

Pilgrim 1

3Q/2009 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Scope Security Diesel Generator into the Maintenance Rule

The inspectors identified a non-cited violation of very low safety significance (Green) of 10CFR50.65, “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants”, because Entergy did not include all aspects of the emergency lighting system into the Pilgrim Maintenance Rule scoping document. Specifically, Entergy did not include the security diesel generator which provides backup power to emergency yard lighting which is required to meet Appendix R emergency lighting requirements. Entergy has entered the issue into their corrective action program to add the security diesel generator and normal power supplies for yard emergency lighting into the maintenance rule scoping document.

The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone in that the issue affected emergency lighting reliability in support of the accomplishment of the Emergency Operating Procedures (EOP)s. In addition, the security diesel generator has a history of surveillance procedure failures due to oil and coolant temperatures being outside of normal bands and there have been long term equipment issues including: intake louver issues, thermostat performance, radiator hose leaks, and fuel level indicator problems. This history of equipment performance issues does not show effective control of system performance or condition through appropriate preventive maintenance activities. The inspectors determined that the finding is of very low safety significance because it is not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of a single train system for greater than the Technical Specification (TS) allowed outage time, and was not made risk-significant because of external events. The finding does not have a cross-cutting aspect since the failure to scope this equipment into the maintenance rule was not recognized during the initial maintenance rule scoping activities and, as a result, is not indicative of current licensee performance. In addition, the current Entergy maintenance rule scoping procedure includes a review for non-safety related systems, structures and components (SSCs) which support EOP implementation and specifically, emergency lighting. This process identified the need to include the security diesel generator into the maintenance rule scoping document when this issue was recently identified and then evaluated by Entergy.

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

Significance:  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate for Operability of the “B” RBCCW/SSW Heat Exchanger

The inspectors identified a non-cited violation of very low safety significance (Green) of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings”, because Entergy did not assess operability of the “B” RBCCW/SSW Heat Exchanger (HX) when the HX failed a differential pressure (dP) surveillance. Specifically, operators conducted backwashing of a degraded HX as directed by Entergy procedure 2.2.32, Rev. 80, Attachment 7, “Salt Service Water System”, prior to assessing operability. In addition, Entergy Procedure 8.5.3.14, Revision 27, “SSW Flow Rate Operability Test”, specifically directs backwashing HXs as a corrective action prior to assessing

operability when the HXs fail to meet the dP acceptance criteria. Entergy entered this issue into their corrective action program, and actions will include evaluation for revision of applicable procedures to incorporate dP graphs to evaluate for operability.

The performance deficiency is that Entergy did not assess operability of degraded HXs when the HX dP exceeded predetermined values specified in the procedure. The finding is more than minor because it affects the Mitigating Systems Cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The issue adversely affects the procedure quality attribute of the cornerstone in the area of testing procedures in that the procedure directs taking corrective actions for a degraded HX prior to assessing operability of the HX. The inspectors evaluated this finding using IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings". This finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of a single train system for greater than the TS allowed outage time, and was not made risk-significant because of external events. The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance, Resources, because Entergy did not provide an adequate procedure. Specifically, site procedures directed operators to take corrective actions prior to assessing operability of a degraded HX. (H.2.c of IMC 0305)

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

Significance:  Sep 30, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Human Error Resulting in Unplanned HPCI Isolation

A self-revealing non-cited violation of very low safety significance (Green) of TS 5.4.1, "Procedures", was identified for a procedure error which resulted in the inadvertent isolation of the High Pressure Coolant Injection (HPCI) system. Specifically, a step in Procedure 8.M.2-2.6.3, "HPCI High Steam Line Temperature," which conducted continuity checks of temperature switches, was not adequately completed which caused the HPCI system to isolate. This has been entered into Entergy's corrective action program, and actions taken include revising the procedure to include a step requiring concurrent continuity checks of temperature switches and a wait time of five minutes to allow the temperature switches to reset.

The performance deficiency associated with this finding was that Entergy did not adequately perform continuity checks as specified in the surveillance procedure. This resulted in an inadvertent isolation of the HPCI system. This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone. Isolating the HPCI system affected the cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, "Phase I Initial Screening and Characterization of Findings," the finding was determined to require a Phase II analysis because the finding resulted in an actual loss of system safety function. Using the Pilgrim site-specific pre-solved initiating event sequences and an exposure time of less than three days with the HPCI system unavailable, the Phase II estimation determined this finding was of very low safety significance (Green). The finding has a cross cutting aspect in Human Error Prevention Techniques under the Work Practices component of the Human Performance area. Specifically, Entergy did not conduct effective self or peer checks to ensure that continuity checks were adequately performed. (H.4.a of IMC 305)

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

Significance:  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish and Maintain Adequate Measures to Monitor Critical Parameters of the EDG Air Start System

The inspectors identified a non-cited violation (NCV) of very low safety significance of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," because Entergy personnel did not establish and maintain measures to monitor critical design parameters to assure that equipment and processes essential to the safety-related function of the emergency

diesel generator (EDG) air start system were adequate. Specifically, Entergy did not establish adequate measures to assure that an adequate supply of air was available to the air receivers for a minimum of two cold engine starts without recharging. This resulted in the “A” EDG being inoperable on March 8, 2009. Entergy entered this issue into their corrective action program (CAP) for resolution as CR-PNP-2009-00807. The immediate corrective actions included establishing compensatory requirements to increase the monitoring frequency for the air start system critical parameters.

This finding is more than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone and affects the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the finding affected the reliability of the EDG to ensure a minimum of two cold engine starts without recharging to help mitigate the consequences of design basis events. The inspectors determined that the finding is of very low safety significance (Green) because it is not a design or qualification deficiency, did not represent a loss of safety function, and did not screen as potentially risk significant due to external events.

