

# FitzPatrick

## 4Q/2007 Plant Inspection Findings

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### Initiating Events

**Significance:**  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Implement Procedure Associated with Lake Condition Monitoring**

A self-revealing NCV of Technical Specification 5.4, "Procedures," was identified when operators did not implement certain steps specified in Operations Shift Standing Order 2007-020, "Lake Condition Monitoring," Revision 4, which increased the likelihood of a scram. Entergy entered the condition into their corrective action program, revised the lake condition monitoring procedure, and discussed procedure adherence expectations with operators.

The inspectors determined that this finding is more than minor because it is associated with the Human Performance attribute (human error) of the Initiating Events cornerstone; and it impacted the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety function during shutdown as well as power operations. The inspectors evaluated this finding using Phase 1 of IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At Power Situation," and determined it to be of very low safety significance (Green) because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment functions would not be available.

This finding had a cross-cutting aspect in the area of human performance because Entergy did not ensure that expectations regarding procedural compliance were met. (H.4(b)) (Section 4OA3)

Inspection Report# : [2007005](#) (*pdf*)

**Significance:**  Dec 31, 2007

Identified By: NRC

Item Type: FIN Finding

#### **Feedwater Low Flow Control Valve Degradation Led to Primary Containment Isolation System Group Two Isolation**

A self-revealing finding was identified involving inadequate corrective actions when Entergy failed to correct the adverse condition of the feedwater low-flow control valve, 34FCV-137. Entergy also failed to implement corrective actions in a timely manner to remotely monitor feedwater flow rate through the feedwater low-flow control valve in order to support level control. This condition resulted in a low level scram and primary containment isolation system group two isolation on September 12, 2007, and October 28, 2007. This problem was entered into Entergy's corrective action program. Following the October 28, 2007, manual scram and subsequent low level scram, Entergy replaced the stem and packing box for the low-flow control valve and implemented an interim method to remotely monitor feedwater flow rate. In addition, Entergy has scheduled a design change to provide low-range feedwater flow rate instrumentation in the control room.

The inspectors determined that this finding is more than minor because it is associated with the equipment performance attribute of the Initiating Events cornerstone, and it impacted 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. The inspectors evaluated this finding using Phase 1 of Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and determined it to be of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because Entergy did not take appropriate corrective actions, in a timely manner, to address the feedwater

low-flow control valve degradation and to provide a method to monitor the feedwater control system response following the low level scram and primary containment isolation system group two isolation on September 12, 2007. Consequently, another low level scram and primary containment isolation system group two isolation occurred on October 28, 2007. (P.1(d)) (Section 40A3)

Inspection Report# : [2007005](#) (*pdf*)

**Significance:**  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Perform a Risk Assessment When Required by 10 CFR Para 50.65(a)(4)**

A Green, self-revealing, NCV of 10 CFR Part 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" was identified when Entergy did not perform a risk assessment for planned maintenance activities when a tagout was applied on the 'B' electro-hydraulic control (EHC) pump, in conjunction with a previous emergent failure of torus exhaust outer isolation valve 27AOV-118. Entergy performed a risk assessment and entered the deficiency into their corrective action program.

The inspectors determined that this finding affected the initiating events cornerstone; and it was more than minor because it was similar to Example 7(f) in Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that, the emergent failure of 27AOV-118, in combination with the subsequent removal of the 'B' electro hydraulic control pump availability resulted in the plant being in a higher risk category, which required risk management actions, under Entergy's on-line risk management procedure. The inspectors evaluated this finding using IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management SDP," Flowchart 1, "Assessment of Risk Deficit," and determined the finding to be of very low safety significance (Green) because the finding resulted in an increase in the incremental core damage probability deficit of less than  $1 \times 10^{-6}$  (actual increase was in the high 10-8 range).

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because Entergy did not incorporate appropriate risk insights into planned work activities. (H.3(a))

Inspection Report# : [2007002](#) (*pdf*)

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## Mitigating Systems

**Significance:**  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Perform a Risk Assessment When Required by 10 CFR Part 50.65(a)(4)**

A self-revealing NCV of 10 CFR Part 50.65 (a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," was identified when Entergy failed to perform a risk assessment prior to commencing performance of Instrument Surveillance Procedure ISP-175A1, "Reactor Containment Cooling Instrument Functional Test/ Calibration." This was due to instrument and control technicians performing the procedure which was not in accordance with the plant work schedule. This problem was entered into Entergy's corrective action program. Corrective actions included communicating the error to personnel, conducting human performance training, and improving administrative control of procedures.

The inspectors determined that the finding impacted the Mitigating Systems cornerstone because it impacted the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding is more than minor because the licensee's risk assessment failed to consider risk significant structures, systems, and components (i.e., high pressure coolant injection and reactor core isolation cooling) that were unavailable during the maintenance period.

