

October 12, 2001

Mr. Michael A. Balduzzi, Senior Vice President
and Chief Nuclear Officer
Vermont Yankee Nuclear Power Corporation
185 Old Ferry Road
Brattleboro, Vermont 05301

SUBJECT: VERMONT YANKEE NUCLEAR POWER PLANT - NRC INSPECTION REPORT
50-271/01-007

Dear Mr. Balduzzi:

On September 13, 2001, the NRC completed an inspection at the Vermont Yankee Nuclear Power Plant. The enclosed report presents the results of that inspection. The results were discussed on September 13, 2001, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to the identification and resolution of problems, and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection involved selected examination of procedures and representative records, observations of activities, and interviews with personnel.

On the basis of the sample selected for review, the team concluded that the overall implementation of the corrective action program at Vermont Yankee was adequate. In general, problems were properly identified, evaluated and resolved. No findings of significance were identified. However, some minor issues were identified where the corrective actions were not adequately tracked to completion.

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/

David C. Lew, Chief
Performance Evaluation Branch
Division of Reactor Safety

Docket No. 50-271
License No. DPR-28

Enclosure: NRC Inspection Report 50-271/01-007

cc w/encl:
R. McCullough, Operating Experience Coordinator - Vermont Yankee

G. Sen, Licensing Manager, Vermont Yankee Nuclear Power Corporation
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)
- B. McDermott, DRP - NRC Resident Inspector
- H. Miller, RA
- J. Wiggins, DRA
- G. Meyer, DRP
- R. Barkley, DRP
- G. Walls, DRP
- T. Haverkamp, DRP
- P. Hiland, RI EDO Coordinator
- E. Adensam, NRR
- R. Pulsifer, PM, NRR
- D. Starkey, Backup PM, NRR

DOCUMENT NAME: G:\PERF EVAL\CRANSTON\VY2001-007.wpd

After declaring this document "An Official Agency Record" it **will** be released to the Public.

To receive a copy of this document, indicate in the box:

"C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI/DRS		RI/DRS		RI/DRP	
NAME	GCranston		DLew		GMeyers	
DATE	10/12/01		10/12/01		10/10/01	

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-271

License No: DPR-28

Report No: 50-271/01-007

Licensee: Vermont Yankee Nuclear Power Corporation

Facility: Vermont Yankee Nuclear Power Station

Location: Vernon, Vermont

Dates: August 27 – September 13, 2001

Inspectors: G. V. Cranston, Division of Reactor Safety (DRS), Team Leader
E. C. Knutson, Division of Reactor Projects, Resident Inspector
M. S. Ferdas, DRS, Reactor Inspector

Approved By: David C. Lew, Chief
Performance Evaluation Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000271-01-07; on 08/27-09/13/2001; Vermont Yankee Nuclear Power Corporation, Vermont Yankee Nuclear Power Station; annual baseline inspection of problem identification and resolution; no findings were identified.

The inspection was conducted by two regional inspectors and one resident inspector. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. 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>.

Identification and Resolution of Problems

The team determined that the licensee's performance in the area of problem identification and resolution at the Vermont Yankee site was adequate. Based on a review of items from the licensee's operating, maintenance, and quality assurance processes, the team concluded the licensee was identifying problems and entering them into their corrective action program at the proper threshold. The team further concluded the licensee was evaluating and categorizing problems at the correct significance level. The evaluations were of adequate depth to identify the causes of problems and appropriately broad in considering the extent of the condition. The team also concluded the licensee developed corrective actions that appeared reasonable to address the identified problems. In general, the corrective actions were completed or scheduled to be completed in a timely manner. However, some minor issues were identified where the licensee did not adequately track or implement identified corrective actions.

Report Details

OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution (IP 71152)

.1 Effectiveness of Problem Identification

a. Inspection Scope

The team reviewed items selected from various licensee processes and activities to determine if the licensee was properly identifying, characterizing and entering problems into the corrective action process for evaluation and resolution. The licensee's primary process for identifying and resolving problems was the Event Report (ER); items entered into this process are referred to as ERs. The team reviewed ERs and other documents identified in Attachment 1 to determine the licensee's threshold for identifying problems and entering them into the corrective action program.

The team reviewed items from the licensee's operating, maintenance and quality assessment processes to determine if personnel were appropriately initiating ERs when problems were identified via these processes. The team reviewed a sample of the licensee's pertinent control room logs, work orders (WO), work requests (WR), control room deficiencies, system health reports, results from surveillance tests and preventive maintenance tasks, operating experience information, Nuclear Safety Audit and Review Committee (NSARC) meeting minutes, and several audits and self-assessments (including those of the licensee's corrective action program).

