

FitzPatrick

2Q/2008 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2008

Identified By: NRC

Item Type: FIN Finding

Surge arresters not replaced in accordance with preventive maintenance program

A self-revealing finding was identified when one of the 115 kV offsite power transformer 71T-3 surge arresters failed in-service. Specifically, Entergy did not adequately implement maintenance program expectations outlined in EN-DC-324, "Preventive Maintenance Program," Revision 4 and ensure replacement of the surge arrester upon exceeding its reliable service life. The surge arrester failure contributed to a loss of offsite power.

The inspectors determined that this finding is more than minor because it is associated with the protection against external factors attribute (grid stability) of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the significance of 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 the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available.

This finding had a cross-cutting aspect in the area of problem identification and resolution because Entergy did not take appropriate corrective actions to promptly replace the surge arrester when it was identified to be past its reliable service life. (P.1(d))

Inspection Report# : [2008003](#) (*pdf*)

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 4OA3)

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

Mitigating Systems

Significance:  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Quality standards not specified in design documents that resulted in deficient B LPCI battery cable bend radii.

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," because Entergy did not ensure that appropriate quality standards were specified and included in design documents and that deviations from such standards were controlled. Specifically, Entergy did not ensure that the cable bend radius for the 'B' low pressure coolant injection (LPCI) battery inter-tier jumper cables was in accordance with the design. Entergy entered the condition into their corrective action program, issued a work request to establish appropriate bend radii and inspected all other batteries for extent of condition.

The inspectors determined that this finding is more than minor because it is associated with the Design Control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, reliability was affected because of additional stresses imposed at the u-bend of the cable which impacts long-term cable reliability. The inspectors evaluated the significance of 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 the finding represented a design or qualification deficiency confirmed not to result in loss of operability.

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because the completeness of the design documents, procedures, and work packages used during the maintenance activities in April 2008, were not sufficiently complete to ensure design standards were implemented. (H.2(c)).

Inspection Report# : [2008003 \(pdf\)](#)

Significance: G May 16, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedure Guidance to Address Spurious Failures of the RCIC and LPCI Systems

The team identified a Green non-cited violation of technical specification 5.4.1.d for failure to provide adequate procedure directions in Attachment 6 of AOP-28, "Operation During Plant Fires," Rev. 18, for operators to restore the RCIC system and secure the "A" RHR pump from potential fire-induced cable failures. The licensee entered this issue into their corrective action program and implemented procedure changes to provide operators appropriate guidance to address the spurious failures of both RCIC and LPCI "A" systems in the event of fire in fire zone RB-1C.

The finding was more than minor because it affected the procedure quality attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, Entergy had not established adequate procedure guidance to restore the RCIC system and secure the "A" RHR pump from fire-induced cable failures in the event of a fire in fire zone RB-1C. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, "Fire Protection Significance Determination Process." This finding screened to very low safety significance (Green) in Phase 1 of the SDP because it was assigned a low degradation rating. The low degradation rating was assigned based on the team's review of the BWR Owners' Group response and walkdowns conducted of procedure AOP-28, "Operation During Plant Fires," Rev. 18. The team concluded that, although a spurious start of the "A" RHR pump with minimum flow condition could occur, an operator would reach the LPCI mode step in the procedure within the maximum expected minimum flow condition evaluated and specified in BWR Owners' Group response of thirty minutes. As a result, a low degradation rating was assigned. (Section 1R05.01)

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

Significance: G 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: G 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: G 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*)

Significance: G 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*)

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

Last modified : August 29, 2008