

Vermont Yankee

3Q/2009 Plant Inspection Findings

Initiating Events

Significance: **G** Oct 31, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Preventative Maintenance Program for Reactor Building Crane

A self-revealing Finding of very low safety significance was identified for Entergy not fully developing an adequate preventive maintenance (PM) program for the reactor building crane (RBC). As a result, on May 12, 2008, when the first loaded spent fuel storage cask was removed from the spent fuel pool (SFP) and was being lowered to a height of four inches above the refueling floor, the crane brakes did not engage and the spent fuel storage cask continued to be slowly lowered to the refueling floor. This issue was entered into the licensee's corrective action program as condition report CR VTY 2008-02043.

This issue is greater than minor because the finding resulted in the failure of the RBC brakes to engage during the lowering of a loaded spent fuel storage cask. The finding was determined to be of very low safety significance (Green) because the spent fuel storage cask remained under control of the reactor building crane, was in an approved load path, and the emergency braking system was available.

Inspection Report# : [2008006](#) (*pdf*)

Significance: **G** Oct 08, 2008

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Design Change Review Causes Failure of Circulating Water System Pipe Supports

A self-revealing finding of very low safety significance was identified because Entergy did not verify the technical adequacy of a design change prior to placing the circulating water system piping in east cooling tower cell 1-1 in service. As a result, four horizontal circulating water pipe support beams failed. Upon identification of the failure, Entergy decreased reactor power to 46 percent and removed both the east and west cooling towers from service for investigation and repair. Entergy's corrective actions included immediate replacement or repair of damaged and degraded structures, verification of design change acceptability, and implementation of several procedure and policy changes.

The performance deficiency was that Entergy did not perform an adequate design review as described in Entergy procedure EN-DC-115, "Engineering Change Development." The finding was more than minor because it was associated with the Design Control attribute of the Initiating Events Cornerstone and affects the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the inadequate design change analysis resulted in the failure of horizontal pipe supports in cooling tower cell 1-1 which damaged the circulating water system piping and resulted in a significant power reduction. The finding was determined to be of very low safety significance because it did not contribute to both the likelihood of a reactor scram and the likelihood that mitigating equipment or functions would not be available. The finding had a cross-cutting aspect related to resources in the area of Human Performance. Entergy did not ensure that complete, accurate and up-to-date design documentation was available to adequately construct portions of non-safety-related cooling tower cells. Specifically, Entergy did not provide detailed drawings or instructions supported by engineering calculations to implement a design change affecting the circulating water pipe horizontal support design [H.2(c)].

Inspection Report# : [2008009](#) (*pdf*)

Mitigating Systems

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to initiate corrective action condition reports for all deficient items identified during cooling tower inspections.

The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” in that Entergy did not initiate corrective action condition reports (CRs) for all deficient items identified during Cooling Tower (CT) inspections. Entergy entered this issue into their corrective action program (CAP) and performed an operability assessment which determined that the safety related function of the CTs was always available.

The inspectors determined that the finding was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, deficiencies might not be tracked to resolution, management attention or other independent reviews would not be appropriately applied, and the need for operability determinations may be missed. The finding was determined to be of very low safety significance (Green) because the finding did not involve a design or qualification deficiency resulting in loss of operability or functionality, did not result in a loss of system safety function, and did not screen as potentially risk significant due to external initiating events. This finding had a cross-cutting aspect in the “Work Practices” component of the Human Performance cross-cutting area because Entergy did not follow procedures and initiate CRs to identify cooling tower deficiencies as required by operating procedure (OP) 52114.

Inspection Report# : [2009004](#) (*pdf*)

Significance:  Jun 03, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Take Adequate Corrective Actions for a HPCI System Functional Failure

The team identified a Green non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” for Entergy’s failure to take adequate corrective actions for a condition adverse to quality involving an issue that had the potential to negatively impact the high pressure coolant injection (HPCI) system. Specifically, Entergy failed to take timely and appropriate corrective actions commensurate with the safety significance (potential repeat functional failure of the HPCI system due to degraded direct current (DC) contactors) of the issue. Entergy’s short-term corrective actions included a visual inspection of several affected DC breaker cubicles, a HPCI system operability evaluation, and interim guidance to plant operators. Entergy entered the condition into their CAP (CR 2009-1489) and performed a root cause evaluation. The finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the adverse condition represented a challenge to the reliability of the HPCI system due to the system’s vulnerability to a repeat