Using IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management SDP," Flowchart 1, "Assessment of Risk Deficit," the inspectors determined the incremental core damage probability deficit from

Entergy's core damage frequency as a result of the actual duration of ISP-175A1 (1.07 hours). The inspectors calculated the incremental core damage probability deficit and determined it to be significantly lower than 1E-6. Because the calculated risk deficit was not greater than 1E-6 incremental core damage probability deficit, the inspectors determined that this finding was of very low safety significance (Green).

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because the instrument and control technicians involved did not effectively implement the expected human error prevention techniques (e.g., self-checking, prejob briefs, and proper documentation of activities), to ensure the correct procedure was used in accordance with the work schedule. (H.4(a)) (Section 1R13)

Inspection Report# : [2007005](#) (*pdf*)

**Significance:**  Sep 28, 2007

Identified By: NRC

Item Type: FIN Finding

**Failure to correct negative slope of the reactor core isolation cooling system flow instrument sensing lines.**

A self-revealing finding was identified involving inadequate corrective actions when Entergy did not correct an adverse condition on the reactor core isolation cooling (RCIC) system flow instrument sensing lines. The condition allowed air bubbles to form in the sensing lines, resulting in an erroneous flow indication. Consequently, the RCIC system would not have been able to achieve its design flow rate of 410 gallons per minute (gpm). Entergy entered the condition into their corrective action program and implemented interim corrective actions by revising the RCIC operating procedure to vent the sensing lines. In addition, Entergy has scheduled activities to correct the instrument sensing line condition.

The inspectors determined that this finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone; and, it impacted the cornerstone objective of ensuring the availability, reliability, and capability of the RCIC system to respond to initiating events to prevent undesirable consequences. Specifically, the RCIC system would not have been able to achieve its design flow rate of 410 gpm. The inspectors evaluated this finding using Phase 1 of IMC 0609, Appendix A, ASignificance Determination of Reactor Inspection Findings for At-Power Situations, @ and determined it to be of very low safety significance (Green) because it was not associated with a design or qualification deficiency, it did not represent any actual loss of a system safety function, it did not represent the actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time, and it was not potentially risk significant due to a seismic, flooding, or severe weather initiating event.

Inspection Report# : [2007004](#) (*pdf*)

**Significance:**  Jul 20, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to maintain adequate design basis calculations for safety-related motors.**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control. The team determined that Entergy did not maintain appropriate design basis calculations to ensure that the safety-related motors for the emergency service water (ESW) and standby liquid control (SLC) pumps had adequate starting voltage.

The finding is more than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of the ESW and SLC systems to respond to initiating events to prevent undesirable consequences. This finding is of very low significance because it did not result in the loss of operability.

This finding has a cross-cutting aspect in the area of human performance (Resources component) because Entergy did not ensure that adequate resources were available to maintain complete, accurate and up-to-date design documentation. (H.2(c))

Inspection Report# : [2007006](#) (*pdf*)

**G****Significance:** Jul 20, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**EDG FOST capacity calculation did not account for vortexing.**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control. The team determined that Entergy failed to properly identify and evaluate the potential for vortexing in the emergency diesel generator (EDG) fuel oil transfer pump (FOTP) suction inlet piping. Specifically, Entergy's EDG fuel oil storage tank (FOST) inventory calculation did not include any allowance for suction line submergence to prevent air entrainment resulting from the effects of vortexing.

The finding is more than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of the EDGs to respond to initiating events to prevent undesirable consequences. This finding is of very low significance because it did not result in the loss of safety function.

This finding has a cross-cutting aspect in the area of problem identification and resolution (PI&R) (Self - and Independent Assessments component) because Entergy did not ensure that design basis self assessments were of sufficient depth, comprehensive, appropriately objective, and self-critical. (P.3(a))  
Inspection Report# : [2007006](#) (*pdf*)

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## Barrier Integrity

**G****Significance:** Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate Maintenance on Containment Atmosphere Control Valve**

A Green, self-revealing, non-cited violation (NCV) of Title 10 of the Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when Entergy failed to properly implement a torus exhaust valve maintenance procedure. As a result, on February 25, 2007, valve 27AOV-118 did not open on demand to vent the torus and maintain drywell to torus differential pressure. Entergy entered this issue into their corrective action program and performed an extent of condition review.

The inspectors determined that this finding more than minor because it was associated with the Barrier Performance attribute of the Barrier Integrity cornerstone; and it impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Failure of the valve to operate remotely from the relay room would have required operators to open the valve locally using the manual operator in accordance with procedure Emergency Procedure 6, "Post-Accident Containment Venting and Gas Control." The inspectors evaluated this finding using Phase 1 of IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and determined it to be of very low safety significance (Green) because it did not represent an actual open pathway in the physical integrity of reactor containment, or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment.

Inspection Report# : [2007002](#) (*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

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.

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### Miscellaneous

Last modified : February 04, 2008