January 19, 2001

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

SUBJECT: VERMONT YANKEE - NRC INSPECTION REPORT 05000271/2000-010

Dear Mr. Balduzzi:

On December 30, 2000, 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 January 10, 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 region-based inspections in the areas of emergency preparedness and radiation safety. There were no findings of significance identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

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

Docket No. 05000271
License No. DPR-28

Enclosure: Inspection Report 05000271/2000-010

cc w/encl:
R. McCullough, Operating Experience Coordinator - Vermont Yankee
G. Sen, Licensing Manager, Vermont Yankee Nuclear Power Corporation
J. A. Hutton, Director-Licensing, AmerGen Energy Company
D. Rapaport, Director, Vermont Public Interest Research Group, Inc.
D. Tefft, Administrator, Bureau of Radiological Health, State of New Hampshire
Chief, Safety Unit, Office of the Attorney General, Commonwealth of Massachusetts
D. Lewis, Esquire
G. Bisbee, Esquire
J. Block, Esquire
T. Rapone, Massachusetts Executive Office of Public Safety
D. Katz, Citizens Awareness Network (CAN)
M. Daley, New England Coalition on Nuclear Pollution, Inc. (NECNP)
R. Shadis, New England Coalition Staff
State of New Hampshire, SLO Designee
State of Vermont, SLO Designee
Commonwealth of Massachusetts, SLO Designee

Distribution w/encl:
Region I Docket Room (with concurrences)
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H. Miller, RA
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G. Meyer, DRP
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C. O'Daniell, DRP
J. Shea, OEDO
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.	05000271
Licensee No.	DPR-28
Report No.	05000271/2000-010
Licensee:	Vermont Yankee Nuclear Power Corporation
Facility:	Vermont Yankee Nuclear Power Station
Location:	Vernon, Vermont
Dates:	November 19 - December 30, 2000
Inspectors:	Brian J. McDermott, Senior Resident Inspector Edward C. Knutson, Resident Inspector David M. Silk, Senior Emergency Preparedness Inspector Laurie A. Peluso, Health Physicist
Approved by:	Glenn W. Meyer, Chief Projects Branch 3 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000271-00-10, on 11/19-12/30/00; Vermont Yankee Nuclear Power Station; Vermont Yankee Nuclear Power Corporation; Resident Inspection Report

This inspection was performed by the resident inspectors and region-based emergency preparedness and radiation protection specialists. This inspection identified no findings of significance. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process (SDP) in Inspection Manual Chapter 0609 (see Attachment 1).

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Finding

A violation of very low safety significance was identified by Vermont Yankee in a self-assessment and was reviewed by the inspectors. This violation involved the failure to use self-contained breathing apparatus during fire drills as required by 10 CFR 50, Appendix R, Section III, Paragraph I.3.e(2). This issue is discussed in Section 1R05.2 and listed in Section 4OA7.

Report Details

Summary of Plant Status: The plant operated at 100 percent power throughout this report period with the exception of a power reduction to 95 percent power for a control rod pattern adjustment on December 12, 2000.

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

1R04 Equipment Alignments

a. Inspection Scope

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

- December 4 - reactor core isolation cooling system during a planned maintenance outage of the high pressure coolant injection system.
- December 19 - A emergency diesel generator (EDG) during surveillance testing of the B EDG.

b. Issues and Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Routine Inspections

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.

- Service water pump room during painting activities
- EDG rooms
- Residual heat removal system corner rooms

b. Issues and Findings

No findings of significance were identified.

.2 Fire Brigade Drill

a. Inspection Scope

On November 30 the inspectors observed a fire brigade drill involving a simulated oil fire in an emergency diesel generator room. The inspectors assessed the fire brigade performance using NRC Inspection Procedure 71111.05, “Fire Protection.”

b. Issues and Findings

The inspectors observed that the fire brigade did not wear or use self-contained breathing apparatus (SCBA) equipment during the drill. VY has not been using SCBA equipment during on-site fire drills over the past three years due to concerns over personnel safety and the potential for inducing plant transients except for very infrequent instances. Nonetheless, the inspectors found that VY had previously identified this issue and was in the process of addressing it.

