

FitzPatrick

4Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2013

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Reactor Water Recirculation Digital Flow Control Modification Post-Maintenance Test Procedure Results in Unexpected Power Increase

The inspectors identified a Green self-revealing non-cited violation of Technical Specification (TS) 5.4, "Procedures," because Entergy Nuclear Northeast (Entergy) staff did not adequately preplan the implementation of a plant modification to install a digital reactor water recirculation (RWR) flow control system during the 2012 refueling outage. Specifically, post-maintenance testing (PMT) failed to identify that a portion of the runback logic was incorrectly programmed. As a result, the RWR system was restored to operation without identifying the error. On November 8, 2012, during power ascension activities following a subsequent forced outage, the 'A' RWR pump demand signal increased from minimum flow (approximately 30 percent) to approximately 44 percent with no operator action when feedwater flow increased above 20 percent. This resulted in an unexpected power increase of approximately 1.4 percent (37 megawatts thermal). As immediate corrective action, control room operators reduced flow in the 'A' RWR loop to restore it to pre-transient conditions, locked the scoop tubes for both RWR motor-generators, and placed the power ascension on hold pending further evaluation of the event. The issue was entered into the corrective action program (CAP) as condition report (CR)-JAF-2012-08042. The issue of inadequate PMT was subsequently entered into the CAP as CR-JAF-2013-05326.

The finding was more than minor because it was similar to Example 4.b in Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," in that it resulted in a plant transient. In addition, the finding adversely affected the Initiating Events 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. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 1 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined this finding was of very low significance (Green) because the performance deficiency did not cause a reactor trip or the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding had a cross-cutting aspect in the area of Human Performance, Resources, because Entergy did not ensure that the PMT acceptance criteria specified in the engineering change package were clearly translated into PMT testing work packages to verify successful implementation of the digital RWR flow control modification [H.2(c)].

Inspection Report# : [2013004](#) (*pdf*)

Mitigating Systems

Significance: G Jul 11, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to correctly position EDG room ventilation temperature controllers in automatic

The team identified a finding of very low safety significance (Green) involving a non cited violation of Technical Specification (TS) 5.4, "Procedures." Specifically, following EDG maintenance, operators did not restore the 'A' and 'C' EDG ventilation systems in accordance with operating procedure OP-60, "Diesel Generator Room Ventilation." In particular, operators failed to correctly position the 'A' and 'C' EDG room ventilation temperature controllers to automatic as required by Entergy procedure OP-60. Following discovery, operators promptly restored controllers to automatic, performed additional extent-of-condition control panel walkdowns throughout the plant, and entered the issue into their corrective action program to evaluate and address causal factors.

The performance deficiency was determined to be more than minor because it was associated with the Configuration Control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team evaluated the finding in accordance with IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," Exhibit 2 – Mitigating Systems Screening Questions. The team determined that the finding was of very low safety significance because it was not a design qualification deficiency resulting in a loss of functionality or operability and did not represent an actual loss of safety function of a system or train of equipment. The team determined that this finding has a cross-cutting aspect in the area of Human Performance, Work Practices Component, because Entergy did not adequately ensure supervisory and management oversight of EDG ventilation system restoration activities such that nuclear safety was supported [H.4(c)].
Inspection Report# : [2013007](#) (*pdf*)

Significance:  Jul 11, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to verify adequacy of the FOTP NPSH

The team identified a finding of very low safety significance (Green) involving a non cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," because Entergy had not verified the adequacy of the existing design analyses for the available net positive suction head (NPSH) to the EDG fuel oil transfer pumps. Specifically, the team identified several non-conservative design assumptions indicating that Entergy did not adequately account for NPSH in their calculation for the 7-day onsite supply of fuel oil to the EDGs. Entergy performed an operability evaluation, implemented appropriate compensatory measures, and entered the issue into their corrective action program to evaluate and resolve the design deficiency.

The performance deficiency was determined to be more than minor because it was similar to Example 3.j of NRC IMC 0612, Appendix E, and was associated with the Design Control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team evaluated the finding in accordance with IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," Exhibit 2 – Mitigating Systems screening questions. The finding was determined to be of very low safety significance because it was a design deficiency confirmed not to result in a loss of operability. This finding was not assigned a cross-cutting aspect because it was a historical design issue not indicative of current performance. Specifically, the performance deficiency had occurred outside of the nominal three year period for evaluating present performance as defined in IMC 0612.