The team also conducted walk-downs and interviewed plant personnel to identify other processes that may exist where problems and issues could be identified. The team attended the licensee's daily work control meeting to observe the interface between the corrective action and work control processes.

b. Issues and Findings

Overall, the team determined that the licensee adequately identified problems and initiated ERs at the proper threshold to document and evaluate the problem. When adverse trends or repetitive problems occurred, the licensee issued trend ERs to determine the cause and initiate corrective action. However, the team identified a few minor instances where issues were not entered into the ER process as specified by the procedures. Specifically, the team found four WOs identifying problems in non-safety related systems, that were either repeat problems or problems not attributed to normal wear, for which an ER should have been generated (WOs 00-001846-000, 00-003121-004, 00-006043-000, and 00-005595-000). The licensee initiated ER 2001-1910 to document these issues during the inspection.

.2 Prioritization and Evaluation of Issues

a. Inspection Scope

The team reviewed items selected from the licensee's corrective action processes to determine whether the issues were properly evaluated and resolved. The review included the appropriateness of the assigned significance, the timeliness of resolution, and the scope and depth of evaluations. The samples included those designated as significant and covered the seven cornerstones. The team screened ERs in the licensee's corrective action process and selected those listed in Attachment 1 of this report for detailed review. The review also included an assessment of the backlog of corrective actions and maintenance backlogs, to determine if any actions, individually or collectively, represented an increased risk due to the delay of implementation. The team attended the licensee's daily ER screening meeting to observe the ER review process and the basis for assigning ER significance levels.

b. Issues and Findings

From the samples reviewed, the team concluded that the licensee adequately evaluated and categorized problems entered into the ER process at the correct significance level. The licensee's evaluations were of adequate depth to identify the causes and appropriately broad in considering the extent of condition. The licensee's assessments properly considered operability and reportability requirements.

.3 Effectiveness of Corrective Actions

a. Inspection Scope

The team reviewed the corrective actions associated with selected ERs to determine whether the corrective actions addressed the identified causes and were completed or scheduled to be completed in a timely fashion.

The team reviewed ERs for repetitive problems to determine whether previous corrective actions were effective. The team also reviewed the backlog of corrective actions to determine if there were items that individually or collectively represented an adverse effect on plant risk or an adverse trend in the implementation of the corrective actions.

b. Issues and Findings

Overall, the team concluded the licensee developed and implemented corrective actions that appeared reasonable to address the identified problems. Based on the sample reviewed, the team determined that, in general, the corrective actions were completed or scheduled to be completed in a timely manner commensurate with the potential significance of the issue. The team did not identify corrective actions in the backlog of work that represented an adverse impact on plant safety. However, the team identified some minor issues where the licensee did not adequately track corrective actions to completion. These included the following:

- While the licensee issued WO's to replace failed shear pins on the blowout panel between the steam tunnel and the reactor building, ERs had not been consistently initiated for this repetitive problem to ensure corrective actions would be effective. The team determined the licensee had performed a calculation in 1994 to show that the premature loss of the blowout panel would not impact the equipment qualification design basis for safety related systems in the reactor building. However, the licensee had not revised the High Energy Line Break/Medium Energy Line Break (HELB/MELB) analysis associated with the qualification of equipment to incorporate this calculation. Additionally, neither an operability determination nor a Basis for Maintaining Operation (BMO) was prepared to properly capture this calculation. The licensee issued ER 2001-1898 to resolve these issues.
- The licensee performed a Significance Level 1 root cause analysis (RCA) to evaluate problems with the augmented off gas drain tank pump that resulted in a loss of condenser vacuum and a plant power level reduction. The licensee's root cause analysis (RCA) team identified a contributing cause for the drain pump problem to be an inadequate post modification test (PMT) conducted in conjunction with replacement of the pump. The corrective action (CA) document, requiring that the PMT be revised, was closed with a comment stating that the PMT was not a contributing cause and that other corrective actions had corrected the problem attributed to the PMT. However, the required feedback form (VYAPF0028.04) was not initiated to allow the RCA team to evaluate the basis for rejecting the contributing cause and associated corrective action. The licensee issued ER 2001-1926 to track and resolve this issue.
- In ER 2001-0177, the licensee identified a corrective action to revise a procedure to ensure accurate breath alcohol testing. However, the licensee closed the ER without initiating a CA to track the issue and a subsequent procedure change did not incorporate the revision specified in the ER. The licensee issued commitment ER-2001-0177-01 to track and resolve this item.
- The licensee identified a corrective action in ER 2000-1309 to revise procedure VYAP-0862 to ensure that the medical services provider differentiated between Licensed Operators and Licensed Operator Applicants. The ER was closed and the licensee issued a CA to track the procedure change. However, the licensee subsequently closed the CA without revising the procedure. The licensee issued commitment ER-1999-1099-02 to track and resolve this item.

