

## Vermont Yankee

### 1Q/2003 Plant Inspection Findings

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#### Initiating Events

**Significance:**  May 18, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

##### **Inadequate Procedure for Tagging and Poor Human Performance Cause Flooding of RCIC Steam Line**

The inspector identified a non-cited violation of Technical Specification (TS) 6.4, "Procedures" for the failure to provide an adequate procedure for removing equipment from service. An improper valve alignment allowed water from the refueling cavity to flood the reactor core isolation cooling (RCIC) steam line during the 2002 Mid-Cycle Outage. Two valves in the RCIC steam line were unintentionally left open during a tagging activity to support filling the refueling cavity for maintenance. AP 0140, "Vermont Yankee Local Control Switching Rules," and Tagging Order 020425 did not provide sufficient controls to ensure the valves were left in the desired position. Human performance errors and poor communication were contributing factors to this event. The failure to provide an adequate procedure for removing equipment from service was considered more than minor because it could be viewed as a precursor to a significant event. However, the inspector determined this issue was of very low safety significance (Green) because there was no actual loss of reactor coolant system inventory and the potential flowpath created by the tagging error would not cause a rapid decrease in inventory. Based on the location of the RCIC steam line, this event did not have the potential to drain the reactor vessel or cause a loss of decay heat removal. With the refueling cavity filled and fuel movements in progress, any loss of inventory through the three inch RCIC steam line (including the turbine and its exhaust check valves) would be slow and well within the capacity of the available CS and RHR pumps.

Inspection Report# : [2002004\(pdf\)](#)

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#### Mitigating Systems

**Significance:**  Mar 28, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

##### **CST ENCLOSURE LOW TEMPERATURE EXCEEDED WITH NO CR WRITTEN**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to take timely corrective actions in regards to condensate storage tank (CST) enclosure temperatures that fell below the administrative limits listed in auxiliary operator logs. This finding is greater than minor because it affected the Mitigating Systems Cornerstone objective of equipment reliability, in that, CST level instruments were left vulnerable to low temperatures which could impact the automatic swap-over function of the high pressure injection (HPCI) and reactor core isolation cooling (RCIC) system suctions from the CST to the suppression pool. The finding was determined to be of very low safety significance because an actual loss of safety function did not occur with the level instrumentation. This finding also affected the cross-cutting area of Problem Identification and Resolution, in that, untimely corrective actions resulted in the vulnerability of the CST level instrumentation to cold temperatures.

Inspection Report# : [2003002\(pdf\)](#)

**Significance:**  Jun 07, 2002

Identified By: NRC

Item Type: FIN Finding

### **Ineffective chemistry control program for RHRSW and SW systems**

The inspectors found that the licensee's chemistry control program was not effective at minimizing the buildup of microbiologically influenced corrosion (MIC) in the residual heat removal service water (RHRSW) and service water (SW) systems. Even though the licensee was chemically treating the RHRSW and SW systems to control biofouling, the performance of the RHRSW pumps had degraded on numerous occasions into the alert range during in service testing. Additionally, the SW and RHRSW piping has developed more than 20 documented pinhole leaks that were caused by MIC. This finding was considered greater than minor since an ineffective chemistry control program could be reasonably viewed as a precursor to a significant event or, if left uncorrected, could become a more significant safety concern. However, the inspectors considered this issue to be of very low safety significance (Green) in accordance with Phase 1 of the mitigating systems SDP screening criteria because the ineffective chemistry control program has not rendered the RHRSW or SW system inoperable and because of RHRSW and SW system redundancy. Inspection Report# : [2002003\(pdf\)](#)

**Significance:**  May 18, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Follow Procedure for Draining the HPCI Turbine Exhaust Drain Pot Results in Valve Being Left Open**