Inspection Report# : [2013007](#) (*pdf*)

Significance:  Jun 30, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Technical Specification Actions for Inoperable Control Rod Not Performed Within the Technical Specification Allowed Completion

The inspectors identified a non-cited violation of technical specification (TS) 3.1.3, “Control Rod Operability,” because Entergy operators did not take the required actions within the allowed completion time in response to indication that the scram capability of a control rod was indeterminate. Specifically, when available information concerning the scram solenoid pilot valves (SSPVs) required control rod 30-11 to be declared inoperable, operators did not declare the control rod inoperable, did not fully insert the control rod within 3 hours, and did not disarm the associated control rod drive within 4 hours as required by TS 3.1.3.C. Entergy’s corrective actions included fully inserting and electrically disarming control rod 30-11, replacing the SSPVs, revising the instructions to operators, briefing operators on this issue, and initiating a condition report.

This finding was more than minor because it was associated with the equipment performance 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, operators did not fully insert and electrically disarm control rod 30-11 within the TS allowed completion time when the scram capability of the control rod was indeterminate and, therefore, required to be declared inoperable. In accordance with Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process for Findings At Power,” the finding was of very low safety significance (Green) because it did not affect multiple automatic reactor shutdown functions, did not involve an unintentional positive reactivity addition, and did not result in inability to control changes in reactivity during crew operations. The finding had a cross-cutting aspect in the area of Human Performance, Decision Making, because, given industry operating experience that cessation of the SSPV buzzing sound was a possible indication of a condition that would prevent the SSPV from performing its safety function. Entergy staff did not communicate to on-shift operations department personnel the need to promptly declare control rod 30-11 inoperable if this condition were to occur [H.1(c)].

Inspection Report# : [2013003](#) (pdf)

Significance: G Jun 30, 2013

Identified By: NRC

Item Type: FIN Finding

Inadequate Corrective Action for Decay Heat Removal System Degradation Results in Loss of Decay Heat Removal During Refueling Outage 20

A self-revealing finding (FIN) was identified for a loss of decay heat removal (DHR) during refueling outage 20 (R20) that was the result of inadequately remediated DHR system degradation. Specifically, prior to using the system during R20, Entergy did not clean scale buildup in the DHR secondary cooling loop heat exchangers (HXs) causing low secondary system pressure, and Entergy did not address the resultant reduction in margin to the primary cooling loop pump automatic shutdown on low primary-to-secondary differential pressure. As a result, a spurious automatic DHR system shutdown occurred while it was functioning as the alternate method of DHR in place of residual heat removal (RHR) shutdown cooling. Entergy’s corrective actions included restarting DHR and initiating condition report CR-JAF-2012-06934. Entergy also initiated actions to evaluate corrective measures such as modifying the differential pressure trip, adding secondary loop water chemistry treatment, and cleaning of the HXs.

This finding was more than minor because it was associated with the equipment performance 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 (i.e., core damage). Specifically, there was an unplanned shutdown of the DHR system for about 50 minutes when it was providing the shutdown cooling function. The inspectors determined the significance of the finding using Inspection Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process.” Per Attachment 1, “Shutdown Operations Significance Determination Process Phase 1 Operational Checklists for both PWRs [pressurized water reactors] and BWRs [boiling water reactors],” Checklist 7, “BWR Refueling Operation with RCS Level > 23’,” this finding impacted checklist item I.C because at the time of the event, the DHR system was functioning as the alternate method of DHR in place of RHR shutdown cooling. The finding was determined to be of

very low safety significance (Green) because the finding did not require a quantitative assessment as described in Checklist 7 of Attachment 1 to Appendix G, because checklist item I.C. is not listed as requiring phase 2 or 3 analysis, and the finding did not constitute a loss of control event per Appendix G, Table 1. The inspectors determined that the finding had a cross-cutting aspect in the Problem Identification and Resolution area, Corrective Action Program component, because Entergy staff did not take appropriate corrective actions to address the adverse trend in DHR system performance [P.1(d)].

