=JC) Trip inputs, the Main Steam Line Isolation Valve Closure Trip and the Turbine Stop Valve Closure Trip, had not been tested to the extent required by the plant's Technical Specifications (TS) table 4.1.1. The applicable portions of two plant surveillance procedures did not completely satisfy the TS requirement to functionally test the circuits from sensor to actuating device by tripping the channel and verifying the alarm. Both procedures only required that the applicable valve's sensor relay be monitored while each valve was stroked closed approximately 10%.

Following identification of this event, an assessment of equipment operability was made by the Plant Operations Review Committee and Plant Management. The assessment concluded that all equipment was fully operable and sufficient justification existed to maintain system operability in the short term until the required surveillance procedures could be thoroughly prepared, reviewed, approved, and safely implemented. The procedures were revised and the tests were successfully performed approximately 66 hours after the deficiency was identified. The root cause of this event was inadequate procedures.

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

DESCRIPTION OF EVENT

On 2/28/91, with the reactor operating at 100% power it was identified that two Reactor Protection System (RPS)(EIIS=JC) Trip inputs, the Main Steam Line Isolation Valve Closure Trip and the Turbine Stop Valve Closure Trip, had not been tested to the extent required by the plant's Technical Specifications (TS) Table 4.1.1. TS Table 4.1.1 required that the trip channel and alarm be functionally tested monthly. The applicable portions of plant surveillance procedures OP 4113 Main and Auxiliary Steam System and OP 4160 Turbine Generator Surveillance did not completely satisfy this TS requirement. The two procedures only required that the applicable valve's sensor relay be monitored while each valve was stroked closed approximately 10%. A team was organized to expeditiously prepare and review revisions to the surveillance procedures to incorporate steps to test the trip circuits to the extent required by the Technical Specifications.

Following identification of this event, an assessment of equipment operability was prepared and reviewed by the Plant Operations Review Committee and Plant Management. The assessment concluded that the condition had a minimal impact on safety and that all equipment was fully operable and sufficient justification existed to maintain system operability in the short term until the required surveillance procedures could be thoroughly prepared, reviewed, approved, and safely implemented. The test was successfully performed approximately 66 hours after the deficiency was identified.

Surveillance Procedures OP 4113 and OP 4160 were identified as deficient during a review being performed in accordance with the VY Procedure Writer's Guide. The Procedure Writer's Guide had recently been enhanced due to identified weaknesses in the surveillance testing program. The changes to the Procedure Writer's Guide applicable to surveillance procedures responsible for satisfying Technical Specification requirements include:

1. Delineating the specific sections of Surveillance Procedures that satisfy Technical Specification requirements.
2. Department Supervisors review the results of surveillance procedures to ensure the Technical Specification requirements are met.
3. Review of the procedure relative to the specific Technical Specification requirement being satisfied to ensure compliance.

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TEXT CONTINUATION

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

CAUSE OF EVENT

The root cause of this event is inadequate procedures. In both cases, the surveillance procedures responsible for satisfying the Technical Specification requirement did not specify testing to the extent necessary.

Contributing Causes

1. Insufficient information exists relative to the preparation of the original Technical Specification surveillance procedures to know exactly why the required level of testing was not specified. However, it is surmised that when the procedures for the RPS logic functional tests were being developed, that it was felt that the requirements for the Main Steam Line Isolation Valve Closure Trip and the Turbine Stop Valve Closure Trip were being satisfied. This is based upon the fact that relay contacts for the Main Steam Line Isolation Valve Closure Trip and the Turbine Stop Valve Closure Trip are part of the same logic circuitry as the remaining RPS Scram inputs. The functional test for all other RPS Scram inputs (e.g. High Drywell Pressure, High Reactor Pressure, Low Reactor Water Level) trip their respective channel and provide an alarm.
2. The Main Steam Line Isolation Valve Closure Trip and the Turbine Stop Valve Closure Trip utilize logic that differs from other RPS Scram inputs. To test this channel's circuitry to the half trip condition, two devices must be actuated (e.g. two valves close = half trip, three valves close = full trip). For all other RPS sensors, one field device can be actuated and the half trip and alarm verified. The non-standard logic contributed to the half channel trip test and alarm not being performed.

ANALYSIS OF EVENT

Surveillances are established to verify that equipment will perform its' intended safety function when required. The failure to fully meet Technical Specification surveillance requirements is recognized to be significant. It was due to a prior identified weakness in this area that the corrective actions to address this weakness had been initiated. It was these corrective actions which identified this occurrence.

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ANALYSIS OF EVENT (Contd.)

After reviewing this specific incident, it has been determined that there was reasonable assurance the equipment would operate properly and there was minimal impact on safety. This is based on the following:

1. Individual circuit components from the sensor contacts to the sensor relays have been tested monthly.
2. The complete channel logic for these parameters is functionally tested once per cycle in conjunction with other testing. The last test was completed in October, 1990.
3. RPS relay logic is normally energized and failure of active components (relays) or a circuit path would result in a half Scram during monthly testing.
4. The remaining active components (ie: automatic Scram relays and solenoids) are tested monthly in conjunction with functional tests of other RPS inputs.

CORRECTIVE ACTIONS

Immediate Corrective Actions

1. Other surveillance tests were reviewed to determine if other trip inputs that utilize unconventional logic configurations are being tested to the extent required by TS, none were identified.
2. Preparation of revised surveillance procedures was commenced with the intent of completing the procedures and performing the surveillances within 96 hours from 1500 on February 28, 1991. The tests were successfully performed and completed by 1040 on March 3, 1991, approximately 66 hours after the condition was identified.

Long Term Corrective Actions

1. The Procedure Writer's Guide will be revised to provide a method of referencing those procedures which require more than one department's participation to satisfy a specific Technical Specification test.

No additional corrective actions are considered necessary. The corrective actions established due to a previously recognized weakness in this area were responsible for identifying this case. These corrective actions are continuing and will serve to correct any additional items identified.

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ADDITIONAL INFORMATION

LER's 89-20, 89-24, 90-02, 91-02, and 91-03 are similar to this event in that a procedural deficiency resulted in a Technical Specification surveillance requirement not being met.