

## Vermont Yankee

### 3Q/2004 Plant Inspection Findings

---

#### Initiating Events

**G****Significance:** Sep 30, 2004

Identified By: NRC

Item Type: FIN Finding

**Did Not Effectively Incorporate Operating Experience into the Preventive Maintenance Strategy for the 22 Kilovolt Electrical System**

A very low safety significance (Green) self-revealing finding was identified because Entergy did not effectively incorporate industry operating experience into the preventive maintenance strategy for the 22 Kilovolt (KV) electrical system as required by Entergy's preventive maintenance program. Specifically, Entergy's preventive maintenance strategy for the 22 KV electrical system did not effectively include information from industry operating experience related to inspections of isophase bus bars and flexible connections or the periodic testing of surge arresters or capacitors located in the generator potential transformer cabinets. As a result, degraded conditions on the "B" phase bus bar flexible connection and within the "A" phase surge arrester went unidentified resulting in a two-phase electrical fault-to-ground that ignited a fire on top of the main transformer and ultimately resulted in an automatic reactor scram.

The finding is greater than minor since it is associated with the Equipment Performance-Maintenance attribute of the Initiating Events Cornerstone and because it affects the associated Cornerstone objective. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Findings for At-Power Situations," the inspectors conducted a SDP Phase 1 screening and determined that an SDP Phase 3 analysis was required since the finding resulted in a reactor scram and a fire on the main transformer but did not result in exceeding Technical Specification limits for identified reactor coolant system leakage and did not result in a total loss of safety function of a mitigating system. The Region I senior reactor analyst conducted a Phase 3 analysis and determined that the finding is of very low safety significance (Green) due to the resultant small increase in both core damage and large early release frequencies. This issue has been entered into Entergy's corrective action program.

Inspection Report# : [2004005\(pdf\)](#)**G****Significance:** Mar 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Did Not Perform Adequate Extent of Condition Review Following Identification of An Improperly Installed RCIC Valve Packing**

A self-revealing non-cited violation (NCV) of 10 CFR 50 Criterion XVI was identified because Entergy did not promptly identify a condition adverse to quality. Specifically, in April 2000, following the identification that packing on a reactor core isolation cooling system valve failed because the Vermont Yankee procedure, OP 5281, for installing the valve packing was inadequate, Entergy performed a limited review of other instances in which procedure OP 5281 had been used to install valve packing. As a result, Entergy did not identify that maintenance personnel had improperly installed packing on a reactor head vent isolation valve using procedure OP 5281 in November 1999. In September 2003 the valve packing failed and developed a packing leak that required the reactor to be shutdown.

The finding is greater than minor since it is associated with the Equipment Performance attribute of the Initiating Events Cornerstone and because it affects the cornerstone objective. The inspectors conducted an SDP Phase 2 evaluation of the risk significance of the performance deficiency and determined that the finding is of very low safety significance (Green). The inspectors applied the SDP worksheet for Transients (TRANS) and determined that there were no accident sequences with a risk significance less than eight as indicated on the counting rule worksheet. Additionally, all mitigating capabilities described on the SDP Phase 2 Worksheet for TRANS core damage sequences were maintained.

The inspectors determined that a contributing cause of this finding is related to the cross-cutting area of Problem Identification and Resolution. Station personnel did not perform an adequate "assessment of similar conditions," as required by Entergy's correction action procedures, following the identification that an inadequate procedure resulted in the improper installation of packing in a reactor core isolation cooling system valve in April 2000. As a result, Entergy did not identify the extent of improperly packed valves and did not identify a condition adverse to quality associated with the improperly installed packing on a reactor head vent isolation valve.

Inspection Report# : [2004002\(pdf\)](#)**G****Significance:** Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Provide Adequate Work instructions Resulted in "B" Service Water Header Degradation**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for an inadequate procedure for the development and use of work instructions for work affecting quality. Consequently, no work instructions were provided to include proper verifications of safety-related piping locations in the vicinity of core boring activities. As a result, contractor personnel inadvertently perforated the "B" SW supply header while core boring.

This finding is greater than minor because it resulted in the degradation of the SW system. However, the inspectors determined that this issue is of very low safety significance (Green) because the performance deficiency did not result in an increase in the likelihood of a loss of service water initiating event and it did not result in a loss of safety function of the system.

Inspection Report# : [2003007\(pdf\)](#)

---

## Mitigating Systems

**Significance:**  Dec 31, 2003

Identified By: NRC

Item Type: FIN Finding

### **Two of Nine Operating Crews Failing Their Facility-Administered Annual Simulator Examinations**

A finding was identified associated with operating crew performance on the simulator during facility-administered requalification examinations. Of nine crews evaluated, two failed to pass their simulator examinations.

