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REGION I

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Licensee: Vermont Yankee Nuclear Power Corporation
RD 5, Box 169
Ferry Road
Brattleboro, VT 05301
Facility: Vermont Yankee Nuclear Power Station
Vernon, Vermont
Inspection Period: February 27 - April 2, 1994
Inspectors: Harold Eichenholz, Senior Resident Inspector
Paul W. Harris, Resident Inspector
John T. Shedlosky, Project Engineer
Julian H. Williams, Senior Operations Engineer
Richard A. Skokowski, Reactor Engineer
Morris E. Lazarowitz, Reactor Engineer

Approved by: Richard J. Conte 5/16/94
Richard J. Conte, Chief Date
Reactor Projects Section 3A

Scope: Station activities inspected by the resident staff this period included Operations, Maintenance, Engineering, Plant Support, and Safety Assessment and Quality Verification. Backshift and "deep" backshift including weekend activities amounting to 11 hours were performed on March 1, 8, 11, 13, 23 and 31. Interviews and discussions were conducted with members of Vermont Yankee management and staff as necessary to support this inspection.

Findings: An overall assessment of performance during this period is summarized in the Executive Summary.

EXECUTIVE SUMMARY

Vermont Yankee Inspection Report 94-09

Operations

Improvements in control room logkeeping occurred. Operator performance was professional and competent. Interpretation of the technical specifications for the primary containment to facilitate at-power entry into the drywell, could lead to excessive time spent with differential pressure and oxygen limits beyond specification.

Maintenance

Scheduled corrective maintenance for a main steam isolation valve and preventive maintenance on the "A" EDG were performed well. With the plant at power, challenging maintenance was accomplished in a competent manner on main steam isolation valves located in the drywell. Work controls used for troubleshooting a relief valve bellows leakage alarm were ineffective, in that, a potential compromise to the plant's design basis occurred. Subsequent maintenance actions demonstrated sensitivity to the issue and substantive corrective actions have either occurred or been identified for implementation.

Engineering

A good level of engineering effort in support of EDG preventive maintenance was diminished by the lack of sufficient consideration being given to the LCO Maintenance Guideline restrictions concerning conservative actions for emergency power maintenance efforts. The engineering organization, including the efforts of the Yankee Nuclear Services Division were effective in helping the plant resolve emergent equipment issues and conduct proper self assessments.

Plant Support

Very good performance was evident by the manner in which the Radiation Protection Department addressed significant and challenging radiological and personnel safety issues associated with maintenance within the drywell during power operations. Quick and resourceful actions were implemented by the administrative and operating staffs to remediate the loss of normal communications with the plant site. Assessments and correctives actions in response to this event by the Emergency Preparedness Organization were comprehensive and timely. Proper compensatory measures were implemented for the loss of Appendix R features identified by site engineering as a result of planned EDG maintenance.

Safety Assessment and Qualify Verification

Improved use of industry experience was observed in a number of areas. Self assessment activity involving Potential Reportable Occurrences have been positively influenced by senior management efforts to raise performance standards. Good initiatives occurred with the trending of Vermont Yankee Observation Program field observations and the use of the program to aid in resolution of longstanding concerns involving maintenance documentation. Self assessment activity associated with fuel performance continues to be a licensee strength.

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ENCLOSURES

ENCLOSURE 1: SALP MANAGEMENT MEETING ATTENDEES

ENCLOSURE 2: NRC SALP SLIDES

ENCLOSURE 3: VERMONT YANKEE SALP SLIDES

Note: Procedures from NRC Inspection Manual Chapter 2515, "Operating Reactor Inspection Program" which were used as inspection guidance are parenthetically listed for each applicable report section.

DETAILS

1.0 SUMMARY OF FACILITY ACTIVITIES

Vermont Yankee Nuclear Power Station conducted routine full power operations for most of the inspection period. Weekly power reductions to 97 percent of rated power were conducted to facilitate control rod exercises and main turbine surveillances. A power reduction to 65 percent of rated power occurred on March 15 to conduct a scheduled rod pattern exchange. Subsequently, Vermont Yankee (VY, the licensee) identified that one of the in-board main steam isolation valves (MSIV-80B) had failed to close within the required time limits. To facilitate repairs, deinerting of the drywell and a containment entry at 40 percent of rated power occurred. On March 16 the plant was returned to full power. In response to the receipt of the safety relief valve RV-2-71CA bellows leakage alarm, which represented a potential inoperability for this valve, a power reduction to 93 percent of rated power occurred in the period of March 17-18. Following a VY evaluation that the valve was not inoperable, the Technical Specification (TS) Action Statement requiring a 95 percent of rated power operating limit was exited.

2.0 OPERATIONS (71707, 62703, 61726)

2.1 Operational Safety Verification

Daily, the inspectors verified adequate staffing, adherence to procedures and Technical Specification (TS) limiting conditions for operation (LCO), operability of protective systems, status of control room annunciators, and availability of emergency core cooling systems. Plant tours confirmed that control panel indications accurately represented safety system line-ups. Safety tagouts properly isolated equipment for maintenance. Operator logs were reviewed and logkeeping practices verified to be properly performed. The inspectors observed good improvement in the manner in which the Control Room Log is used to document activities and occurrences at the plant. This observation is noteworthy because of an inspector concern about the lack of detail in control room logs that was documented in NRC Inspection Report 93-26. Very good operator performance in maintaining as close as reasonably possible the plant's annunciator system in a "Black-Board" status was observed. The inspectors continue to observe high quality shift turnover briefings.

Activities involving maneuvering at power and responding to off-normal conditions were verified to be performed in a professional and competent manner by operating and support personnel. Management oversight and involvement provided for proper safety focus.

2.2 Operator Training Programs

The operational training programs at VY were reviewed by INPO's National Academy for Nuclear Training on March 18. The senior resident inspector and a region based inspector reviewed the accreditation report and associated documentation to determine if safety significant or regulatory issues of an immediate nature were discussed. No immediate safety significant or regulatory compliance issues were identified. The NRC had conducted an inspection (NRC Inspection Report 94-02) of the licensed operator requalification training (LORT) program from

February 14 through March 2 and identified the following weaknesses in the LORT program: (1) recurrent crew performance deficiencies in the area of crew command and control, communications, and adherence to Emergency Operating Procedures; (2) relatively low level of knowledge being tested in parts of the written and simulator tests; and (3) poor documentation of details related to performance deficiencies and remediation training. These weaknesses are being followed as part of that inspection.

