

Pilgrim 1

1Q/2011 Plant Inspection Findings

Initiating Events

Significance:  Jul 26, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Manage a Yellow Risk Condition for an unplanned half scram

The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.65 paragraph (a)(4) for Entergy's failure to manage a Yellow risk condition for an unplanned half-scram. Specifically, Entergy performed an incorrect risk assessment and thereby did not recognize an increase in risk to a Yellow condition had occurred, and as a result Entergy did not specify any risk management actions. Entergy entered this issue into their corrective action program, specified corrective actions to upgrade this risk to Yellow, and implemented appropriate risk management actions.

This finding was determined to be more than minor because Entergy did not consider the increase in Initiating Event likelihood where the outcome of the overall elevated plant risk put the plant into a higher risk management category, and thereby required additional risk management actions. In addition, the finding affected the Human Performance attribute of the Initiating Events cornerstone's objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. The inspectors performed an evaluation in accordance with IMC 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," because the finding related to Entergy's assessment and management of risk. The finding was determined to be of very low safety significance (Green) because the Incremental Core Damage Probability Deficit for the medium trip risk for the duration of the activity was less than 1.0 E-6 per year (approximately 1.0 E-9 per year). The inspectors determined that this finding had a cross-cutting aspect in the Human Performance cross-cutting area, Decision Making component, because when faced with an unexpected plant condition, Entergy did not correctly implement its systematic process to make a risk-significant decision. [H.1 (a)] (Section 1 R13)
Inspection Report# : [2010004](#) (*pdf*)

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: FIN Finding

Submerged Medium Voltage Cables

The inspectors identified a Green finding (FIN) for improper maintenance of underground non-safety related medium voltage electric cables. The inspectors identified that Entergy allowed non-safety related medium voltage cables to remain submerged in water for extended periods of time. Entergy entered this issue into their Corrective Action Program (CAP), and specified corrective actions to identify all underground medium voltage cables included under the Cable Reliability Program, and to identify which manholes should have dewatering capability.

The inspectors determined that the finding was more than minor because it was associated with the Design Control attribute of the Initiating Events cornerstone, and affected 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. Specifically, continued submergence of the non-safety related power cables (from the start-up transformer to electrical buses A2 and A4) could lead to cable failure and cause an event that would affect plant stability. The inspectors performed a Phase 1 Significance Determination Process screening of the finding in accordance with NRC Inspection Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance because the condition did not contribute to both the likelihood of a reactor trip and the unavailability of mitigating systems equipment. The inspectors determined that this finding had a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Entergy personnel did not thoroughly evaluate the problem when submerged cabling was initially identified

Mitigating Systems

Significance:  Mar 04, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Torus Air Temperature 10 CFR 50.65(a)(2) Performance Demonstration Not Met

GREEN. The NRC identified a NCV of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," paragraph (a)(2), for Entergy's failure to adequately demonstrate primary containment system (a)(2) performance was effectively controlled through performance of appropriate preventive maintenance.

Specifically, as evidenced by repeat functional failures of torus air temperature indication during the fall of 2009 and January 2010, the (a)(2) performance demonstration was no longer justified in accordance with Entergy's maintenance rule implementing procedure guidance. Entergy entered this issue in their corrective action process (CR-PNP-2011-00880) to evaluate corrective actions needed to address this issue.

The inspectors determined that the finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, failures of torus air temperature indication present a challenge to operators who rely on the indication to diagnose and respond to initiating events. Per the guidance provided in Inspection Procedure 71111.12, "Maintenance Effectiveness," issued 11/16/2009, inspectors considered this performance deficiency to be a Category III finding since a historical review revealed a continuing declining trend in performance of the instrument, as indicated by additional functional failures. Because this issue was classified as Category III, the inspectors determined the significance of this finding using IMC 0609.04, "Phase 1 - Initial Screening and Characterization of Findings." The inspectors determined that this finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of safety system function, and did not screen as potentially risk significant due to external initiating events.

The inspectors determined that this finding has a cross cutting aspect in the area of problem identification and resolution. Specifically, Entergy did not properly evaluate and classify the torus air temperature indication failures with respect to the maintenance rule. [P.1(c)]
Inspection Report# : [2011008](#) (pdf)

Significance:  Mar 04, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Follow Corrective Action Process for HPCI Diaphragm Degraded Condition

GREEN. The NRC identified a finding of very low significance for Entergy's failure to follow their corrective action process in the identification, documentation, and evaluation of a degraded condition. Specifically, Entergy failed to recognize, fully document, and evaluate in their corrective action process that an installed diaphragm in the High Pressure Coolant Injection (HPCI) System exceeded its manufacturer-recommended service life. Entergy entered this issue in their corrective action process (CR-PNP-2011-0917) to evaluate and determine corrective actions to address this issue.