.4 Assessment of Safety-Conscious Work Environment

a. Inspection Scope

The team interviewed plant staff to determine if conditions existed that would result in personnel being hesitant to raise safety concerns to their management and/or the NRC. The team reviewed the licensee's Employee Concerns Program training regarding implementation of a safety conscious work environment.

b. Issues and findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

.1 Exit Meeting Summary

The team presented the inspection results to Mr. Balduzzi and other members of licensee management at the conclusion of the inspection on September 13, 2001.

The team asked the licensee whether any materials examined during the inspection should be considered proprietary. None was identified.

Attachment 1: Partial List of Personnel Contacted
Items Opened, Closed, and Discussed
List of Acronyms
List of Documents Reviewed/Referenced

Attachment 1

PARTIAL LIST OF PERSONNEL CONTACTED**Vermont Yankee**

G. Benedict	Component Specialist
D. Calsyn	Manager, Technical Support
A. Chesley	Emergency Plan Supervisor
A. Clark	Senior Plant Mechanic
M. Desilets	Technical Services Superintendent
R. Gerdus	Plant Chemist
J. Geyster	Manager, Radiation Protection
W. King	Operations Shift Supervisor
D. Legere	Superintendent Work Management/Outage
W. Limberger	Manager, Quality Assurance
M. McCluskie	Shift Engineer
J. Moriarty	Security Manager
S. Naeck	Maintenance Production Manager, Mechanical & Electrical
C. Nichols	Maintenance Support Manager
A. Pallang	Engineer
W. Penniman	Project Coordinator
S. Primavera	Engineering Supervisor
R. Scherman	Predictive Maintenance Coordinator
J. Todd	Engineer
S. Vekasy	System Engineer
R. Wanczyk	Director of Safety and Regulatory Affairs

NRC

D. Lew	Branch Chief, DRS
B. McDermott	Senior Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF ACRONYMS

CA	Corrective Action
CFR	Code of Federal Regulations
ER	Event Report
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
NSARC	Nuclear Safety Audit and Review Committee
OA	Other Activities
PMT	Post Modification Test
RCA	Root Cause Analysis
SDP	Significance Determination Process
TS	Technical Specification
VY	Vermont Yankee
WO	Work Order
WR	Work Request

LIST OF DOCUMENTS REVIEWED/REFERENCED

Event Reports (Significance Level 1)

20000084	20000590	20000084	20000222	20000880	20001367
20010162	20010502	20010901	20011498		

Event Reports (Significance Level 2)

20000076	20000100	20000155	20000264	20000313	20000520
20000554	20000725	20000904	20000916	20000963	20001045
20001135	20001209	20001297	20001309	20001363	20001370
20001448	20001509	20001511	20001544	20001575	20001578
20001596	20001605	20001607	20001644	20001670	20001712
20001717	20010035	20010043	20010054	20010073	20010131
20010183	20010249	20010272	20010276	20010279	20010303
20010469	20010556	20010671	20010695	20010743	20010749
20010825	20011027	20011115	20011164	20011188	20011354
20011377	20011399	20011481	20011518	20011538	20011594
20011598	20011814	20011898			

Event Reports (Significance Level 3)

20000090	20000093	20000183	20000184	20000412	20000475
20000499	20000501	20000520	20000579	20000604	20000612
20000634	20000822	20000841	20000903	20000948	20001045
20001099	20001190	20001235	20001370	20001448	20001509
20001578	20001586	20001591	20001596	20001605	20001607
20001612	20001644	20001694	20001700	20001761	20001774
20001797	20001836	20001928	20010054	20010073	20010117
20010169	20010177	20010249	20010303	20010377	20010390
20010556	20010671	20010686	20010799	20010817	20010962
20011115	20011164	20011188	20011367	20011377	20011383
20011451	20011481	20011538	20011594	20011598	20011620
20011767	20011910	20011926			

Licensee Event Reports (LER)