2.3 Drywell Entries During Power Operation

To support the repair of MSIV-86B (Section 3.1.1), the DW/suppression chamber differential pressure (dp) was allowed to decrease to below 1.7 psid (TS 3.7.A.9 limit) at 8:30 a.m. and the deinerting process commenced shortly thereafter. This process also increases the primary containment oxygen concentration to greater than 4 percent (TS 3.7.A.7 limit). The inspector was informed that the deinerting process would be controlled by TS Interpretation No. 31, and that this was the start of the first of two possible 24-hour clocks related simultaneously to TS Sections 3.7.A.7, 8, and 9, involving oxygen concentration and dp for the primary containment. The maintenance of the dp assures the integrity of the suppression chamber when subjected to post-LOCA suppression pool hydrodynamic forces by maintaining a factor of safety of at least two for the weakest element in the suppression chamber support system and attached piping. The maintenance of oxygen limits is to control the potential for a post LOCA combustion in containment.

By approximately 3:00 a.m. on March 16 the plant was operating at full power and oxygen concentration in the primary containment was less than 3 percent. Plant operators returned the primary containment dp to within TS limits at 5:10 a.m., which accounted for a total elapsed time of just under 21 hours in which the plant was at operating temperature and pressure with a dp of less than 1.7 psid.

According to plant and NRC documents, DW entries at power are infrequent; the last time was March 19-20, 1988 (NRC Inspection Report 88-08). TS Interpretation No. 31, Drywell Entry During Power Operation states that both dp and oxygen concentration may be reduced below TS values during normal power operations, provided that: (1) a deliberate management decision has been made that concludes that a shutdown is necessary; (2) a 24-hour period was started upon dropping below either TS limit; and (3) within this 24-hour period either the reactor is in the Hot Shutdown condition with the dp established, or the reactor is in Cold Shutdown, or if a DW entry was made and it was determined that normal operations may continue then a new 24-hour period starts in which the dp and oxygen concentrations are re-established to within TS limits. Thus, by Item 3, the time spent outside the subject limits could be up to 48 hours. Revision 1, dated October 1, 1987, was a change to the justification for the interpretation only.

According to oxygen concentration TS Section 3.7.A.7.b, deinerting may commence 24 hours prior to a shutdown. Also the DW/suppression chamber dp TS Section 3.7.A.9.b allows the dp to be reduced to less than 1.7 psid 24 hours prior to commencing a Cold Shutdown. It was

unclear to the inspector as to how these TSs related to the containment deinerting process used by VY to facilitate a DW entry during power operations, as specified in their interpretation document.

The inspector found that this issue was discussed in NRC Inspection Report 83-01, dated May 24, 1983. This report stated that the wording of TS Section 3.7.A.7 (and by inference 3.7.A.9) makes its intent unclear; and following discussions with the Resident Inspector, NRC Region I and Office of Nuclear Reactor Regulation (NRC:NRR) personnel, VY clarified the matter by issuing TS Interpretation No. 31 on January 22, 1983.

The inspector reviewed related documentation and correspondence between VY and the NRC, including telephone conference memorandums maintained by VY, involving this issue. Vermont Yankee submitted Proposed Change (PC) No. 100 on June 2, 1982 to request TSs that provide Limiting Conditions For Operations for deinerting the containment during power operation to facilitate minor maintenance/inspections. Essentially, this PC requested a 24-hour period for relaxing and re-establishing both the oxygen concentration and dp limits. The interpretation developed by VY in 1983, according to their memorandum of a telephone conference with NRC:NRR, endorsed the NRC staff's view on how their existing TS Section 3.7.A.7.b related to the issue. As noted in the justification section of the January 22, 1983 document, the TS Interpretation No. 31 was issued until PC No. 100 could be completely processed and was reflecting an interim verbal interpretation by the NRC staff. Subsequently on June 17, 1983 VY withdrew PC No. 100 as part of its response to new NRC staff procedures (GL 83-19) involving pre-noticing amendment proposals. The inspector was unable to identify any further licensing action on this matter and noted that the current justification makes no mention of what was originally intended to be an "interim" condition to be resolved by a TS change.

The inspector discussed with plant management the concern that the interpretation in use is potentially non-conservative with respect to current regulatory guidance, 24 hour permissibility before shutdown, and that there is an apparent need for VY to more fully understand the subject TSs and obtain needed clarifications to ensure that these license conditions are implementable and unambiguous in nature. The Operations Support Manager, who acknowledged the inspector's comments and concerns on this matter, indicated that the issue will be discussed at the next internal Monthly VY Licensing Review Meeting. Vermont Yankee's implementation of existing TSs to control containment deinerting represents another example of a weakness in the area of interpretation of TS requirements, as documented in the February 28, 1994 Systematic Assessment of Licensee Performance (SALP) Report 92-99.

3.0 MAINTENANCE (62703, 61726)

3.1 Maintenance

The inspectors observed selected maintenance on safety-related equipment to determine whether these activities were effectively conducted in accordance with VY TS, and administrative controls (Procedure AP-0021 and AP-4000) using approved procedures, safe tagout practices and appropriate industry codes and standards. Interviews were conducted with the cognizant engineers and maintenance personnel and vendor equipment manuals were reviewed.

3.1.1 Inoperable Main Steam Isolation Valve/Repair

At 6:15 a.m. on March 15, with the reactor operating at approximately 70 percent of rated power during the conduct of full closure testing of main steam isolation valves (MSIVs), the "B" steam line inboard valve (MSIV-80B) closed in 2.9 seconds. This testing is required to be performed on a quarterly basis. Because the closure time was below the minimum 3.0 second value specified in TS Table 4.7.2, operators declared the valve inoperable and complied with TS Section 3.7.D.2 by closing the outboard valve MSIV-86B. Vermont Yankee recognized that the current operational restriction would be in effect until the MSIV was repaired. According to a 7:55 a.m. control room log entry, a decision was made at 7:45 a.m. by plant management that a shutdown of the plant would be necessary to adjust or repair the MSIV. To allow personnel inside the drywell (DW) to conduct repairs, VY de-inerted the DW and reduced reactor power to 40 percent of rated power.

A detailed maintenance plan was developed to control the adjustments that needed to be made to the MSIV. This plan included having the timing checked on the remaining inboard MSIVs and adjustments made as necessary. Maintenance was conducted on the MSIV-80B valve that set the valve closure time to 4.0 seconds, which is the center of the TS allowed 3-5 second range. Each of the other inboard MSIVs, whose as-found values were within specifications, were readjusted so that the closure speeds were set closer to the center of the allowed range.

