May 3, 2001

Mr. Michael A. Balduzzi
Vice President, Operations
Vermont Yankee Nuclear Power Corporation
185 Old Ferry Road
P.O. Box 7002
Brattleboro, Vermont 05301-7002

SUBJECT: VERMONT YANKEE - NRC INSPECTION REPORT 05000271/2001-002

Dear Mr. Balduzzi:

On March 31, 2001, the NRC completed an inspection at your Vermont Yankee facility. The enclosed report presents the results of that inspection. The preliminary findings were presented to you and other Vermont Yankee managers in an exit meeting on April 19, 2001.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection involved six weeks of resident inspection and a regional office review of emergency plan procedure changes. There were no findings of significance identified.

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Sincerely,

/RA/

Glenn W. Meyer, Chief
Projects Branch 3
Division of Reactor Projects

Docket No. 05000271
License No. DPR-28

Enclosure: Inspection Report 05000271/2001-002
Attachment: Supplemental Information

cc w/encl:
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.	05000271
Licensee No.	DPR-28
Report No.	05000271/2001-002
Licensee:	Vermont Yankee Nuclear Power Corporation
Facility:	Vermont Yankee Nuclear Power Station
Location:	Vernon, Vermont
Dates:	February 18, 2001 - March 31, 2001
Inspectors:	Brian J. McDermott, Senior Resident Inspector Edward C. Knutson, Resident Inspector David M. Silk, Senior Emergency Preparedness Inspector
Approved by:	Glenn W. Meyer, Chief Projects Branch 3 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000271/2001-002, on 02/18/01-03/31/01; Vermont Yankee Nuclear Power Station; Vermont Yankee Nuclear Power Corporation; Resident Inspection Report

This inspection was performed by the resident inspectors and an emergency preparedness specialist from the NRC's Region I office. This inspection identified no findings of significance. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

Inspector Identified Findings

- No findings of significance were identified.

Report Details

Summary of Plant Status: Vermont Yankee operated at 100 percent power for most of the inspection period. On March 19 a reactor scram occurred due to a reactor protection system malfunction during routine surveillance testing. A reactor startup was commenced on March 20 and the plant was returned to full power operation on March 22. In addition, planned power reductions were performed to support control rod pattern adjustments, valve testing, and single rod scram time testing.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R04 Equipment Alignments

a. Inspection Scope

The inspectors performed a partial system walkdown (visual inspection) to verify the operability of redundant systems or equipment during periods of on-line maintenance and surveillance.

- March 19 - Residual heat removal (RHR) subsystem A due to its increased risk significance during LCO maintenance on RHR subsystem B.
- March 20 - RHR subsystem B following completion of maintenance activities.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors evaluated plant areas important to reactor safety in order to assess VY's control of transient combustibles and ignition sources, and the material condition and operational status of fire protection systems, equipment, and barriers. The following areas important to plant risk were toured:

- West switchgear room - significant fire hazard area (IPEEE)
- RHR system corner rooms - Appendix R fire zones RB-1 and RB-2
- Torus room 213' elevation, north (Appendix R fire zone RB1) - based on probabilistic risk assessment (PRA) of increased event significance during LCO maintenance on the B RHR subsystem
- East switchgear room - significant fire hazard area (IPEEE)

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed VY's analyses of potential flooding caused by internal and external events, and flooding mitigation measure including design features and procedures. The inspectors performed visual inspections of two areas that contain risk significant equipment to verify the installation of flood protection design features and to determine if additional flooding risks existed. The plant areas inspected were:

- RHR system corner rooms (internal source flooding)
- Diesel fuel oil transfer pump house (external source flooding)

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed quarterly surveillance test results and the most recent thermal performance test results for the safety-related room coolers in the reactor building, Reactor Recirculation Units 7 and 8. The inspectors also reviewed the results of thermal performance testing performed on October 27, 1999, November 2, 1999, and November 15, 1999.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed simulator training for one operating crew to assess the performance of the licensed operators and the evaluation by VY's training staff. The inspectors' assessment was in accordance with NRC Inspection Procedure 71111.11, "Licensed Operator Requalification Program."

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed VY's implementation of program procedure PP 7009, "10 CFR 50.65, Maintenance Rule Program," as related to a failure of the lockup feature of the A feedwater regulating valve that occurred during testing on March 21.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the maintenance risk assessment and work controls associated with the following activities:

- Emergent work to address the slow closure of reactor building ventilation isolation valves HVAC-9, 11, and 12
- On-line removal of insulation from piping in several operable safety systems
- Planned maintenance on RHR subsystem B and restoration from this activity prior to its completion after the reactor scram on March 19

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope

The inspectors observed portions of the following evolutions:

- Single rod scram time testing on March 10
- Reactor and plant startup from hot standby on March 21

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed operability determinations associated with the following plant issues:

- Environmental qualification of valve position indication switches on main steam isolation valves MSIV-86B and MSIV-86C. VY had identified that bonnet insulation for these valves had not been installed following the 1999 refueling outage; the resultant increased heating of the valve position indication switches could have had an adverse affect on their environmental qualification.