There is no cross-cutting aspect identified for this finding because the inspectors determined that the performance deficiency is not reflective of current plant performance. The monitoring frequencies of the EDG air start system critical parameters were established for an extended period and prior to this problem there had not been recent issues with monitoring EDG air start capability.

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

Significance:  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Scaffolding Procedure Requirements

The inspectors identified an NCV of very low safety significance of Technical Specification 5.4.1 “Procedures,” because Entergy personnel did not adequately implement procedure requirements in accordance with EN-MA-133, “Control of Scaffolding.” Specifically, personnel did not erect scaffold in accordance with procedure EN-MA-133 and maintain the minimum distance erection requirements for safety-related equipment or alternatively perform engineering evaluations that concluded the equipment will not be impacted by the scaffolds. Entergy entered this issue into their CAP for resolution as CR-PNP-2009-00064, implemented prompt actions to correct the scaffolds, and performed engineering evaluations to assess the affect of the scaffolds on the safety-related equipment.

The finding is more than minor because it is associated with the external factors attribute of the Mitigating Systems cornerstone and affects the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, the finding is similar to example 4.a in Appendix E of IMC 0612 in that personnel did not routinely perform engineering evaluations for scaffolds constructed less than the minimum allowed distance to safety-related equipment. The inspectors determined that the finding is of very low safety significance (Green) because the scaffold issues identified were not a design or qualification deficiency, did not represent a loss of safety function, and did not screen as potentially risk significant due to external events.

This finding has a cross-cutting aspect in the area of Human Performance because Entergy’s supervisory and management staff did not provide adequate oversight of workers or communicate expectations to workers to ensure scaffold erection requirements were fully understood (H.4.c of IMC 305).

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

Significance:  Dec 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Conduct a Risk Assessment for Emergent Maintenance on the High Pressure Coolant Injection System

The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.65(a)(4) for Entergy’s failure to conduct a risk assessment for emergent maintenance on the High Pressure Coolant Injection (HPCI) system injection valve.

Specifically, the failure to conduct a risk assessment resulted in Entergy not recognizing an increase in risk to a Yellow condition, and therefore no risk management actions were taken. Entergy entered this issue into their corrective action program. Corrective actions will include revising attachments in Entergy's Technical Specification requirements procedure to perform a risk review as a result of emergent maintenance activities.

This finding was more than minor because Entergy failed to consider the unavailability of a risk significant system where the outcome of the risk assessment would have been a change in a risk management category. The inspectors conducted an evaluation in accordance with IMC 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process." The finding was determined to be of very low safety significance (Green) because the Incremental Core Damage Probability Deficit for the timeframe that HPCI was removed from service was significantly less than 1E-6. The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance, Decision Making, because Entergy did not use a systematic process to make a risk-significant decision when faced with an unexpected plant condition. [H.1(a)]
Inspection Report# : [2008005](#) (*pdf*)

Significance:  Dec 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Procedural Error Resulting in Unplanned RCIC Isolation

A self-revealing Green non-cited violation (NCV) of TS 5.4.1, "Procedures", was identified for a procedure which resulted in an inadvertent isolation of the Reactor Core Isolation Cooling (RCIC) system. Specifically, the procedure was previously revised and a step was inadvertently placed out-of-order. The procedure incorrectly instructed technicians to remove relay contact blockers, or "boots", before clearing an isolation signal which resulted in the system isolation. Entergy entered this issue into their corrective action program. Corrective actions will include revising this procedure and reviewing other surveillance procedures that had been revised at the same time.

This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone. Isolating the RCIC system affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated this finding using IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings". This finding was of very low safety significance because it was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of a single train system for greater than the Technical Specification allowed outage time, and was not made risk-significant because of external events. The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance, Resources, because Entergy did not ensure that the procedure was complete and accurate. [H.2(c)]

Inspection Report# : [2008005](#) (*pdf*)

Barrier Integrity

Significance:  May 04, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedure Resulting in Damage to Refueling Mast

A self-revealing non-cited violation (NCV) of Technical Specification 5.4.1 "Procedures," was identified, because Entergy's refueling bridge operators did not continuously monitor a Double Blade Guide (DBG) that was moved into the core to ensure the DBG did not encounter any obstructions, interferences, or other abnormal indications required by Pilgrim Procedure 4.3, Revision 113, "Fuel Handling." Specifically, the failure to follow the procedure resulted in damaging the refueling mast when the mast was moved and still latched to the DBG. Entergy entered this issue into their corrective action program as CR-PNP-2009-2083. Corrective actions included replacing a section of the refueling mast, replacing the grapple camera, conducting additional training with the refueling crews including a table top dry run, performing a Human Performance Error Review and requiring Operations Senior Management to provide oversight during one hour of each three hour shift when the refueling crew was on the bridge moving fuel.

The inspectors determined that the finding was more than minor because the finding was associated with the human performance attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone's objective to provide reasonable assurance that physical design barriers (i.e. fuel cladding) protect the public from radionuclide releases caused by accidents or events. The risk significance of the performance deficiency was determined to be of very low safety significance (Green) using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings." Specifically, since the finding did not affect spent fuel pool cooling or inventory and since no fuel or control rod was damaged when the mast was bent, the finding was determined to be of very low safety significance. The finding has a cross cutting aspect in Human Error Prevention Techniques in the Work Practices component of the Human Performance area. Specifically, Entergy did not employ effective self and peer checking techniques such that refueling activities were performed safely. (H.4.a of IMC 305).
Inspection Report# : [2009003](#) (*pdf*)

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 : December 10, 2009