According to VY, some setpoint drift occurs, and there is some variability in test results due to inaccuracies associated with the use of a stop watch. The inspector reviewed past test results for MSIV-80B and noted that when the valve was last set during the 1993 refueling outage it had a closure time of 3.3 seconds. The last three tests, including the test failure, showed a downward trend. The Potential Reportable Occurrence (PRO) Report initiated for this event was determined to not be reportable. In reviewing the PRO, plant management directed that a routine Corrective Action Report would be developed by the Operations Department by June 24 to address the issues involving: administrative setpoint limits, increased testing, testing methodology, and root cause. All timing adjustments were made to the in-board MSIVs by 6:55 p.m. and plant management then determined that normal operations could continue.

3.1.2 Emergency Diesel Generator Maintenance

Background

On a staggered basis, VY conducts regularly scheduled preventive maintenance (PM) on each emergency diesel generator (EDG) every 18 months in accordance with vendor (Fairbanks-Morse Engine Division of Coltec Industries) recommendations. The 18-month inspection for the "A" EDG was last performed in September 1992 and was due in March 1994. Vermont Yankee performs the periodic EDG PM during power operations. This process is controlled in accordance with VY's LCO-Maintenance Guideline, Rev.3, and was the subject of previous NRC inspections.

LCO Maintenance Plan Review

An LCO Maintenance Plan was developed to control the necessary EDG inspections and related maintenance. A comprehensive plan was approved by the Plant Manager on March 17. As required by the process, VY addressed related preventive and corrective maintenance, tests, inspections, pending changes, and commitments in the plan. Besides the required inspections to be performed in accordance with plant procedures OP 5223, Rev. 14, Emergency Diesel Generator Maintenance and OP 5225, Rev. 7, Emergency Diesel Generator Electrical Maintenance, other related maintenance activities specified for accomplishment included: (1) inspection of the air start distributor cam; (2) heat exchanger eddy-current inspections; (3) "A" fuel oil transfer pump preventive and corrective maintenance; (4) meter and relay calibrations; (5) instrument calibrations, (6) TS surveillance of the B-AS-2 battery; and (7) air inlet check valve internal inspection. Support requirements were clearly established for material availability, fire protection considerations, security issues, specialized inspection capabilities, engineering support, and factory service representative availability. To minimize the LCO out-of-service time to a planned 4-day interval (TS Section 3.10 Allowed Outage Time is 7 days), VY established a schedule of activities using two 12-hour shifts with continuous factory service representative coverage.

As documented in Section 4.1 of this report, a review of the plan by the onsite engineering organization was conducted. Although not required by the screening criteria contained in the Guideline, the plan was reviewed by the Plant Operations Review Committee (PORC). One minor concern related to poor preplanning activity involved the planned conduct of a 4-5 year inspection item for the crankshaft torsional damper. This item was identified as a work activity in procedure OP 5223 and the plan, however, could not be implemented because the crankshaft was not removed. This issue was properly dispositioned.

Conduct of Maintenance

On March 21, VY commenced maintenance on the "A" EDG and restored the engine to operation for testing on March 25. On March 26, following post-maintenance testing, the diesel was declared operable. The work was performed in accordance with maintenance procedures OP 5223 and OP 5225, as documented in Work Order (WO) Nos. 94-0822 and 94-1152. Additionally, WO No. 94-0029 was issued to perform cleaning and inspection of the air start distributor. This WO included an inspection of the distributor cam which identified a minimum amount of wear and no cracking. This inspection was related to a 10 CFR Part 21 notification issued by Fairbanks Morse concerning a cracked air start distributor cam. Vermont Yankee verified that the timing marks on the cam were stamped and not arc marked, which only necessitated a visual inspection. Although internal components of the distributor had minimal wear and no timing slip has occurred, the Maintenance Department issued WO Request 1337A to replace the entire unit during the next available time period as a prudent measure. The enumerated inspection fulfilled a Commitment Tracking System item issued January 1994 to resolve an industry experience issue. An inspection of the "B" EDG is scheduled for September 1994, which will include an inspection of that air start distributor.

A second industry experience issue was also investigated during the EDG maintenance. The issue involved a February 21 Nuclear Network message received by VY pertaining to an air inlet damper valve failure experienced at H. B. Robinson Unit 2. Both Robinson and VY use the same "parallel" combustion air system design, namely; two turbochargers, an air blower and a check or damper valve that directs the inlet air to the blower and turbocharger inlet. The failure at Robinson was attributed to poor maintenance practices that resulted in wear in the pin fasteners that attach the damper disc to its shaft. Work Order 94-2018 was issued to verify no looseness of components or signs of wear and damage. The inspections verified all components were in satisfactory condition and that the maintenance practices employed on these components have been effective. According to discussions that VY had with Fairbanks Morse, no internal inspections are required for the damper valve, however, VY is reviewing their program to determine the appropriate means to institute a periodic inspection that will verify continued good equipment conditions.

Regarding emergent work issues, a number of deficiencies, potential concerns, or out of specification issues were identified that were properly evaluated and dispositioned. These included: (1) lower piston upper compression ring failure in the No. 11 cylinder; (2) blemishes on the No. 6 injector cam, control side; (3) missing castle nut retaining cotter pin on the No. 12 lower connecting rod bearing cap fastener; and (4) out of specification blower end clearance.

The issue with the piston ring was identified during the routine inspection, when broken piston ring fragments were discovered in the turbocharger exhaust gas inlet ring catcher screen. The purpose of this screen is to keep large debris, such as broken piston rings, from entering the turbocharger and damaging the scroll or the wheel. The physical indications suggested that only one cylinder was involved with the top piston ring broken. This was based on the following: (1) the amount of ring material and the condition of that material in the ring catcher screen; and (2) the results of the VY and factory service representative inspections of the other cylinders. Vermont Yankee verified the cylinder liner material and the ring material to be compatible. Additionally, VY reviewed the performance of the "A" EDG, including the temperatures of all cylinders. This review, which was independently confirmed by the inspector, indicated no abnormalities, and no indications of cylinder overloading were identified.

The most probable causes of the ring failure are defective material or improper installation. This conclusion is supported by damage confinement to one cylinder and that the rings in the "A" EDG were recently replaced in 1992. Vermont Yankee performed an analysis of the cylinder liner associated with the broken ring and verified that the liner was undamaged. The broken ring was replaced, all work was controlled and documented by WO No. 94-2396, and a successful brake-in test of the EDG was completed. Furthermore, VY intends to perform a material analysis of the broken ring to confirm the preliminary root cause. The inspector determined that VY's evaluation was appropriate, in that this was an isolated event that should not adversely affect the future operability of the EDG.