functional failure. The finding was determined to be of very low safety significance (Green) because it: was not a design or qualification deficiency confirmed not to result in loss of operability; did not represent a loss of system safety function; did not represent actual loss of safety function of a single train for greater than its technical specification allowed outage time; did not represent an actual loss of safety function of one or more non-technical specification trains for equipment designated as risk-significant per 10 CFR 50.65 for greater than 24 hours; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a crosscutting aspect in the area of Problem Identification and Resolution, Corrective Action Program Component, because Entergy failed to take appropriate corrective actions to address a safety issue in a timely manner, commensurate with the safety significance and complexity [P.1.d]. Specifically, Entergy did not take appropriate corrective actions to adequately address the extent of condition for a HPCI functional failure in June 2007 due to degraded DC contactors prior to April 2009.

Inspection Report# : [2009006](#) (*pdf*)

Significance:  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to write a condition report (CR) for an adverse condition associated with water accumulating in the turbine building supply fan housing plenum area.

The inspectors identified a Green non-cited violation (NCV) of Vermont Yankee Technical Specifications Section 6.4, "Procedures," for Vermont Yankee's failure to take action to correct a specific and foreseen malfunction of a plant component. Specifically, Vermont Yankee failed to initiate a condition report (CR) for an adverse condition associated with water accumulating in the turbine building supply fan housing plenum area, which led to the inoperability of the 'A' emergency diesel generator (EDG) on January 21, 2009 for four hours. Vermont Yankee operations and maintenance personnel stopped the source of the water accumulation and restored the 'A' EDG to operable status. This NCV has since been entered into the Vermont Yankee corrective action program (CAP).

The finding was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone; and, it affected the cornerstone objective of ensuring the reliability, availability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the 'A' EDG was rendered inoperable for approximately four hours, but less than the seven-day Technical Specifications (TS) 3.10 allowed outage time. The finding had a cross-cutting aspect in the "Corrective Action Program" component of the Problem Identification and Resolution (PI&R) cross-cutting area because Vermont Yankee did not identify within the CAP the rising water level in the turbine building supply fan housing plenum area in a timely manner commensurate with its safety significance [P.1(a)]. (Section 1R12).

Inspection Report# : [2009002](#) (pdf)

Significance:  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform procedurally required engineering evaluations for scaffolding.

The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for Vermont Yankee's failure to routinely perform procedurally required engineering evaluations for scaffold bracing attached to pipe supports. Specifically, Vermont Yankee failed to perform engineering evaluations on 27 out of 32 scaffolds with horizontal bracing attached to safety related pipe supports. Subsequently, each scaffold was evaluated and documented by Vermont Yankee engineering and no immediate safety issues were found. This NCV has been entered into the Vermont Yankee corrective action program (CAP).

The performance deficiency was more than minor because if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, installing scaffold bracing on pipe supports without engineering approval could place a pipe support in an unanalyzed seismic condition, which could lead to failure in a seismic event. The finding had a cross-cutting aspect in the "Work Practices" component of the Human Performance cross-cutting area because Vermont Yankee did not implement adequate management oversight of contractor work activities regarding scaffold procedural compliance. [H.4(c)]. (Section 4OA2).

Inspection Report# : [2009002](#) (pdf)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Apr 23, 2009

Identified By: NRC

Item Type: FIN Finding

2009 PIR Team Summary

The team concluded that Entergy was generally effective in identifying, evaluating, and resolving problems. Vermont Yankee personnel identified problems at a low threshold and entered them into the Corrective Action Program (CAP). The team determined that Vermont Yankee screened issues appropriately for operability and reportability, and prioritized issues commensurate with the safety significance of the problems. Causal analyses appropriately considered extent of condition, generic issues, and previous occurrences. The team determined that corrective actions addressed the identified causes and were typically implemented in a timely manner. However, the team noted one example of very low safety significance involving less than adequate corrective actions resulting in an NRC-identified finding. This issue was entered into Entergy's CAP during the inspection.

Entergy's audits and self-assessments reviewed by the team were thorough and probing. Additionally, the team concluded that Entergy adequately identified, reviewed, and applied relevant industry operating experience (OE) to the Vermont Yankee Nuclear Power Station. Based on interviews, observations of plant activities, and reviews of the CAP and the Employees Concerns Program (ECP), the team did not identify any concerns with site personnel willingness to raise safety issues nor did the team identify conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : [2009006](#) (*pdf*)

Last modified : December 10, 2009