FitzPatrick
3Q/2009 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
HELB Barrier Doors Left Open and Unattended
The inspectors identified an NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” because Entergy personnel did not maintain an adequate high energy line break (HELB) barrier. Specifically, the inspectors identified that the HELB barrier doors between the turbine building (TB) and ‘A’ emergency diesel generator (EDG) switchgear room were open when required to be closed. The issue was entered into Entergy’s corrective action program (CAP) as condition report (CR)-JAF-2009-02514. Entergy personnel restored the HELB barrier and provided training for operations, maintenance and supervisor personnel on proper work practices.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, during the timeframe that the HELB doors remained open, the reliability of the ‘A’ EDG subsystem to perform its safety function would be challenged during a HELB event. The inspectors evaluated the significance of this finding using IMC 0609.04, “Phase 1 – Initial Screening and Characterization of Findings.” The finding was determined to be of very low safety significance (Green) because it was not a design or qualification deficiency; did not represent a loss of system safety function; and did not screen as potentially risk-significant due to external initiating events.

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because Entergy supervision allowed the HELB barriers to be breached which was inconsistent with the work instructions.

Inspection Report# : 2009004 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
High Energy Line Break Door Missing Lower Support
The inspectors identified an NCV of very low safety significance of 10 CFR 50, Appendix B, Criterion III, “Design Control,” because Entergy personnel did not maintain a high energy line break (HELB) barrier. Specifically, HELB door 76 FDR-DG-272-11, located between the ‘A’ division emergency diesel generator (EDG) switchgear room and the turbine building was in use as a HELB barrier but was not qualified due to a missing support. The issue was entered into Entergy’s corrective program as condition report (CR)-JAF-2009-01895. Corrective actions included installing a lower bottom right side support to enable the door to be qualified for HELB.

This finding is greater than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Entergy’s engineering calculation previously documented that the door could not be qualified with a missing lower support. The inspectors evaluated the significance of this finding using IMC 0609.04, “Phase 1 – Initial Screening and Characterization of Findings.” The finding was determined to be of very low safety significance (Green) because the finding was a qualification deficiency confirmed not to result in

loss of operability.

The inspectors determined that this finding has a cross-cutting aspect in the area of human performance within the work practices component because Entergy personnel did not ensure that the secondary HELB barrier was qualified as a result of ineffective error prevention techniques. (H.4(a))

Inspection Report# : 2009003 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Recognize an Adverse HPCI Performance Trend.
A self-revealing NCV of very low safety significance of 10 CFR 50.55a, "Codes and Standards," was identified because Entergy personnel did not comply with the in-service testing (IST) program requirements contained within the applicable American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants. Specifically, Entergy personnel changed the reference value for the stroke time of the 23HOV-1, high pressure coolant injection (HPCI) turbine stop valve, without meeting the required ASME code criteria. Entergy's corrective actions included replacing the relay valve piston, lapping the relay valve seat, implementing procedure changes requiring additional evaluation within a decreased range of stroke times to open, and performing an extent of condition review of the IST program.

This finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, Entergy personnel did not identify a prior adverse performance trend which resulted in an unplanned extension of the maintenance period for the HPCI system, extending the unavailable period from January 23, 2009 through January 31, 2009. The inspectors determined that the finding was of very low safety significance (Green) using the SDP Phase 3, in accordance with IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations."

The inspectors determined this finding had a cross-cutting aspect in the area of human performance within the resources component because Entergy personnel did not ensure that the procedures and other resources available for inspecting 23HOV-1 and evaluating its performance under the IST program were adequate to assure nuclear safety. (H.2(c))
Inspection Report# : 2009003 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Balance Chamber Pressure for the HPCI Turbine Stop Valve Was Not Set at a Value to Ensure HPCI Operation
A self-revealing NCV of very low safety significance of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified because Entergy personnel did not identify and correct a condition adverse to quality related to the HPCI system which caused the system to be inoperable between January 30 and April 28, 2009. Specifically, the balance chamber pressure for the HPCI turbine stop valve, 23 HOV-1, was not set at a value to ensure proper operation of the HPCI turbine system and resulted in a HPCI high steam flow isolation during the performance of the surveillance test. Entergy personnel entered the condition into their corrective action program as CR-JAF-2009-01398. Corrective actions included the performance of a root cause analysis, adjustment of the balance chamber pressure to be higher in the acceptance band consistent with operating experience and increasing the frequency of HPCI surveillance testing.

This finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, Entergy personnel did not take adequate corrective action to establish the balance chamber pressure for 23 HOV-1, following an erratic fast opening of the valve on January 30, 2009. The inspectors determined that the finding was of very low safety significance

(Green) using the SDP Phase 3, in accordance with IMC 0609, Appendix A, “Determining the Significance of Reactor Inspection Findings for At-Power Situations.”