The inspector reviewed the EDG maintenance logbook and questioned a March 23 entry that stated "replace cotter pin in #12 piston lower." Following discussions with Maintenance Department representatives, including the cognizant day shift maintenance engineer, the inspector learned that: (1) this issue was discussed at the morning maintenance meeting; (2) that it involved a missing castle nut retaining cotter pin on the No. 12 lower connecting rod bearing cap fastener; and (3) that the maintenance engineer was not aware of the details of the issue and planned actions to resolve the matter. Maintenance personnel were unsure of whether this condition was caused by the pin falling out, an inadvertent pin removal related to the adjacent piston that was removed due to a broken ring, or failure to install the pin during previous work in 1992. According to the maintenance foreman, plans were already made for inspecting the drained oil sump in an attempt to locate the missing pin.

The missing pin was found in the sump area in the vicinity of the No. 12 cylinder. An investigation into this matter, including an assessment of possible cause(s) and corrective actions, was initiated by the Maintenance Department. This included a determination that in the as-found condition the castle nut was properly torqued, thereby, providing verification that the pin is not an essential component. Nonetheless, VY was appropriately concerned because the use of the pin provides an added assurance that this power train component will continue to function properly. Vermont Yankee discussed the issue with Fairbanks Morse, and determined that VY maintenance personnel lacked an understanding of the proper considerations to be employed in the installation of cotter pins used on EDG power train components. All power train related cotter pins were replaced on the EDG, and a Corrective Action Report was assigned to the Maintenance Department for resolving all program issues and concerns identified.

Regarding the subject log book entry, the inspector noted that NRC concerns have previously identified the need for VY to develop a more rigorous approach to documenting problems found during EDG maintenance (NRC Inspection Report 93-10, Section 6.0). The inspector noted that improvements in this area have been made, although actions to date appear to have not been fully effective. As part of the Observation Program, the Plant Manager conducted a review of the EDG maintenance log and identified concerns about log entries and the fact that it is not obvious as to how some issues were closed or resolved. The inspector reviewed the completed Observation Form, determined that it properly characterized the issue and provided a number of recommended actions for followup by the Maintenance Department. The inspector had no further questions at this time.

Scheduled and unscheduled quality assurance (QA) activities occurred in support of EDG maintenance. These included QA Surveillance activities conducted by the independent Yankee Nuclear Services Division (YNSD) on-site Quality Services Group and quality control (QC) inspections performed by personnel in the Maintenance Department who are independent of the work. This latter activity is called a "peer inspection" approach at VY, and is conducted in accordance with procedure AP 6025, Rev. 3, Quality Control Independent Inspection. The inspector reviewed a number of completed QC Inspection Reports document on Form VYAPF

6025.01, which contained appropriate inspection attributes and acceptance criteria. Activities, including the QA Surveillances, were assessed by the inspector as being effective in providing additional confidence in the quality of maintenance performed on the EDG.

Conclusions

Overall, the EDG maintenance was properly planned and completed. Activities were performed by competent and skilled personnel. Procedural detail has improved, resulting in less reliance on personnel knowledge and experience. However, the recent lessons-learned about the installation techniques necessary for cotter pins to properly protect the integrity of power train component fasteners suggests the need for VY to continue to expand procedural detail and document identified deficiencies in a more rigorous manner. Emergent work issues were handled in a quality manner. Notable performance in the use of industry experience was observed. A very good level of engineering, factory technical assistance, and QA/QC involvement was evident in the conduct of EDG maintenance. Senior plant management involvement in the day-to-day performance of maintenance on EDGs continues to be evident.

3.1.3 Reactor Relief Valve Bellows Leakage Alarm

At 9:18 a.m. on March 17, the control room panel (CRP) 9-3 annunciator "Rx Relief Valve Bellows Leakage" alarmed and the amber light associated with the CRP 9-3 located control switch for the relief valve (RV) RV-71C illuminated. There are four RVs installed at VY that open automatically on high reactor pressure, or by manual the use of a CRP located control switch, or by the actuation of the automatic depressurization system (ADS). Plant operators verified that relief valve discharge temperatures were stable, directed I&C Department personnel to verify that a pressure alarm switch associated with the RV-71C was functioning properly, and consulted TS Section 3.6.D. This TS requires that with one RV inoperable, reactor power shall be immediately reduced to and maintained at or below 95 percent of rated power.

Following a determination that the alarm pressure switch was correctly sensing its 10 psig setpoint within the bellows housing, and within 42 minutes from initial receipt of the alarming condition, plant operators commenced a power reduction to 93 percent of rated power. The Alarm Response Sheet for the subject annunciator specifies that the valve may not open automatically on high reactor pressure, that the ADS and manual valve operations by the operator will function correctly, and the TSs are to be consulted.

To facilitate the investigation by the I&C Department into the RV bellows alarm, emergency WO No. 94-2263 was released that provided for the verification that the alarming pressure switch (located outside the primary containment but within the reactor building) was operating within its calibration limits, and to control the installation of an on-line pressure recording instrument to monitor pressure conditions within the RV-71C bellows housing area. The monitoring was intended to provide additional information about the nature of the pressure

buildup within the bellows housing area following the depressurization of the sensing line that cleared the annunciator condition. This monitoring equipment was installed upstream of the alarm pressure switch by connection to an existing test valve left in the open position.

The inspector was aware that during past performance of Containment Integrated Leak Rate Tests (CILRT) conducted at VY pursuant to 10 CFR 50, Appendix J, that with the containment pressurized to 44 psig, the subject annunciator and a number of individual RVs amber lights have illuminated. This is due to the CILRT pressure entering the RV bellows housing via the housing to valve body seals or leaking sensing line fittings which results in activation of the pressure switch. Therefore, the inspector concluded that maintaining an open test valve with temporary equipment connected to it was a likely extension of the primary containment boundary.

The change in plant equipment configuration as enumerated above, which was implemented under WO related administrative controls, was determined by the inspector to be outside the scope of normal troubleshooting controls because test equipment was being installed without continuous supervision by testing personnel of the open test valve. Furthermore, the inspector was concerned that the equipment configuration change warranted the use of Temporary Modification (TM) controls. The inspector discussed the issue and concerns with the Shift Supervisor (SS) and the Operations Planning Coordinator (OPC), both of whom viewed the identified condition as acceptable. This was due to the belief that the work was being performed in accordance with WO controls and the fact that the Maintenance Planning and Control (MPAC) System had designated the pressure alarm switches for the RVs as non-nuclear safety equipment. Additional review by the inspector, utilizing applicable plant drawings, determined that the sensing lines and pressure switch were part of the Safety Class 2 containment boundary. Following the recognition that the MPAC System equipment safety category for the subject switches was in error, the OPC informed the SS of the problem and the test valve was immediately isolated. The potentially unqualified equipment configuration existed for approximately a 3-hour period. This is the first time that the inspector was aware of an error of this kind in the MPAC data base since the system was brought on-line in September 1992. With regard to site engineering involvement in the troubleshooting activity, the inspector learned that no request for engineering assistance on this issue was made by the plant staff.