1998-18	ASME Section XI Code VT-3 Examination Not Completed Following Repair of Main Steam Isolation Valve
2000-01	Apparent Degradation of Main Steam Isolation Valve Solenoid Operated Test Valve Leads to a Request for Enforcement Discretion and a Subsequent Violation of Plant Technical Specifications
2000-02	Valve Repair/Replacement Activities Were Not Performed In Accordance With ASME Section XI Requirements
2000-03	Inadequate Change Management Results in the Failure to Test Primary Containment Vacuum Breakers at the Required
2001-01	Worn protective Circuit Auxiliary Contact Results in an Invalid Protective System Actuation - Plant Trip

Non-Cited Violations (NCV)

2000-09-04	Failure to identify a condition adverse to quality during surveillance testing
2001-04-01	Failure to properly verify 4KV breaker installation as required by OP 2142

Operating Experience

IN 1998-02	Nuclear Power Plant Cold Weather Problems and Protective Measures
------------	---

IN 1998-23	Crosby Relief Valve Set Point Drift Problems Caused By Corrosion of the Guide Ring
IN 1998-24	Stem Binding in Turbine Governor Valves in RCIC and AFW Systems
IN 1998-40	Design Deficiencies Can Lead to Reduced ECCS Pump NPSH During Design Basis Accident
IN 1998-43	Leak in EDG Lubricating Oil and Jacket Cooling Water Piping
IN 2000-01	Operational Issues Identified in BWR Trip and Transient
IN 2000-08	Inadequate Assessment of the Effect of Differential Temperature on Safety-Related Pumps
IN 2000-12	Potential Degradation of Fire Fighter primary Protective Garments
IN 2001-01	Importance of Accurate Inventory Controls to Protect the Unauthorized Possession of Radioactive Material
SIL No. 635	RCIC System Water Hammer

Quality Assurance Audits & Surveillance Reports

2001-002	Radiological Effluent Technical Specification/Monitoring Program/Off-site Dose Calculation Manual
2001-004	Radwaste Packaging and Transportation
2001-006	Evaluation of In-plant Audits (Maintenance)
2001-012	Emergency Preparedness Training
2000-17B	Functional Area Audit: Corrective Action/Operating Experience
2001-028	Refueling Outage 22 Integrated Surveillance
2001-030	Corrective Action Program Implementation

Procedures

AP-0009	Event Reports, Rev. 12, November 9, 2000.
AP-0020	Control of Temporary and Minor Modifications, Rev. 23, July 16, 2001
AP-0028	Commitment Tracking, Revision 20, May 19, 2000
AP-0038	Operating Experience Procedure, Revision 1, April 24, 1998
AP-0047	Work Requests, Rev. 4, July 22, 1999.
AP-0057	Self-Assessments, Rev. 0, April, 11, 2000
AP 0167	Operability Determinations, original, July 26, 1999
AP-6022	Job Order Files, Rev. 17, August 25, 2000
DP 0213	Lube Oil Analysis Program, Revision 4, December 19, 2000
OP 2112	Reactor Water Clean-up System, Revision 30, January 25, 2001
PP-7012	Operating Experience Program, Rev. 0, January 13, 1998
PP-7017	Corrective Action Program Procedure, Rev. 1, November 11, 2000

Work Orders

99-009599-000	Condensate Pump Recirc. Flow Controller Valve Indication
00-000279-001	Service Water UT Inspection
00-000279-002	Service Water UT Inspection
00-000364-000	Diesel Observation Program Walk-down Identified Material Condition Items
00-000951-000	Monthly Diesel Inspection
00-001387-000	High Turb Bldg Temperature
00-001429-000	Monthly Diesel Inspection
00-001430-000	Monthly Diesel Inspection
00-001485-000	Turb Bldg Exhaust Fan TEF-7 Has Broken Fan Belt
00-001846-000	Dampers in the Heating Ventilation and Air Conditioning (HVAC) System Not Opening
00-002380-000	Diesel Eddy Current Test and Clean Heat Exchangers