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance within the decision-making component because after reviewing the available data and industry operating experience, in January 2009, Entergy personnel incorrectly determined that balance chamber pressure margin was not a contributing cause of the erratic operation of the valve. (H.1(b))

Inspection Report# : 2009003 *(pdf)*

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Recognize an Adverse EDG Rotor Insulation Performance Trend.
A self-revealing NCV of very low safety significance of 10 CFR 50, Criterion XVI, “Corrective Action,” was identified because Entergy personnel did not identify and correct a condition adverse to quality related to the emergency diesel generator (EDG) system. Specifically, Entergy personnel did not properly identify and implement adequate actions required by their system monitoring program in response to a degraded generator rotor on the ‘C’ EDG revealed by an adverse performance trend with respect to the insulation resistance and polarization index. Entergy staff initiated CR-JAF-2009-01847 to determine the root causes and recommend further corrective actions. Entergy’s corrective actions included rewinding of the affected pole of the ‘C’ EDG rotor.

This finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, Entergy personnel did not identify an adverse performance trend which resulted in an unplanned extension of the maintenance period for the ‘C’ EDG, extending the unavailable period from May 28 through June 11, 2009. The inspectors evaluated the significance of this finding using IMC 0609.04, “Phase 1 – Initial Screening and Characterization of Findings.” The inspectors determined the finding was of very low safety significance (Green) because the finding was not a qualification or design deficiency, did not represent a loss of a safety function, and did not screen as potentially risk significant due to external initiating events.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because Entergy personnel did not implement a corrective action program with a low threshold for identifying issues in that the adverse trend in the ‘C’ EDG rotor insulation was not identified. (P.1(a))

Inspection Report# : 2009003 *(pdf)*

Significance: SL-IV Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failed to Submit an LER For a Condition Prohibited by TS Associated With EDG Fuel Oil Supply
The inspectors identified a Severity Level IV, non-cited violation (NCV) because Entergy did not provide a written 60-day report to the NRC as required by 10 CFR 50.73 relative to a condition which was prohibited by Technical Specifications (TS) 3.8.3. Specifically, on several occasions between September 2006 and July 2007 the volume for either the ‘A’ or ‘B’ fuel oil storage tanks (FOST) was such that there was an insufficient quantity of fuel oil to provide a seven day fuel oil supply for the associated emergency diesel generator (EDG) as required per Technical Specifications. Entergy personnel, in determining past reportability, improperly credited the associated fuel oil day tank towards the seven day supply and erroneously concluded on September 18, 2007, that the issue was not reportable. Entergy’s corrective actions included initiation of CR-JAF-2008-04323 and issuance of licensee event report (LER) 2009-001, “Inadequate Engineering Calculation Results in Insufficient Inventory in EDG Fuel Oil Storage Tanks.” In addition, Entergy revised applicable procedures to ensure the fuel oil storage tanks contain adequate fuel oil inventory to remain in compliance with the TS.

This violation involved a failure to make a required report to the NRC and is considered to impact the regulatory process. Such violations are dispositioned using the traditional enforcement process instead of the Significance

Determination Process. Using the Enforcement Policy Supplement I, “Reactor Operations,” example D4 which states, “A failure to make a required LER;” the NRC determined this violation is more than minor and categorized as a Severity Level IV violation.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution related to the evaluation component because Entergy personnel did not properly consider the TS basis and, therefore, did not properly evaluate the reportability for the EDG FOSTs.

Inspection Report# : 2009002 *(pdf)*

Significance: G Dec 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Quality Standards Not Specified in Design Documents that Resulted in Unsupported HPCI Oil Tubing
An NRC identified NCV of 10 CFR 50 Appendix B, Criterion III, “Design Control,” was identified when Entergy did not assure that appropriate quality standards were specified and included in design documents and that deviations from such standards were controlled. Specifically, Entergy did not ensure the oil tubing within the high pressure coolant injection (HPCI) system remained properly supported and routed with an appropriate slope in accordance with design. The issue was entered into Entergy’s corrective action program as CR-JAF-2008-04040. Corrective actions included establishing work order 172913 to restore the original configuration properly supporting the HPCI tubing lines.

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 the unsupported span of tubing was more susceptible to personnel damage and vibration during HPCI operation, both during surveillance testing and also if called upon to perform its safety function. In addition, the tubing was more susceptible to damage and adverse routing changes during maintenance activities. Therefore, over time, the high pressure fittings associated with the lines would be more likely to suffer failures, retain air bubbles within the lines, and/or leak during pump operation affecting the long-term reliability of the system. This was reasonably within Entergy’s ability to foresee and prevent because the governing procedures require tube routings, including support locations, be provided during installation of Class I tubing, and a support bracket was available to attach the tubing. 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 design documents, procedures, and work packages used during the maintenance activities in September and October 2008, were not sufficiently complete to ensure design standards were implemented.
Inspection Report# : 2008005 *(pdf)*

Significance: G Dec 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Conduct of Relay Test Without Plant Impact Review Resulted in Loss of Emergency Bus and Shutdown Cooling
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 did not manage the increase in risk during the conduct of relay testing associated with emergency buses. The conduct of the relay testing resulted in an unanticipated loss of shutdown cooling (SDC) function. Entergy implemented corrective actions that included communicating the error to personnel to reinforce management expectations for control of protected equipment and providing an additional level of work authorization review.