Subsequently on March 18, VY site engineering prepared Basis for Maintaining Operation (BMO) No. 94-03 that described the equipment deficiency, documented that cause of the increased bellows housing pressure is unknown but; due to the setpoint of RV-71C being 1090 psig, even with a bellows leakage alarm, the TS Section 2.2.B required actuation of 1100 psig for the valve will occur. Internal bellows housing pressure does increase the actuation pressure in a one-for-one manner, according to both General Electric and Target Rock (the RV manufacturer). Furthermore, the BMO indicated that in the 24-hour period since the initial alarm pressure was vented off, it had not started a pressure build-up. The BMO recommended that a daily pressure reading be obtained for trending purposes. Target Rock informed VY that as long as the pressure is checked and bleed off occurs if the pressure gets too high then the valve will function within TS limits. The inspector reviewed trend data obtained by VY and

observed that as of the end of the inspection period the bellows housing pressure was at 0.5 psig and slowly increasing. Based upon discussions held with site engineering personnel, the inspector learned that the intended installation of pressure monitoring instrumentation, including maintaining open the test valve associated with the bellows housing pressure switch, could have been accomplished by a TM, and would not have resulted in a loss of containment integrity.

Conclusions

Operator response and initial involvement by the I&C Department to the bellows leakage alarm was good. The failure of the plant organization to recognize the need for a TM for the installation of temporary monitoring instruments and to consult with cognizant site engineering personnel about the emergent equipment problem and its near term issues are considered a weakness. Additionally, ineffective work controls that have resulted in maintenance related problems that potentially compromised the plant's design basis was documented in the February 28, 1994 SALP Report 92-99.

The actual safety significance of this TM issue is minor. Following the identification to VY of the issue, a number of substantial corrective actions have been initiated. These included the development of a Significant Corrective Action Report, the development of the BMO, a review of all I&C WOs that were in a hold status to ensure that no similar concerns existed, and the intent to perform an audit of the MPAC System to ensure that the documented safety classification is consistent with plant drawings. A number of procedural related work controls/TM corrective actions were identified for completion.

Near the end of the inspection period, the inspector noted a proper level of sensitivity by maintenance supervisors and managers in their reviews conducted of emergent equipment issues to assess whether the planned work would have an intrusive aspect on the plant's as-built configuration. The inspector had no further questions on this matter at this time.

3.2 Surveillance

The inspector reviewed procedures, witnessed testing in-progress, and reviewed completed surveillance record packages. The surveillances which follow were reviewed and were found effective with respect to meeting the safety objectives of the surveillance program. The inspector observed that all tests were performed by qualified and knowledgeable personnel, and in accordance with VY TS, and administrative controls (Procedure AP-4000), using TS approved procedures.

3.2.1 Reactor Core Isolation Cooling System Surveillance

The inspector observed the conduct of the Reactor Core Isolation Cooling System (RCIC) pump operability and full flow test per OP 4121, Rev. 31, Reactor Core Isolation Cooling System Surveillance on March 8 which was tested locally in the reactor building north-west corner

room. The observed activities included: valve alignment, electrical power distribution to RCIC components and motor control center circuit breaker positions; the licensee's preparations for the test, and conditions of the RCIC components.

The RCIC system operated successfully during the pump operability and full flow test, however, at the end of the test, the turbine trip throttle valve failed close fully when remotely tripped from the main control board. The licensee's investigation of this issue was aided by a manufacturer's technical representative on site to observe operation of the High Pressure Coolant Injection (HPCI) system. The licensee lubricated the trip throttle valve operating shaft to provide reliable operation with a low-leakage valve packing. If this had occurred due to, for instance, a reactor vessel high water level, the RCIC turbine trip would not automatically reset. An operator would have had to reset the trip throttle valve. The licensee successfully retested the RCIC turbine. No other deficiencies were noted.

3.2.2 High Pressure Coolant Injection System Surveillance

The inspector observed the conduct of the HPCI pump operability and full flow test per OP 4120, Rev. 28, High Pressure Coolant Injection System Surveillance on March 9 which was tested locally in the HPCI room adjacent to the reactor building. The observed activities included: the system valve alignment, electrical power distribution and motor control center circuit breaker positions; the licensee's preparations for the test; and conditions of the HPCI components. The licensee requested a manufacturer's technical representative to observe the test because of previous licensee concerns over the speed of operation of turbine stop and control valves.

The operation of the valve control hydraulic system was successfully demonstrated several times prior to starting the HPCI turbine by starting the HPCI auxiliary oil pump. The HPCI turbine was successfully operated through the full flow test. The inspector had no further questions.

4.0 ENGINEERING (71707, 62703)

4.1 Review of LCO Maintenance Plans

As required by VY's LCO Maintenance Guideline, once a plan is developed by the responsible maintenance department it is sent to the engineering organization for review. According to VY, this independent engineering review is intended to validate the plan. A thirteen item engineering review sheet (ERS) is used by engineering as part of the validation process and includes such items as design/licensing issues (e.g. EQ, Appendix R, etc.), FSAR, TSs, support system operability, and seismic adequacy with equipment removed for maintenance.

The inspector reviewed the ERS dated March 11, and its supporting documentation, which was prepared by the Electrical Engineering & Construction (EE&C) Department for the "A" EDG LCO Maintenance Plan. A good level of engineering effort was evident. Specifically, the identification of the need to coordinate with fire protection expertise at YNSD the planned

removal of the EDG and the acceptability of removal of this equipment relative to Appendix R considerations were well documented and provided good safety insights. The "A" EDG is relied on in VY's Safe Shutdown Capability Analysis for various fires analyzed. Engineering recommendations for compensating measures for the out-of-service "A" EDG were reviewed for probability risk assessment insights at YNSD and concluded to be prudent measures. The manner in which this issue was addressed is discussed in Section 5.4.2.