00-002541-000	SLC Tank 60 KW Heater Control
00-002764-000	Major Diesel Overhaul Inspection
00-003121-004	TB Supply Fan
00-003350-000	Change Out of "C" SW Pump Motor Oil
00-003362-000	Change Out of "A" SW Pump Motor Oil
00-004092-000	SLC Discharge Relief Valve IST Operability and Testing Per OP 4261
00-004227-000	SLC Injection (Squib) Valve IST Replacement and Testing Per OP 4203
00-004228-000	SLC Injection (Squib) Valve IST Replacement and Testing Per OP 4203
00-004288-000	SLC Injection (Squib) Valve IST Replacement and Testing Per OP 4203
00-004735-000	SLC Discharge Relief Valve IST Operability and Testing Per OP 4261
00-005158-000	Hotwell Makeup Valve Position Indication Problem
00-005233-000	HVAC Overall Inspection of Unit
00-005246-000	HVAC Overall Inspection of Unit
00-005324-000	AOG Temp Controller Failed Downscale
00-005595-000	Fouled Suction Check Valve Service Water System
00-006043-000	TEF-4 on HVAC System Experiencing Loud Noise From Failed Motor Bearing
00-006928-000	AOG North Fan on South Bank of Fans Not Working
00-007107-002	Heating Coil Has Freeze Damage (leak).
00-009599-000	Condensate Pump Recirc Flow Valve/Controller Problem
01-001303-000	B AOG Vacuum Pump Would Not Control in Auto
01-001461-000	One AOG Fan Prefilter Blown Out.
01-001569-000	'A' EDG SW Supply Line PCV Appears Stuck Open
01-001943-000	Heat Tracing Circuit Not Energized
01-002398-000	RV Water Level Drifted Low and Recovered
01-002894-000	SW Piping Leak at Bend
01-003074-000	SW Piping Leak
01-003094-000	SW Piping Leak at Weld

Control Room Deficiencies (Work Requests)

00-005158-000	Hotwell Emergency Make-up Valve Position Indicator, August 25, 2000
00-046299-000	'B' Recombiner Temperature Controller, September 5, 2000
00-047455-000	MS Outlet Pressure Transmitter Will Not Calibrate, December 27, 2000
01-049987-000	'B' Recirc Pump Controller Erratic, May 23, 2001
01-050079-000	Main Feed Water Level Controller Drifts, May 30, 2001
01-050120-000	'B' Hotwell Level Controller, June 2, 2001

Self-Assessment & Functional Area Assessment Reports

1. Augmented Off-Gas System Performance Self-Assessment, April 13, 2001.
2. Chemistry (Period: June to December 2000)
3. Implementation of New GE Fuel Warranty Requirements, August 31, 2000
4. Implementation of EPRI BWR Water Chemistry Guidelines, January 2000
5. IST Program Implementation (Period: June to December 2000)
6. Radiological Effluents Controls, July 20, 2000
7. Technical Support Self-Assessment 2000-07: Corrective Action Program Per NRC Inspection Module 71152, August 9, 2001.
8. Functional Area Assessment for General Plant Performance for the period of June 1, 1999 - May 30, 2000 for the Operations, Security, and Emergency Planning departments.

VY Nuclear Safety Audit & Review Committee Meeting Minutes

1. 2000-05R, August 15, 2000

2. 2000-06S, September 14, 2000
3. 2000-07S, October 5, 2000
4. 2000-08S, November 1, 2000
5. 2000-09R, November 28, 2000
6. 2001-01R, February 9, 2001
7. 2001-02S, April 2, 2001
8. 2001-03R, April 10, 2001
9. 2001-04S, April 23, 2001
10. 2001-05S, June 21, 2001
11. 2001-06R, July 11, 2001
12. 2001-07S, August 23, 2001

Other Documents

1. Event Report (ER) Trend Report, 2nd Quarter 2001
2. SW System Health Report – 2nd Quarter 2001
3. RCIC System Health Report – 2nd Quarter 2001
4. HPCI System Health Report – 2nd Quarter 2001
5. SLC System Health Report – 2nd Quarter 2001
6. BMO No. 2000-20, Operation of Station Battery B-1-1A or B-1-1B with a Degraded Cell
7. Equivalency Evaluation (EE) Worksheet No. 1331, Revision 2 – “Lubricant Oil, Mobile Type SHC-630”
8. Corrective Action Process Trend Report, 2nd Quarter 2001
9. Employee Concerns and Harassment Training, February 26 – 27, 2001
10. Engineering Design Change Request EDCR 95-407, Appendix R Hot Short Modifications, March 1, 1996.
11. Operations Department Status Report, 1st Quarter 2001
12. System Engineering Daily Plant Status Meeting Report, August 30, 2001
13. Vermont Yankee Technical Specifications, Section 6, Amendment 171
14. Mechanical PM Backlog Weekly Status August 23, 2001
15. Electrical PM Backlog Weekly Status August 23, 2001
16. Instrument and Controls PM Backlog Weekly Status August 23, 2001