10 CFR 50 Appendix R, Section III, Paragraph I.3.e, states “Drills shall as a minimum include the following . . . assessment of each brigade member’s knowledge of his or her role in the fire fighting strategy for the area assumed to contain the fire. Assessment of the brigade member’s conformance with established plant fire fighting procedures and use of fire fighting equipment, including self-contained breathing apparatus, communication equipment, and ventilation equipment, to the extent practicable.” In a letter dated November 24, 1980, the NRC had notified VY of the 10 CFR 50.48 and Appendix R provisions applicable to the facility.

A VY self-assessment (FP#2000-011) dated May 31, 2000, had recommended that the fire drill control team be allowed to require the use of SCBAs during drills, as practicable. In response to this self-assessment, the operations department had committed to support the use of SCBA equipment during a scheduled quarterly fire brigade drill, six-months following the hands-on SCBA training provided at the annual fire brigade school. At the end of this inspection period VY was still evaluating their final corrective actions for this issue.

VY's failure to assess each fire brigade member's use of SCBA equipment during drills as required by 10 CFR 50, Appendix R, Section III, Paragraph I.3.e(2) is a violation of NRC requirements. This license-identified violation is being treated as a non-cited, licensee-identified violation and is discussed in Section 4OA7 of this report.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed simulator training for a staff 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. Issues and 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 the following safety significant systems:

- Meteorological monitoring system following a failure of the system data recorder; the inspectors subsequently determined that this system had not been included in VY's maintenance rule program, and that this exclusion was acceptable.
- Secondary containment system following a failure of the outer railroad airlock door to close.
- Emergency diesel generators.
- Automatic depressurization system and the safety relief valves.

b. Issues and 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 a planned maintenance period for the high pressure coolant injection system on December 4-5.

b. Issues and Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

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

- Potential over-pressurization of the high pressure coolant injection or reactor core isolation cooling systems discharge piping during turbine malfunctions that would result in an overspeed trip.
- Assurance of core-wide mode oscillation predominance for all power and flow conditions.
- Main turbine stop and intercept valve surveillance anomalies.

b. Issues and Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed a modification of control cables for the Vernon Hydro 4 kV tie that was developed based on VY's Individual Plant Examination of External Events.

b. Issues and Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the surveillance test activities for the high pressure coolant injection system following completion of a planned maintenance outage.

b. Issues and Findings

No findings of significance were identified.

1EP2 Alert and Notification System Testing

a. Inspection Scope

The inspector reviewed documentation submitted to the Federal Emergency Management Agency for approval of the siren notification system. A technician was interviewed regarding details of siren testing and maintenance. Siren testing and maintenance records were reviewed for completeness and trends. The inspector also reviewed VY actions regarding the tone alert radio program to ensure that portion of the notification system was being maintained for areas not covered by sirens.

b. Issues and Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation Testing

a. Inspection Scope

The inspector reviewed VY's commitments for facility staffing and activation. The qualification records were reviewed to ensure that sufficient numbers of responders were available. The procedure for initiating ERO call-in was reviewed and walked-through. Results from weekly pager tests and annual call-in drills were reviewed for timeliness and consistency.

b. Issues and Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed recent emergency plan and EAL changes to determine if the changes resulted in a decrease of effectiveness of the emergency plan. Verification of agreement by the three states for the recent EAL change was performed. VY's 10 CFR 50.54(q) review process was assessed.

b. Issues and Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector reviewed corrective actions identified by VY during quality assurance audits, drill reports, regular self-assessments, and from self-revealing problems resulting from regular surveillances and drills. Event Reports assigned to the EP department were also reviewed to determine significance of the issues and to determine if repeat problems were occurring. The inspector reviewed the reports for the 1999 and 2000 10CFR50.54(t) reviews to assess that the reviews met the requirements and if any repeat issues were identified.

b. Issues and Findings

No findings of significance were identified.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety (OS)

2OS2 ALARA Planning and Controls

a. Inspection Scope

The inspector reviewed work performance during the current operating cycle. Areas reviewed included an evaluation of the use of engineering controls to achieve dose reductions; review of the use of low dose waiting areas; review of on-job supervision provided to workers; and, a review of individual exposures from selected work groups. An analysis of source term reduction plans was conducted.