Inspection Report# : [2013003](#) (*pdf*)

Significance: N/A Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Submit a Licensee Event Report for a Condition That Could Have Prevented Fulfillment of the High-Pressure Coolant Injection System Safety Function

The inspectors identified a Severity Level IV non-cited violation of Title 10 of the Code of Federal Regulations (10 CFR) 50.73, "Licensee Event Report (LER) System," because failure of an isolation valve in the high-pressure coolant injection (HPCI) system torus suction line to fully open on demand caused the automatic suction swap function to be inoperable, but this condition was not reported to the NRC as a condition that could have prevented fulfillment of a safety function per 10 CFR 50.73(a)(v) within 60 days of when it should reasonably have been discovered. Specifically, while this condition existed, an automatic suction swap from the condensate storage tanks (CSTs) to the torus would not have gone to completion, but rather would have stopped with both suction paths open. Depending on whether or not HPCI was running at the time, this would either result in air entrainment in the HPCI pump suction, causing a loss of HPCI, or an increase in suppression pool level due to drainage from the CSTs. However, this condition was not reported to the NRC as a condition that could have prevented fulfillment of a safety function per 10 CFR 50.73(a)(v) within 60 days of when it should reasonably have been discovered. This issue was entered into the corrective action program as condition report (CR)-JAF-2013-01768.

The inspectors determined that the failure to submit an LER within 60 days in accordance with 10 CFR 50.73 was a performance deficiency that was reasonably within Entergy's ability to foresee and correct. Because the issue impacted the regulatory process in that a safety system functional failure was not reported to the NRC within the required timeframe, thereby delaying the NRC's opportunity to review the matter, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using example 6.9.d.9 from the NRC Enforcement Policy, the inspectors determined that the violation was a Severity Level IV (more than minor concern that resulted in no or relatively inappreciable potential safety or security consequence) violation, because Entergy personnel failed to make a report required by 10 CFR 50.73 when information that the report was required had been reasonably within their ability to have identified. In accordance with Inspection Manual Chapter 0612, "Power Reactor Inspection Reports," traditional enforcement issues are not assigned cross-cutting aspects.

Inspection Report# : [2013002](#) (*pdf*)

Significance: N/A Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Submit a Licensee Event Report for Condition Prohibited by Technical Specification 3.0.4

The inspectors identified a Severity Level IV non-cited violation of Title 10 of the Code of Federal Regulations (10 CFR) 50.73, "Licensee Event Report (LER) System," because a violation of technical specification (TS) 3.0.4 for a reactor mode change being made from Mode 4 to Mode 2 without satisfying the TS required conditions for alignment of the containment air dilution and standby gas treatment (SGT) systems in Mode 2 was not reported to the NRC within 60 days of when it should reasonably have been discovered. Specifically, in Modes 1, 2, and 3, TS surveillance requirement 3.6.1.3.1 allows the 20-inch and 24-inch primary containment vent and purge valves to be open for inerting, deinerting, pressure control, or other reasons provided that valve 27MOV-120 in the full flow line to the SGT system is closed. This is to ensure that there would be no damage to the SGT filters if a loss-of-coolant accident were

to occur with the vent and purge valves open. However, on November 24, 2012, operators transitioned the reactor from Mode 4 to Mode 2 while the 20-inch and 24-inch containment vent and purge valves and valve 27MOV-120 were open. This condition was not reported to the NRC within 60 days of when it should reasonably have been discovered. As immediate corrective action, FitzPatrick staff entered the issue into the corrective action program as condition report (CR)-JAF-2013-01097.

The inspectors determined that the failure to submit an LER within 60 days in accordance with 10 CFR 50.73 was a performance deficiency that was reasonably within Entergy's ability to foresee and correct. Because the issue impacted the regulatory process in that a violation of site TSS was not reported to the NRC within the required timeframe, thereby delaying the NRC's opportunity to review the matter, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using example 6.9.d.9 from the NRC Enforcement Policy, the inspectors determined that the violation was a Severity Level IV (more than minor concern that resulted in no or relatively inappreciable potential safety or security consequence) violation, because Entergy personnel failed to make a report required by 10 CFR 50.73 when information that the report was required had been reasonably within their ability to have identified. In accordance with Inspection Manual Chapter 0612, "Power Reactor Inspection Reports," traditional enforcement issues are not assigned cross-cutting aspects.