A non-cited violation of TS 6.4, "Procedures," occurred when an operator failed to follow the work order for draining the high pressure coolant injection (HPCI) turbine exhaust steam drain pot. On April 24, when an operator drained the drain pot through valve HPCI-146, the operator did not perform the final step of the work order step text, which was to close HPCI-146. The improper valve alignment was identified approximately eleven hours later when a different operator drained the drain pot. This issue was considered more than minor because the failure to follow procedures for the operation of safety-related equipment could have a credible impact on plant safety. Specifically, the failure to align the HPCI system in accordance with approved procedures could have affected the operability of the system due to increased room temperature during system operation. However, the inspectors determined this issue was of very low safety significance (Green) based on a Phase 1 evaluation of the SDP because a subsequent analysis demonstrated that operability of the HPCI system was not affected, the problem was readily identified, and the system was promptly returned to its normal standby alignment. Inspection Report# : [2002004\(pdf\)](#)

**Significance:**  May 18, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

### **Corrective Action for RHRSW Motor Cooling Pipe Degradation Not Effective and No Further Action Taken**

The inspector identified a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action," for the failure to adequately identify and resolve an issue related to degraded cooling water flow to an RHRSW pump motor. Specifically, cooling water flow to the RHRSW subsystem "B" pump motors was degraded by microbiologically induced corrosion (MIC). Indication of this problem was first documented by operators in October 2001, however VY's actions to resolve the issue were not effective and several opportunities to identify the continuing problem were missed. This finding was considered more than minor because the cooling water flow to the RHRSW Subsystem "B" pump motors was actually degraded. However, the inspector determined this issue was of very low safety significance (Green) based on a Phase 1 SDP evaluation. VY was able to show through evaluation that the pump motor bearings would not overheat and that the RHRSW pumps would remain operable.

Inspection Report# : [2002004\(pdf\)](#)

**Significance:**  May 18, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Follow Procedure During Restoration from CS Valve Surveillance Causes System to be Inoperable**

A non-cited violation of TS 6.4, "Procedures," occurred when operators failed to follow the procedure for a core spray (CS) quarterly valve surveillance. The procedure directed that the pump control switch be returned to the "auto" position as a part of system restoration from testing, however, operators left the CS pump "B" control switch in the "pull to lock" position. Additionally, during a subsequent procedurally-directed two-party system lineup verification, operators failed to identify the discrepant condition. As a result, CS subsystem "B" was declared operable following the test when it was actually in an inoperable condition. The problem was identified three hours later during a routine control board walkdown that was performed by a different operator. This issue was considered more than minor because the failure to follow procedures for the operation of this safety-related equipment had a credible impact on plant safety. Specifically, the failure to operate the CS system in accordance with approved procedures affected the operability of the system. However, the inspectors determined this issue was of very low safety significance (Green) based on a Phase 1 evaluation of the SDP because the problem existed for only a short period of time, was readily identified and corrected, and the system was promptly returned to its normal standby alignment (operable).

Inspection Report# : [2002004\(pdf\)](#)

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## Barrier Integrity

**Significance:**  Mar 28, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

**INADEQUATE DESIGN CONTROL FOR HPCI EXHAUST CHECK VALVES**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for a failure to adequately control the design of the HPCI system discharge check valves. This finding is greater than minor because it affected the Barrier Integrity Cornerstone, in that, the inadequate design controls applied to the replacement of HPCI turbine exhaust check valves V23-3 and V23-4 resulted in repeated failures during local leakage rate tests performed on these valves. The finding was determined to be of very low safety significance because the failure of the check valves did not result in an actual open pathway in the physical integrity of reactor containment.

Inspection Report# : [2003002\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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### Physical Protection

**Significance:**  Mar 28, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**FFD TESTING NOT IN ACCORDANCE WITH 10 CFR 26.24**

A self-revealing, non-cited violation of 10 CFR 26.24(a)(2) was identified for a failure of the licensee to perform random drug and alcohol testing on an annual rate equal to at least 50 percent of the workforce for calendar year 2002. This finding is greater than minor because it affected the objectives of the Physical Protection Cornerstone, in that, it constituted a vulnerability that affected the licensee's Access Authorization System (Personnel Screening Program). The finding was determined to be of very low safety significance because the finding was not a malevolent act and the licensee had not had greater than two similar findings during the last four calendar quarters.

Inspection Report# : [2003002\(pdf\)](#)

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### Miscellaneous

Last modified : May 30, 2003