

# Pilgrim 1

## 1Q/2016 Plant Inspection Findings

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### Initiating Events

**Significance:** G Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

#### **Inadequate Design Control of MSIV Nitrogen Supply Line Support leads to Scram**

A self-revealing Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion III, "Design Control," was identified because Entergy did not use the correct work planning and design controls to repair the support for the nitrogen supply line for the 1C inboard main steam isolation valve (MSIV). Specifically, inadequate design controls led to a failed horizontal unistrut support for the nitrogen supply line to the 1C MSIV, resulting in the header resting on the main steam line. This caused vibration-induced cyclic failure of the nitrogen supply line, closure of 1C MSIV, and a plant scram. The damaged line was modified and repaired using an additional unistrut for support as determined by the engineering change process. Entergy entered the issue into the corrective action program (CAP) under condition report (CR) 2015-07285.

This finding is more than minor because it is associated with the Initiating Events cornerstone attribute of equipment performance and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure of the pneumatic supply header support resulted in a plant scram due to the vibration induced cyclic failure of the nitrogen supply line and subsequent closure of 1C MSIV. In accordance with IMC 0609.04 and Exhibit 1 of IMC 0609, Appendix A, the inspectors determined that this finding was of very low safety significance (Green) because the finding did not involve the complete or partial loss of a support system that contributes to the likelihood of, or cause, an initiating event and affect mitigation equipment. The inspectors determined this finding does not have a cross-cutting aspect because the performance deficiency occurred in 2001 and is not indicative of current performance. Inspection Report# : [2015004](#) (*pdf*)

**Significance:** G Aug 20, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Inadequate Procedures for Placing Main Turbine in Service**

The inspectors identified a self-revealing Green non-cited violation of Technical Specification 5.4.1, "Procedures," because Entergy did not provide adequate procedures in that appropriate operator actions to recover systems and components important to safety were not included within operating procedures 2.1.1, "Startup from Shutdown," and 2.2.93, "Main Condenser Vacuum System," as well as abnormal operating procedure 2.4.36, "Decreasing Condenser Vacuum." Entergy entered this issue into their corrective action program as condition report CR-PNP-2015-5197.

This finding was more than minor because it was associated with the procedure quality attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the finding using IMC 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions." The inspectors determined this finding was of very low safety significance (Green) because it did not cause a loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. This finding

had a cross-cutting aspect in the area of Human Performance, Design Margins, because Entergy did not operate equipment within design margins. Specifically, Entergy staff's lack of awareness of the limitations of offgas system during startup and while placing the main turbine in service resulted in operators establishing conditions that were outside those limitations. [H.6]

Inspection Report# : [2015010](#) (pdf)

**Significance:**  Jun 30, 2015

Identified By: Self-Revealing

Item Type: FIN Finding

### **Ineffective Corrective Action Leads to of Cavitation of Residual Heat Removal Pump**

A self-revealing Green finding was identified when residual heat removal pump (RHR) 'B' experienced cavitation during refueling and maintenance outage (RFO) 20 that was a result of inadequate corrective actions associated with equipment used to determine flow rate. Specifically, prior to placing augmented fuel pool cooling mode in service on April 26, 2015, Entergy did not ensure that the temporary flow transmitter was properly setup and calibrated because corrective actions from 2011 were not adequate to ensure proper setup in the future. As a result, when operators went to raise flow in accordance with their procedural requirement, residual heat removal pump 'B' experienced cavitation and operators secured the pump because the flow transmitter was inaccurately reading low. Entergy's immediate corrective actions included entering the issue into the corrective action program (CAP) as CR-2015-3724, re-calibrating and setting up the ultrasonic flow meter, and establishing a second ultrasonic flow meter to ensure proper flow.