Inspection Report# : [2013002](#) (*pdf*)

Significance: N/A Mar 31, 2013

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Obtain NRC Staff Review and Approval Prior to Changing the Technical Specification Definition of a Core Quadrant

The inspectors identified a Severity Level IV non-cited violation of Title 10 of the Code of Federal Regulations (10 CFR) 50.59, "Changes, Tests, and Experiments," because Entergy personnel implemented a change to the technical specification (TS) definition of core quadrant without prior review and approval by the NRC staff in accordance with 10 CFR 50.59(c)(1)(i). Specifically, Entergy staff changed the definition of core quadrant in Revision 5 of reactor analyst procedure RAP-7.1.04C, "Neutron Instrumentation Monitoring During In-Core Fuel Handling," which allowed operators to interpret what constitute core quadrant boundaries such that core alterations could be performed anywhere in the core provided any three source range (neutron) monitors (SRMs) were operable. As immediate corrective action to the task interface agreement final response, FitzPatrick staff withdrew RAP-7.1.04C pending revision of the core quadrant definition. The inspectors verified that TS 3.3.1.2.2 had been satisfied during all core alterations that were performed during the 2010 and 2012 refueling outages using the standard definition of a core quadrant. Entergy staff entered this issue into the corrective action program as condition report (CR)-HQN-2013-00034.

The inspectors determined that Entergy staff's implementation of a redefinition of core quadrant prior to its review and approval by the NRC staff as specified in 10 CFR 50.59(c)(1)(i) was a performance deficiency that was reasonably within Entergy staff's ability to foresee and correct. Because this was a violation of 10 CFR 50.59, it was considered to be a violation that potentially impedes or impacts the regulatory process. Therefore, this violation was characterized using the traditional enforcement process. The violation was determined to be more than minor in accordance with the NRC Enforcement Manual, Section 7.3.E.6, because there was a reasonable likelihood that the change to the definition of what constituted a "core quadrant boundary" would require Commission review and approval prior to implementation. Additionally, the inspectors noted that in accordance with Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," the underlying performance deficiency would screen as more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, potentially inadequate SRM coverage during refueling operations could affect the TS bases function to provide early indication of unexpected subcritical multiplication that could be indicative of an approach to criticality. NRC Enforcement Manual Section 7.3 provides guidance to assess 10 CFR 50.59 violations through the significance determination process (SDP). In this case, the inspectors determined the violation could be evaluated using the SDP in

accordance with IMC 0609 Appendix G, "Shutdown Operations Significance Determination Process," Checklist 7, "BWR Refueling Operation with RCS Level Greater Than 23 Feet." The finding affected the reactivity guidelines attribute that assumes existing core alteration TS are being met. Since this attribute does not require quantitative assessment, the finding was screened as Green in accordance with Section 3.3, "Mitigation Capability." In accordance with the NRC Enforcement Policy, Section 6.1.d.2, this violation was categorized as Severity Level IV because the issue was evaluated by the SDP as having very low safety significance (Green). The finding did not have a cross-cutting aspect because the performance deficiency did not occur within the past 3 years and, therefore, was not reflective of present performance.

Inspection Report# : [2013002](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: SL-III Dec 31, 2011

Identified By: NRC

Item Type: VIO Violation

EA-10-090/EA-10-248/EA-11-106 RP Technician Willful Violations

During NRC investigations initiated on July 1, 2009, February 5, 2010, and April 8, 2010, violations of NRC requirements were identified. The following requirements were violated: 10 CFR 20.1703, 'Use of individual

respiratory protection equipment'; 10 CFR 20.1501, Subpart F, 'Surveys and Monitoring'; 10 CFR 50.9, 'Completeness and accuracy of information'. Contrary to the listed requirements, the licensee employees willfully violated multiple procedures and incorrectly documented completion of surveys and respirator fit tests.

These violations are categorized collectively as a Severity Level III violation. The NRC offered and Entergy accepted to conduct Alternative Dispute Resolution (ADR) for the above listed violations. The NRC has issued Confirmatory Order (CO) EA-10-090, EA-10-248, EA-11-106 in response to the agreed upon ADR actions. As addressed in the CO, no civil penalty was assessed based on previous actions completed and actions agreed to be completed by the licensee.

Inspection Report# : [2011009](#) (*pdf*)

Last modified : February 24, 2014