The LCO Maintenance Guideline specified that this type of maintenance shall not be planned during periods when other testing or maintenance that increases the likelihood of a plant transient is planned, and that special attention shall be paid to ECCS and emergency power maintenance efforts. The "A" EDG LCO Maintenance Plan specified that the EE&C Department would be performing relay modification in accordance with Engineering Design Change Request (EDCR) 92-405. This EDCR was developed to provide the installation of replacement type relays, as the originally installed units are no longer available as safety grade equipment. An installation and test (I&T) procedure was developed for the EDCR to install four new relays in the "A" EDG control cabinet during the subject LCO maintenance. The I&T included a caution statement concerning de-terminating of two wires at a terminal strip, which specified that if either of the terminals are shorted to ground, a loss of normal power to the respective EDG bus would result. The I&T was approved by the PORC and Plant Manager (PM) on March 11 and 14, respectively. Following the March 17 PORC Meeting that reviewed the LCO Maintenance Plan, the PM reconsidered the advisability of allowing the implementation of the EDCR, directed that the modification would only be performed with the plant in a cold shutdown condition.

The inspector determined that the LCO Maintenance Guideline restrictions concerning the potential for plant transient and conservative actions for emergency power maintenance efforts were not given sufficient consideration during the engineering or PORC review of the "A" EDG plan. Notwithstanding, the PM ensured that an appropriate safety focus prevailed and stopped the work from proceeding. The use of the ERS and the identification of an Appendix R concern represented good engineering involvement in site maintenance efforts.

5.0 PLANT SUPPORT (71707, 40500)

5.1 Radiological Controls

Inspectors routinely observed and reviewed radiological controls and practices during plant tours. The inspectors observed that posting of contaminated, high airborne radiation, radiation and high radiation areas were in accordance with administrative controls (AP-0500 series procedures) and plant instructions. High radiation doors were properly maintained and equipment and personnel were properly surveyed prior to exit from the radiation control area (RCA). Plant workers were observed to be cognizant of posting requirements and maintained good housekeeping.

During this inspection period the March 15 maintenance necessary to adjust the closure time of the drywell located valve MSIV-80B, with the plant at approximately 40 percent of rated power, represented a challenging environment for radiological and personnel safety controls that are required to be implemented by the Radiation Protection (RP) Department. The inspector verified that proper controls existed (AP 0507, Rev. 11, Primary Containment Entry) and were adhered to for the performance of a containment entry at power, that a good personnel safety focus (radiological, heat stress, and confined space) was evident, and that ALARA and maintenance pre- and post-job briefs were utilized and effective. A number of lessons-learned and suggestions for dose reduction and improving worker safety were identified as part of the post-job reviews.

Neutron monitoring was required for all personnel entering containment. In addition, the ALARA personnel discussed with the initial entry team the concerns and appropriate warnings about the possibility of narrow intense beams of radiation that can stream into accessible areas of the drywell from the reactor, as evidenced by industry experience described in NRC Information Notice 93-39. In summary, the inspector concluded that performance by the RP Department in this significant radiological controlled activity was very good.

5.2 Emergency Preparedness

A loss of all normal commercial telephone communication capability using the regional telephone company (NYNEX) system occurred between 8:30 a.m. and 9:35 a.m. on March 22. In addition to the loss of all normal commercial telephone service to and from the site, the event also involved the inoperability of the FTS 2000 and Emergency Notification Systems. This event was caused by the loss of power (both normal and backup supplies) for the offsite fiber optic telephone transmission system.

Because the in-house telephone system and the interconnection with the Utility Microwave Network were operable, plant and Yankee Atomic Electric Company headquarters personnel were able to: (1) establish limited incoming and outgoing telephone links using existing procedural guidance; and (2) communicate the occurrence of the event to the NRC Operations Center and the Resident Office, including the manner in which communications would need to occur. During this event the inspector noted some confusion on the part of the plant staff as to relationship of the equipment failures offsite to that of the onsite (power supply) telephone equipment capability and as to the instructions contained in procedure OP-3504, Rev. 26, Emergency Communications. This confusion did not diminish the fact that quick and resourceful actions were implemented by the administrative and operating staffs to remediate the loss of normal communications with the plant site.

An assessment and action plan was developed by the VY Emergency Preparedness (EP) Coordinator, which provided for both hardware and procedural enhancements identified by VY to further improve communication capabilities with the site during both emergency and non-emergency conditions. On March 31, Department Instruction No. 74-24 was issued to provide clarification for establishing communications with the NRC following failure of all FTS 2000 phones and the commercial telephone system.

With respect to hardware upgrades, NYNEX installed an alarm to alert them to problems with the availability of the backup power supply and established a monthly surveillance to ensure that the backup power supply will function properly. Vermont Yankee, although confident with actions taken by NYNEX, is pursuing for installation in September 1994 a redundant copper wire telephone link with the local telephone office to become more immune to power supply problems with the fiber optics system. A number of other actions identified in the EP assessment have been incorporated into the VY Commitment Tracking System to ensure their implementation. These actions were assigned to the O₂ rations, Training, and EP Departments, and were designed to enhance notification and communications capability.

Vermont Yankee's response to this event, and the resulting assessments and corrective actions were comprehensive and timely. Site personnel demonstrated a good understanding of communication capabilities existing at the site and at remote facilities. The involvement and oversight of the EP coordinator in the follow-up of this event were appropriate.

5.3 Security

The inspectors verified that security conditions met regulatory requirements and the VY Physical Security Plan. Physical security was inspected during regular and backshift hours to verify that controls were in accordance with the security plan and approved procedures.

Vermont Yankee Security devitalized a room to support unfettered access during planned maintenance. Appropriate orders were written to detail the events and conditions necessary to assure that the access control was no longer required. Security walkdowns and checks were performed to verify that the room was properly restored to a vital area. Appropriate management approvals were obtained for this activity and VY actions were in accordance with the Security Plan.

5.4 Fire Protection

5.4.1 Fire Brigade Response

On March 22, the inspectors observed the Fire Brigade respond to a fire alarm at the hydrogen shed located near the main transformer. This area is outside of the radiological controlled area. Within five minutes, the brigade verified actuation of the deluge system and was reasonably certain that no fire existed based on the conditions observed; this initial assessment was promptly communicated to the control room. Within ten minutes, conservative actions were initiated to stage and pressurize multiple fire hoses, conduct a system walkdown of the hydrogen system, and assess the probability of a potential hydrogen leak. The hydrogen shed was entered, and the alarm and deluge actuation were verified as spurious. Vermont Yankee determined that the fire systems were actuated by fallen ice on the actuation lever of an outdoor pull box located on a wall of a nearby building. A cover was installed on the pull box to preclude recurrence.