- Steam jet air ejector radiation monitor RM-17-150A indicated a step decrease in radiation level; several days later, the instrument failed a routine calibration check.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors reviewed the cumulative effects of operator workarounds identified in VY's Workaround List dated February 27, 2001. The inspectors also toured various areas of the plant to determine if any significant items were not on the list.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the following permanent plant modification:

- Main station battery charger modifications, VY design change (VYDC) 2000-029

- Installation of a cross-connect between the alternate cooling system and the standby fuel pool cooling system, VYDC 2000-024

- Replacement of the main station batteries and reduction of the required battery capacity, VYDC 2000-028

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed and/or observed portions of the post maintenance testing associated with the following work activities using the guidance provided in Attachment 19 of NRC Inspection Procedure 71111:

- Replacement of the valve position indication switch for reactor building ventilation system isolation valve HVAC-12 on March 8
- Maintenance on various motor-operated valves performed during the B RHR subsystem LCO maintenance period on March 20
- Inspection of the RHR service water pump B discharge check valve RHRSW-40B on March 20
- Maintenance on the actuator for feedwater regulating valve A on March 21
- Replacement of the stator cooling pump A motor on March 29

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed and/or observed portions of the following surveillance test activities:

- Monthly testing of the A emergency diesel generator (EDG) performed in accordance with surveillance procedure OP 4126 on February 20
- Once-per-cycle testing of the reactor core isolation cooling system (time to rated flow test) performed in accordance with surveillance procedure OP 4121 on February 27
- Once-per-cycle testing of the high pressure coolant injection system (time to rated flow test) performed in accordance with surveillance OP 4120 on February 27

- Biannual fast start testing of the A EDG performed in accordance with surveillance procedure OP 4126 on March 16

b. Findings

No findings of significance were identified.

1R23 Temporary Modifications

a. Inspection Scope

The inspectors reviewed Temporary Modification 01-008, which installed voltmeters in the reactor protection system backup scram valve circuits. This modification allows the control room operators to verify the proper reset of the backup scram logic following any half scram logic actuation.

b. Findings

No findings of significance were identified.

1EP4 Emergency Plan Reviews

a. Inspection Scope

The inspector conducted an in-office review of licensee submitted changes for the following emergency plan implementing procedures to determine if the changes decreased the effectiveness of the plan:

- OP 3504, Emergency Communications (Rev 32)
- OP 3506, Emergency Equipment Readiness Check (Rev 39, LPC 1)
- OP 3511, Off-site Protective Action Recommendations (Rev 11, LPC 2)
- OP 3524, Emergency Actions to Ensure Initial Accountability and Security Response (Rev 17)
- OP 3531, Emergency Call-In Method (Rev 13, LPC 1)

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA4 Event Follow-up

.1 Reactor Scram During Surveillance Testing, March 19, 2001

a. Inspection Scope

On March 19 instrument and control (I&C) technicians were performing routine surveillance testing of the reactor protection system (RPS). When the technicians completed their testing on RPS Trip System B, an auxiliary contact on one RPS relay failed. As a result, the actuation signal for Backup Scram Valve 140B remained in effect when all available control room indications showed the RPS Trip System B actuation signal was reset.

VY has two backup scram solenoid valves which initiate the insertion of all control rods via the air pressure header, regardless of the action of the rod's individual scram pilot valves. The backup scram valves are redundant to the individual scram pilot valves in that they provide an alternate means of venting the air pressure from the scram valves. This design ensures that all control rods will insert, even if the scram pilot valve for a control rod fails to de-energize when a scram is required.

An automatic reactor scram occurred at 12:32 p.m. when the technicians began a different test on RPS Trip System A, completing the circuit to energize Backup Scram Valve 140B. All control rods fully inserted and plant systems responded as expected. The inspectors observed the operating crews' actions immediately following the scram, VY's evaluation of this event, and the short term actions taken to prevent recurrence.

b. Findings

No findings of significance were identified.

4OA6 Exit Meeting

On April 19, 2001, the resident inspectors presented their overall findings to members of VY management led by Mr. Michael Balduzzi, Vice President of Operations. VY management acknowledged the findings presented and did not contest any of the inspectors' conclusions. Additionally, they agreed that none of the information reviewed by the inspectors was considered proprietary.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

a. List of Items Opened and Closed

None

b. List of Acronyms Used

EDG Emergency Diesel Generator
HVAC Heating, Ventilation, and Air Conditioning
IPEEE Individual Plant Examination External Events
LCO Limiting Condition for Operation
MSIV Main Steam Isolation Valve
NRC Nuclear Regulatory Commission
PRA Probabilistic Risk Assessment
RHR Residual Heat Removal
RPS Reactor Protection System
SDP Significance Determination Process
VY Vermont Yankee
YYDC Vermont Yankee Design Change