This finding is more than minor because it is associated with the Mitigating Systems cornerstone and is related to

Entergy's performance in assessing and managing risk. A risk assessment review was not conducted prior to performance of a trip and lockout relay functional test associated with emergency buses. Specifically, this finding reflects inadequate risk management that contributed to a short duration loss of shutdown decay heat removal capability resulting from the inadvertent interruption of flow through the operating train of shutdown cooling with the plant in a cold shutdown condition. This was reasonably within Entergy's ability to foresee and prevent because there were opportunities to recognize and manage the potential risk of losing shutdown cooling and to schedule the maintenance activity at a more appropriate maintenance window or take actions to prevent the loss of shutdown cooling.

In accordance with IMC 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and Appendix G, "Shutdown Operations Significance Determination Process," the inspectors determined that this finding was of very low safety significance (Green). The basis for this determination is that in accordance with IMC 0609, Appendix G, Table 1, "Losses of Control," and Checklist 8, "BWR Cold Shutdown or Refueling Operation Time to Boil > 2 Hours: RCS Level <23 feet Above Top of Flange," this finding did not require quantification and did not constitute a significant loss of thermal margin, based upon the slow reactor coolant system heat-up rate and minimal time of interruption in shutdown cooling system operation. The problem was entered into Entergy's corrective action program as CR-JAF-2008-03805.

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because Entergy did not plan and coordinate work activities properly to manage the operational impact of work activities. Specifically, Entergy did not recognize that the emergency bus 10600 would be de-energized as a result of the trip and lockout relay functional test.

Inspection Report# : 2008005 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inoperable Control Room Envelope Door
The inspectors identified an NCV of very low safety significance of 10 CFR 50, Criterion XVI, "Corrective Action," because Entergy did not identify and correct a condition adverse to quality related to a control room envelope boundary door. Specifically, on several occasions, Entergy did not identify and implement adequate actions to ensure a control room envelope boundary door, 70DOR-A-300-5, remained latched and able to perform its safety function. Entergy implemented corrective actions which included repair of the latching mechanism to improve the reliability of the door and initiated condition reports CR-JAF-2009-01021 and CR-JAF-2009-01070.

This finding was greater than minor because it affected the barrier integrity attribute of structures, systems, components, and barrier performance under maintaining radiological barrier functionality of the control room and affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect operators in the control room from radionuclide releases caused by accidents or events. The finding was evaluated using the SDP Phase I and Phase III because the finding represented a degradation of the barrier function provided for the control room against toxic atmosphere and smoke as well as radiological conditions. The finding was determined to be of very low safety significance, because the amount of time the door was unlatched and ajar was limited to 51 days and, considering the TS allowed outage time of 90 days, the maximum potential time of 51 days represented very low safety significance considering the low probability of a design basis accident during this time period.

The inspectors determined this finding had a cross-cutting aspect in the area of problem identification and resolution related to the identification component because Entergy personnel did not identify the degraded condition completely and did not recognize the impact that the degraded CRE boundary door had on the control room envelope.

Inspection Report# : 2009002 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: FIN Finding
Inadequate Work Planning for Strain Gauge Resulted in Unplanned Exposure)
A self-revealing finding of very low safety significance was identified because Entergy personnel did not adequately plan and prevent unnecessary exposure consistent with Radiation Work Permit No. 08-0524 controls. Specifically, Entergy staff work planning deficiencies relative to a main steam line strain gauge modification resulted in additional unplanned collective exposure (11.32 person-rem compared to a work activity original estimate of 6.1 person-rem). The job site conditions for installation of the strain gauges were not adequately evaluated by Entergy staff for interferences and the support work involving scaffolding and insulation removal were not adequately planned and coordinated to prevent additional unnecessary exposure. This finding was entered into the corrective action program as CR-JAF-2008-3181.

This finding is greater than minor because it is associated with the program and process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine nuclear reactor operation. The inspectors evaluated the significance of this finding using IMC 0609, Appendix C, AOccupational Radiation Safety Significance Determination Process.@ The inspectors determined this finding was of very low safety significance (Green) because it involved an actual collective exposure greater than 5 person-rem that was greater than 50% above the estimated or intended exposure.

This finding has a cross-cutting aspect in the area of human performance because Entergy's planned work activities did not adequately incorporate work site interferences or outage work coordination in the work control planning process. (H.3(a))

Inspection Report# : 2009003 *(pdf)*

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 : December 10, 2009