The finding is considered to be greater than minor because it reflected the potential inability of the operating crews to take appropriate safety-related actions in response to actual abnormal or emergency conditions. The finding is of very low safety significance (Green) because less than 34 percent of the operating crews failed, the failed crews were remediated prior to returning to shift, and there were no operating crew failures the previous year.

Inspection Report# : [2003007\(pdf\)](#)

---

## Barrier Integrity

**Significance:**  Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Non-cited violation (NCV) of 10 CFR 50 Criterion XVI for ineffective corrective actions following a 2001 event involving starting a RHR pump with no suction path**

A very low safety significance, self-revealing, non-cited violation (NCV) of 10 CFR 50 Criterion XVI was identified in that Entergy personnel did not develop effective corrective actions to prevent recurrence following a 2001 event wherein control room operators did not verify a suction path existed prior to starting a residual heat removal (RHR) system pump to support shutdown cooling operations. As a result a nearly identical event occurred on April 10, 2004, resulting in a unplanned loss of shutdown cooling for about 15 minutes.

The finding is greater than minor since it is associated with the Fuel Cladding Configuration Control Attribute of the Barrier Integrity Cornerstone and because it affects the associated Cornerstone objective. Specifically, the April 2004 trip of the "B" RHR pump, used to support shutdown cooling operations, reduced the assurance that the fuel cladding would protect the public from radio nuclide releases caused by accidents or events. In accordance with IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process", the finding was of very low safety significance. The finding did not degrade Entergy's ability to recover shutdown cooling since the "B" RHR pump was restarted within 15 minutes of being tripped and an adequate thermal margin was maintained via a calculated reactor coolant system time-to-boil of greater than 24 hours.

This finding affects the Cross-Cutting area of Problem Identification and Resolution. Entergy personnel did not assign effective corrective actions to prevent recurrence following a May 2001 trip of the "C" RHR pump which occurred when operations did not recognize that valve V10-17 had gone closed during a swap of vital AC power. Entergy's corrective actions relied on the operator's skill to verify a suction path was open prior to restarting a RHR pump rather than proceduralize the step.

Inspection Report# : [2004003\(pdf\)](#)

---

## Emergency Preparedness

## Occupational Radiation Safety

**G****Significance:** Sep 30, 2004

Identified By: NRC

Item Type: FIN Finding

**Entergy exceeded the original ALARA estimate for reactor reassembly by 72% due to ineffective coordination and control of radiological work activities**

The inspector identified a finding of very low safety significance (Green) because Entergy exceeded the original as low as reasonably achievable (ALARA) exposure estimate for reactor reassembly during the Spring 2004 refueling outage by 72% due to ineffective coordination and control of radiological work activities which were within its ability to foresee and correct.

The finding is greater than minor since it is associated with the Program and Process (ALARA Planning) attribute of the Occupational Radiation Safety Cornerstone and because it affects the associated Cornerstone objective. The finding is of very low safety significance (Green) because although it involved ALARA planning and work controls, the 3-year rolling average collective dose was less than 240 person-rem. This issue has been entered into Entergy's corrective action program.

Inspection Report# : [2004005\(pdf\)](#)

---

## Public Radiation Safety

---

## Physical Protection

[Physical Protection](#) information not publicly available.

---

## Miscellaneous

**Significance:** TBD Aug 27, 2004

Identified By: NRC

Item Type: AV Apparent Violation

**Did Not Keep Adequate Records, Follow Procedures, and Perform Physical Inventory of Special Nuclear Material**

The inspectors identified an apparent violation of 10 CFR 74.19 because Entergy and its predecessor did not keep adequate special nuclear material inventory records of two spent fuel rod pieces, did not follow its written procedures when two spent fuel rod pieces were moved to a fuel storage liner, and did not conduct adequate periodic physical inventories of the two spent fuel rod pieces.

Because the two spent fuel rod pieces remained in the Vermont Yankee spent fuel pool, the entire time the apparent violation existed, there was no actual safety consequence of this apparent violation. Nevertheless, the NRC considers this apparent violation a potentially significant failure of Entergy's material and control accounting program. This failure could have resulted in these two spent fuel rod pieces being inappropriately included in a shipment of radioactive material to a low-level radioactive waste site.

The disposition of this apparent violation is still under review by NRC management.

Inspection Report# : [2004007\(pdf\)](#)

Last modified : December 29, 2004