The inspectors determined the finding was more than minor because it is similar to example

4(a) of NRC Inspection Manual Chapter (IMC) 0612, Appendix E, 'Minor Examples,' in that Entergy did not perform an evaluation that was later determined to adversely affect safety-related equipment. The inspectors determined the finding was of very low safety significance (Green) using IMC 0609.04, "Phase 1 - Initial Screening and Characterization of Findings" in that the finding involved a qualification deficiency not resulting in the loss of operability of HPCI.

The finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program because Entergy did not identify that exceeding the service life of the PCV-2301-238 diaphragm was a condition adverse to quality. [P.1(a)]

Inspection Report# : [2011008](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Manage a Yellow Risk Condition During HPCI Testing from the Alternate Shutdown Panel

The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.65 paragraph (a)(4) for Entergy's failure to correctly assess and manage a Yellow risk condition for planned testing of the High Pressure Coolant Injection (HPCI) system from the Alternate Shutdown Panel. Specifically, Entergy considered HPCI available by crediting multiple manual actions to restore the automatic function. However, these actions were not "few" or "simple" and would not have restored the HPCI automatic function in a timeframe consistent with guidance discussed in NUMARC 93-01, Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants. In addition, HPCI's automatic function would not have been restored in a timeframe consistent with Pilgrim's Final Safety Analysis Report, Section 6.4.1, which specifies 90 seconds for HPCI to reach its required design flow rate. Corrective actions included issuing a standing order to alert Operators of the specific requirements to maintain a system "available" during maintenance and testing. Corrective actions planned include revising Entergy's Risk Assessment Procedure to verify systems credited as "available" have clear and simple direction to restore automatic functional status during maintenance and testing.

This finding was determined to be more than minor because Entergy's elevated plant risk would put the plant into a higher risk category and require additional risk management actions, namely protecting the Reactor Core Isolation Cooling system. In addition, the finding affected the Human Performance attribute of the mitigating system's cornerstone objective to ensure the availability of systems to respond to initiating events and prevent undesirable consequences (i.e., core damage). The inspectors performed an evaluation in accordance with IMC 0609, "Significance Determination Process," Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," because the finding related to Entergy's assessment and management of risk. The finding was determined to be of very low safety significance (Green) because the Incremental Core Damage Probability Deficit for the unavailability of HPCI for the duration of the activity was less than 1.0E-6 per year (approximately 2.6E-9 per year). The inspectors determined that this finding had a cross-cutting aspect in the Human Performance Cross-Cutting area, work control component, because Entergy did not correctly plan and coordinate work activities by incorporating appropriate risk insights [H.3(a)] (Section 1R13).

Inspection Report# : [2010005](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Required Quality Control Inspections

Green. Inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion X, "Inspection," for the failure to ensure that Quality Control verification inspections were consistently included and correctly specified in quality-affecting procedures and work instructions for construction-like work activities as required by the Quality Assurance Program. The licensee performed extensive reviews, and inspectors performed independent reviews of the licensee's conclusions as well as independent sampling, to confirm that improper or missed inspections did not actually affect the operability of plant equipment. Entergy initiated prompt fleet-wide corrective actions to ensure proper work order evaluation and proper inclusion of Quality Control verification inspections. This issue was entered into the corrective

action program under Condition Reports CR-HQN 2009-01184 and CR-HQN-2010-0013.

The failure to ensure that adequate Quality Control verification inspections were included in quality-affecting procedures and work instructions as required by the Quality Assurance Program was a performance deficiency. This programmatic deficiency was more than minor because, if left uncorrected, it could lead to a more significant safety concern in that the failure to check quality attributes could involve an actual impact to plant equipment. This issue affected the Design Control attribute of the Mitigating Systems cornerstone because missed or improper quality control inspections during plant modifications could impact the availability, reliability, and capability of systems needed to respond to initiating events. This performance deficiency was determined to have very low safety significance in Phase 1 of the SDP, since it was confirmed to involve a qualification deficiency that did not result in a loss of operability or functionality. The inspectors determined that this performance deficiency involved a cross-cutting aspect related to the human performance in decision-making (H.1a), because the licensee did not have an effective systematic process for obtaining interdisciplinary reviews of proposed work instructions to determine whether Quality Control verification inspections were appropriate. (Section 4OA2.1.b.1)