Overall, good performance was observed. The Fire Brigade Commander demonstrated command and control as the fire brigade was directed to stage fire hoses, and when strategy was discussed to assure a controlled-entry into the hydrogen shed. The Commander also made an appropriate and timely request for additional assistance demonstrating effective utilization of plant personnel and expertise. The brigade members were properly dressed and demonstrated safe fire fighting skills. The post-fire critique was thorough and critical of performance by both brigade members and nearby non-essential personnel. This was exhibited when VY identified that improved control of non-essential personnel and availability of fire fighting equipment would further contribute to an effective and safe response to this type of event.

5.4.2 Unavailability of Safe Shutdown Equipment

As discussed in Section 4.1, the performance of LCO-Maintenance on the "A" EDG resulted in the removal from service of plant equipment relied upon in the VY Safe Shutdown Capability Analysis for various fires analyzed in accordance with 10 CFR 50, Appendix R. Included in the LCO-Maintenance Plan were recommendations for implementation that would act as compensation for the loss of some of the safe shutdown capability. These included: (1) the administrative limitation on hot work and introduction of combustibles into specified plant areas, and (2) enhancing awareness of the significance of a fire in the areas in which the "A" EDG is relied upon. The Operations Night Order Book incorporated the considerations, and all hot work and fire protection control permits were required to be reviewed and approved by the Operations Planning Group during the duration of the maintenance period. The inspector verified that these compensatory measures were implemented and effective. Vermont Yankee's actions in this regard reflected positively on their commitment to fire protection.

5.5 Housekeeping

Plant housekeeping this period remained very good. Transient materials were properly stored. Lighting was adequate and accessibility to plant components was unrestricted. The inspector reviewed a March 7 memorandum issued by engineering's Technical Programs Manager that provided a summary and assessment of the field observations that resulted from implementation of the VY Observation Program. The inspector determined that the Observation Program is a positive initiative, provides for trending of findings and a good management focus on the timely detection and resolution of housekeeping deficiencies.

6.0 SAFETY ASSESSMENT AND QUALITY VERIFICATION (71707, 40500, 90712, 90713, 92700)

6.1 Self Assessment - Potential Reportable Occurrences

In the last three months Vermont Yankee had generated a total of 48 Potential Reportable Occurrence Reports (PROs) that identified off-normal or deficient conditions. The inspectors reviewed PRO activity for the same period in 1993 and noted that 21 issues were identified. A January 27 letter signed by both the Vice Presidents of Operations and Engineering was sent to

all plant and contractor personnel documenting, in part, the need for VY to improve self assessment performance and to raise performance standards. As stated in this letter, the Vice Presidents and senior members of plant management met with the various groups and departments to emphasize the importance of having a good questioning attitude and bringing concerns to the attention of management, and stressed the need for personnel support in assuring that positive performance changes occur as part of setting a new standard of conduct at VY. The diversity, nature, and significant increase in utilization of the PRO process was viewed by the inspectors as positive indications that good performance changes in the area of self assessment are occurring.

6.2 Review of Written Reports

The inspectors reviewed Licensee Event Reports (LERs) submitted to the NRC to verify accuracy, description of cause, and adequacy of corrective action. The inspectors considered the need for further information, possible generic implications, and whether the event warranted further onsite followup. The LERs were also reviewed with respect to the requirements of 10 CFR 50.73 and the guidance provided in NUREG 1022.

- LER 93-15 and Supplement I: Low Pressure Core Spray Suction Strainers Found to be of Different Size Than Previously Assumed

NRC review of the circumstances involving this event and the information contained in the LERs is contained in NRC Inspection Reports 93-21 and 93-29. Enforcement actions associated with this event are being followed by Violation 93-21-02. As documented in the cover letter of NRC Inspection Report 93-21, the NRC was concerned about the depth and quality of VY LERs. The inspector noted that Supplement 1 to LER 93-15 provided a good analysis of the safety significance of the event, was of sufficient detail, and provided documentation of well-focused corrective actions.

Periodic and Special Reports

Vermont Yankee submitted the following periodic and special reports which were reviewed for accuracy and found to be acceptable:

- Cycle XVI Fuel Summary Performance Report

As documented in the Cycle XVI Fuel Summary Performance Report, VY was operated for its second cycle run with a full core of barrier fuel, offgas was normal until June 7, 1993, when a single fuel rod developed a pin hole leak. Following the end of cycle on August 28, 1993, 367 out of 368 fuel bundles were "sipped." One of the peripherally located discharge bundles (third cycle) was identified as having a single fuel pin failure, believed to be caused by debris, however, no debris was found. Vermont Yankee concluded that the fuel failure was not related to the use of barrier fuel. VY acknowledged the importance of using good housekeeping practices and that the Housekeeping Program and procedures are undergoing a major review to

make possible improvements, and will continue to use conservative power change guidelines. Additionally, VY will change its Failed Fuel Action Plan (FFAP) to include the use of techniques described in a recent GE Service Information Letter (SIL 379, Rev. 1) related to finding and suppressing the power in the vicinity of the leaker to prevent catastrophic secondary failures.

Fuel performance and monitoring, as well as core operations, is an area noted by the inspector to receive a good level of engineering support by both the site Reactor and Computer Engineering Department and YNSD. The inspector concluded that VY's on-going review of fuel performance, their use of the FFAP, and improved methods to identify and mitigate failed fuel is a self assessment activity that continues to be a licensee strength.

7.0 MANAGEMENT MEETINGS (71707, 30702)

7.1 Preliminary Inspection Findings

Meetings were held periodically with VY management during this inspection to discuss inspection findings. A summary of preliminary findings was also discussed at the conclusion of the inspection and prior to report issuance. No proprietary information was identified as being included in this report.

7.2 SALP Management Meeting

On March 9 a meeting was held at the Vernon Town Hall located in Vernon, VT to discuss the results of the NRC Systematic Assessment of Licensee Performance (SALP) review conducted for the period of August 2, 1992 to January 15, 1994. See Enclosures 1, 2 and 3 to this inspection report for attendees, slides used by the NRC at the meeting, and slides used by VY at the meeting, respectively. This assessment is documented in NRC SALP Report 92-99 issued on February 28. Following the conclusion of the meeting, the public was provided the opportunity to ask questions of the NRC.

7.3 Other Meetings

The inspector attended a meeting at the NRC Region I (NRC:RI) office on March 30, between the VY Vice President, Engineering and other members of his organization and members of NRC:RI and the NRC Office of Nuclear Reactor Regulation. The purpose of the meeting was to discuss the status and results of their service water system self assessment.

On March 31, a meeting was held at the NRC:RI office between members of the NRC and representatives of VY to discuss the security program update.

Documentation of these meeting will be under separate correspondence.