The inspector reviewed radiation worker and radiation protection technician performance during one high exposure job (remove/replace valve V70-111, Fuel Pool Heat Exchanger) to determine if the training/skill level was sufficient with respect to the radiological hazards.

b. Issues and Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation

a. Inspection Scope

The inspector reviewed field instrumentation used by radiation protection technicians and plant workers to measure radioactivity, including portable field survey instruments, friskers, portal monitors, and small article monitors. The inspector verified calibration, operability, and alarm set points of instruments and equipment observed in the reactor, turbine, and radioactive waste buildings; specifically the continuous air monitors (CAMs) and area radiation monitors (ARM) were reviewed. The inspector reviewed the

calibration and source checks for electronic dosimeters and the whole body counters. The inspector reviewed the most recent calibration records for the Shepherd calibrator.

The assessment included a review of calibration documentation from 1999 and 2000, procedures associated with the above instrumentation and equipment, and selected audit reports and self assessments. The inspector observed radiation protection personnel conduct source checks and calibrations of selected equipment.

The inspector reviewed the following Event Reports (ER) to ensure that the problems were being identified, characterized, prioritized, entered to a corrective action, and resolved: 2000-0996; 2000-1086; 2000-1087; 2000-1088; 2000-1147; 2000-1506; and 2000-1630.

The inspector assessed the adequacy of the respiratory protection program to determine status of self-contained breathing apparatus (SCBA) required for entering and working in areas of unknown radiological and/or potential immediately dangerous to life and health (IDLH) areas. The inspector toured areas in the plant where SCBAs are staged for use including the control room, the Technical Support Center (TSC) and the Operations Support Center (OSC). The inspector reviewed the surveillance records and verified that they were complete and ensured SCBA packs and bottles were appropriately staged and ready for use in the plant during an emergency. The inspector verified that the qualifications for control room operators and health physics technicians who utilize this equipment were up to date.

Issues and Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

.1 Emergency Response Organization Drill/Exercise Performance

a. Inspection Scope

The inspector reviewed VY's process for identifying the data that is used to determine the values for the three emergency preparedness performance indicators (PI) which are: 1) Drill and Exercise Performance; 2) Emergency Response Organization Participation; and 3) Alert and Notification System Reliability. The review assessed data from 1999 and 2000. Classification, notification, and protective action opportunities were verified by reviewing scenarios. Attendance records for drill and exercise participation were reviewed. Details of the siren testing and data collection were discussed with individuals responsible for that program.

b. Issues and Findings

No findings of significance were identified.

4OA4 Event Follow-up

.1 (Closed) LER 05000271/2000-007-00

The inspectors reviewed VY Licensee Event Report 2000-004-00, "Control circuit design and the use of an incorrect light bulb extraction tool results in a loss of condenser vacuum and a manual plant trip." This event was reviewed in NRC Inspection Report 05000271/2000-007, Section 4OA4. No findings of significance were identified.

4OA6 Exit Meeting

On January 10, 2001, the 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.

4OA7 Licensee Identified Non-Compliance

The following finding of very low safety significance was identified by VY and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy (NUREG 1600) for being dispositioned as a non-cited violation.

NCV Number	Requirement VY Failed to Meet
2000-010-01	VY failed to assess each fire brigade member's use of self-contained breathing apparatus during drills, as required by 10 CFR 50, Appendix R, Section III, Paragraph I.3.e(2).

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed During this Inspection

NCV 05000271/2000-010-01:	Failure to use self-contained breathing apparatus during fire brigade drills

Closed During this Inspection

LER 05000271/2000-004-00:	Control circuit design and the use of an incorrect light bulb extraction tool results in a loss of condenser vacuum and a manual plant trip

LIST OF ACRONYMS USED

ARM	Area Radiation Monitors
CAM	Containment Air Monitor
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
EP	Emergency Preparedness
ER	Event Report
ERO	Emergency Response Organization
IDLH	Immediately Dangerous to Life and Health
NRC	Nuclear Regulatory Commission
OSC	Operations Support Center
OT	Operational Transient
PI	Performance Indicators
SCBA	Self-Contained Breathing Apparatus
SDP	Significance Determination Process
TSC	Technical Support Center
VY	Vermont Yankee

ATTACHMENT 1

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance

(as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.