Inspection Report# : [2010005](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement the Experience and Qualification Requirements of the Quality Assurance Program

Green. Inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program," for the failure to implement the experience and qualification requirements of the Quality Assurance Program. As a result, the licensee failed to ensure that an individual assigned to the position of Quality Assurance Manager met the qualification and experience requirements of ANSI/ANS 3.1-1978 as required by the Quality Assurance Program. Specifically, the individual assigned to be the responsible person for the licensee's overall implementation of the Quality Assurance Program did not have at least 1 year of nuclear plant experience in the overall implementation of the Quality Assurance Program within the quality assurance organization prior to assuming those responsibilities. This issue was entered into the corrective action program as Condition Report CR-HQN-2010-00386.

Failure to ensure that an individual assigned to the position Quality Assurance Manager met the qualification and experience requirements of ANSI/ANS 3.1-1978 as required by the Quality Assurance Program was a performance deficiency. This performance deficiency was determined to be more than minor because, if left uncorrected, it could create a more significant safety concern. Failure to have a fully qualified individual providing overall oversight to the Quality Assurance Program had the potential to affect all cornerstones, but this finding will be tracked under the Mitigating Systems cornerstone as the area most likely to be impacted. The issue was not suitable for quantitative assessment using existing Significance Determination Process guidance, so it was determined to be of very low safety significance using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The inspectors determined that there was no cross-cutting aspect associated with this finding because this issue was not indicative of current performance because the violation occurred more than 3 years ago. (Section 4OA2.1.b.2)

Inspection Report# : [2010005](#) (pdf)

Barrier Integrity

Significance:  Sep 17, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain a Reliable Method for Transporting the SFP External Make-up Strategy Portable Fire Pump and Support Equipment.

This finding, affecting the Barrier Integrity Cornerstone, is related to mitigative measures developed to cope with losses of large areas of the plant; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use

Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of Human Performance (Resources). [H.2(d)]. See inspection report for more details.

Inspection Report# : [2010008](#) (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

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: FIN Finding

Inadequate Corrective Actions for RCIC Torus Suction Valve (Mo-1301-26)

Green. A Green self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, was identified for Entergy's failure to correct a condition adverse to quality. Entergy did not correct a Reactor Core Isolation Cooling (RCIC) torus suction valve which had failed to close during testing on October 4, 2010. On January 5, 2011, the same valve again failed to close during testing. Pilgrim's corrective actions include cleaning and replacing breaker contacts and revising maintenance procedures to perform periodic resistance checks on motor control center bucket secondary disconnects. These valve failures are documented in CR-PNP-2010-3486 and CR-PNP-2011-0046.

The inspectors determined that the finding was more than minor because the finding was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone's objective to ensure the reliability and availability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the RCIC torus suction valve failure to close affected the reliability of the RCIC system and the RCIC system was made unavailable during system troubleshooting and repairs in January, 2011. The inspectors determined the significance of the 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 did not involve a design or qualification deficiency resulting in loss of operability or functionality, did not result in a loss of system safety function of a single train for greater than its Technical Specification outage time, and did not screen as potentially risk significant due to external initiating events. The capability of RCIC to perform its function was not lost since the torus suction valve would have been able to be cycled open in the event RCIC needed

to be aligned to the torus. This finding has a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Entergy did not thoroughly evaluate the problem with the RCIC torus suction valve such that the resolution in October, 2010 addressed the causes and extent of problem so as to preclude its recurrence in January, 2011. [P.1(c)] (Section 1R19)

Inspection Report# : [2011002](#) (*pdf*)

Significance: N/A Mar 04, 2011

Identified By: NRC

Item Type: FIN Finding

Pilgrim 2011 Biennial PI&R Inspection Summary

The inspectors concluded that Entergy was generally effective in identifying, evaluating, and resolving problems. Entergy personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with their safety significance. However, the inspectors identified one finding which was not a violation of regulatory requirements, in the area of problem identification. In most cases, Entergy appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. However, the inspectors identified one finding that was a violation of NRC requirements, in the area of effectiveness of prioritization and evaluation of issues. The inspectors also determined that Entergy typically implemented corrective actions to address the problems identified in the corrective action program in a timely manner.

The inspectors concluded that, in general, Entergy adequately identified, reviewed, and applied relevant industry operating experience to Pilgrim Nuclear Power Station operations. In addition, based on those items selected for review, the inspectors determined that Entergy's selfassessments and audits were thorough.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employee concerns program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues, nor did they identify any conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : [2011008](#) (*pdf*)

Last modified : June 07, 2011