ENCLOSURE 1

SALP MANAGEMENT MEETING ATTENDEES

PUBLIC MEETING

March 9, 1994

USNRC

T. Martin, Regional Administrator
J. Linville, Chief, Projects Branch 3, Division of Reactor Projects
H. Eichenholz, Senior Resident Inspector
P. Harris, Resident Inspector
W. Butler, Director, Project Directorate I-3, Office of Nuclear Reactor Regulation (NRR)
D. Dorman, Project Manager, Project Directorate I-3, NRR

VERMONT YANKEE NUCLEAR POWER CORPORATION

T. Webb, Chairman of the Board
J. Weigand, President and Chief Executive Officer
D. Reid, Vice President, Operations
J. Pelletier, Vice President, Engineering
R. Wanczyk, Plant Manager

NOTE: Other members of the Vermont Yankee staff and members of the public were present, but did not participate in the meeting

ENCLOSURE 2

NRC SALP SLIDES

SALP PROCESS OBJECTIVES

- **INTEGRATED ASSESSMENT**
- **MEANINGFUL DIALOGUE**
- **ALLOCATION OF NRC RESOURCES**
- **INFORM PUBLIC**

SALP FUNCTIONAL AREAS

1. OPERATIONS

2. ENGINEERING

3. MAINTENANCE

4. PLANT SUPPORT

RADIATION PROTECTION

EMERGENCY PREPAREDNESS

SECURITY

CHEMISTRY

FIRE PROTECTION

HOUSEKEEPING

PERFORMANCE RATINGS

CATEGORY 1 - SUPERIOR PERFORMANCE

CATEGORY 2 - GOOD PERFORMANCE

**CATEGORY 3 - ACCEPTABLE PERFORMANCE
CONSIDER INCREASED INSPECTION**

**PREVIOUS PERFORMANCE RATINGS
LAST SALP**

FUNCTIONAL AREA	PREVIOUS RATING
OPERATIONS	1
MAINTENANCE	1
ENGINEERING	2
PLANT SUPPORT:	
RADIOLOGICAL CONTROLS	2 IMPROVING
EMERGENCY PREPAREDNESS	1
SECURITY	3
SA/QV	2

OPERATIONS

- **CONTINUED STRONG CONTROL ROOM OPERATOR PERFORMANCE**
- **EXCELLENT RESPONSE TO OFF-NORMAL EVENTS**
- **STRONG COMMITMENT TO TRAINING**
- **NEW DAILY PLANT MANAGER MEETINGS AND SHIFT BRIEFINGS**
- **GENERALLY GOOD OUTAGE PLANNING AND CONDUCT**
- **OUTAGE GUIDELINES MINIMIZED SHUTDOWN RISK**
- **SIGNIFICANT EXCEPTION WAS FUEL HANDLING**
- **WEAKNESSES IN TECHNICAL SPECIFICATION INTERPRETATIONS**
- **SLOW TO CORRECT LONGSTANDING DEFICIENCIES**

RATING: CATEGORY 2

MAINTENANCE

- **THE CONDUCT OF MAINTENANCE WAS GENERALLY GOOD**
- **MATERIAL CONDITIONS REMAINED VERY GOOD**
- **PROMPTLY CORRECTED CONDITIONS ADVERSE TO SAFETY**
- **PERSONNEL DEMONSTRATED EXCELLENT SKILLS**
- **MANAGEMENT OF AT-POWER MAINTENANCE WAS ROBUST**
- **EXAMPLES OF INEFFECTIVE WORK CONTROLS**
- **WEAK EVALUATION OF INSPECTION AND TEST RESULTS**
- **SOME TECHNICALLY INADEQUATE PROCEDURES**

RATING: CATEGORY 2

ENGINEERING

- **VERY GOOD PERFORMANCE IN AREAS OF FOCUS**
- **HIGH QUALITY PLANT MODIFICATIONS**
- **GENERALLY GOOD SUPPORT TO PLANT ACTIVITIES**
- **ESTABLISHED PROGRAMS WERE WELL MANAGED**
- **EMERGENT WORK WAS WELL MANAGED**
- **INCREASED USE OF OPERATING EXPERIENCE**
- **CONTINUED WEAKNESSES IN EVENT EVALUATION**
- **POOR ASSESSMENT OF SAFETY SIGNIFICANT TRENDS**
- **WEAK SAFETY SYSTEM TESTING**

RATING: CATEGORY 2

PLANT SUPPORT

- **EXCELLENT HEALTH PHYSICS COVERAGE**
- **SIGNIFICANT REDUCTIONS IN RADIATION EXPOSURES**
- **GOOD CONTROL OF RADIOACTIVE MATERIALS**
- **AGGRESSIVE CHEMISTRY PROGRAM**
- **EFFECTIVE EMERGENCY PREPAREDNESS PROGRAM**
- **MARKED IMPROVEMENT IN SECURITY MANAGEMENT**
- **COMPREHENSIVE SECURITY SELF-ASSESSMENT**
- **EFFECTIVE RESOLUTION OF FIRE PROTECTION CONCERNS**
- **VERY GOOD HOUSEKEEPING**

RATING: CATEGORY 1

CURRENT PERFORMANCE RATINGS

FUNCTIONAL AREA	CURRENT RATINGS
OPERATIONS	2
MAINTENANCE	2
ENGINEERING	2
PLANT SUPPORT	1

OVERALL CONCLUSIONS

- **Good overall safety perspective**
- **Generally strong oversight and involvement**
- **Excellent staff skill and qualifications**
- **Significant exceptions to good performance:**
 - fuel handling problems**
 - evaluation of CRD scram time information**
 - fire barrier penetration seal deficiencies**
 - interpretation of Technical Specifications**
 - testing weaknesses**
- **Opportunities for improvement:**
 - control of maintenance**
 - testing and evaluation**
 - procedure compliance**
 - corrective actions**
 - sustaining safety margins**

ENCLOSURE 3

VERMONT YANKEE SALP SLIDES

Vermont Yankee Initiatives

A. Generic

- Self Assessment
- Procedure Adherence
- Management Development

Vermont Yankee Initiatives

B. Operations

- **Management Oversight**
- **Technical Specifications**
- **Infrequent Operations**

Vermont Yankee Initiatives

C. Maintenance

- Work Order Planning
- Work Control
- Procedure Improvements

Vermont Yankee Initiatives

D. Engineering

- Safety Assessment & MOV Testing
- Testing Safety-Related Systems
- Corrective Actions

Vermont Yankee Initiatives

E. Plant Support

- Material Control
- Security Upgrades
- Emergency Work Control