The finding is more than minor because it is associated with the equipment performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the 'B' RHR pump was secured from AFPC mode 2 on April 26, 2015 when the installed ultrasonic flow meter did not read properly, leading to operation of the 'B' RHR pump outside of flow limits specified in procedure 2.2.85.2 and cavitation of the pump. This finding was evaluated in accordance with Exhibit 2, Section C.6 of IMC 0609 Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings." The inspectors determined that this finding is of very low safety significance (Green) because while the performance deficiency resulted in the 'B' RHR pump being secured due to cavitation, it did occur when the refuel canal/cavity was flooded and did not increase the likelihood of a fire or internal/external flood that could cause an shutdown initiating event. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because Entergy staff did not thoroughly evaluate the issues associated with the ultrasonic flow meter in 2011 and 2013 to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. (P.2)

Inspection Report# : [2015002](#) (pdf)

## **Mitigating Systems**

**Significance:**  Jan 15, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Promptly Identify and Correct Core Spray System Leakage**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy did not promptly correct a condition adverse to quality for the core spray system. Specifically, though

Entergy identified in March 2015 that core spray system leakage was the likely cause of voiding in the system, Entergy had not taken timely action to identify the source of the leakage and address the issue. Entergy's immediate corrective actions included entering the issue into the CAP as CR-PNP-2016-00201 and generating a work order to repair seat leakage from the core spray test return line motor-operated valve, MO-1400-4A.

This issue is more than minor because if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, an unmonitored increase in core spray system leakage could result in an unanalyzed condition where the operability of the core spray system cannot be assured. In accordance with IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined the finding was of very low safety significance (Green). This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because Entergy did not thoroughly evaluate issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. Specifically, Entergy failed to fully evaluate the source of core spray system leakage identified in CR-PNP-2015-01406 because they closed out the CR to another CR with a different focus. [P.2]

Inspection Report# : [2016008](#) (pdf)

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Properly Implement Procedure Changes in accordance with TS 5.4.1a**

The inspectors identified an NCV of TS 5.4.1, "Procedures," because Entergy was not adequately maintaining procedures listed in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, February 1978. Specifically, the inspectors identified several examples where Entergy staff inappropriately used Entergy procedure EN-OP-112, "Night and Standing Orders," to implement procedure changes instead of PNPS quality assurance procedure NOP98A1, "Procedure Process." Entergy entered the issue into the CAP as CR 2015-09233.

The performance deficiency was determined to be more than minor because if left uncorrected it has the potential to lead to a more significant safety concern. Specifically, the inspectors determined the issue was similar to Example 4.a of IMC 0612, Appendix E, which states that an insignificant procedure error would be more than minor if the licensee routinely failed to adhere to the applicable procedure. The inspectors evaluated the finding using IMC 0609, Attachment 4 and Appendix A. Using Exhibit 2 of Appendix A, the inspectors determined this finding was of very low safety significance (Green) because it did not involve a design or qualification deficiency, it would not lead to a potential or actual loss of system or safety functions, it did not involve the loss or degradation of equipment or a function specifically designed to mitigate a seismic, flooding, or severe weather initiating event, and it did not involve the total loss of any safety function as identified in Exhibit 4. The inspectors determined that the finding had a cross-cutting aspect in Problem Identification and Resolution, Resolution, because, contrary to station procedure requirements, the standing order (SO) process was consistently inappropriately used to implement procedure changes for degraded equipment without the required evaluations.

Inspection Report# : [2015004](#) (pdf)

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Identify the Cause of a Significant Condition Adverse to Quality**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," when Entergy did not determine the cause of a significant condition adverse to quality (SCAQ). Specifically, a causal evaluation was not performed for a failed safety-related relay that ensured the automatic operation of the low pressure coolant injection (LPCI) system injection valves in a degraded voltage condition. Entergy replaced the failed relay and restored LPCI to an operable status on May 10, 2015. Entergy entered the issue into the CAP as CR 2015-9762.

This finding is more than minor because it is associated with the Mitigating System cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The failure to identify the cause and extent of condition of the relay failure as directed by site procedures could result in repeat events which adversely affect safety system availability. In accordance with IMC 0609.04 and Exhibit 2 of IMC 0609, Appendix A, the inspectors determined that this finding was of very low safety significance (Green) because the finding did not involve the design of a mitigating structure, system, or component (SSC) or a loss of function of a train or system for greater than the technical specification (TS) allowed outage time. The inspectors determined this finding has a cross-cutting aspect in Human Performance, Procedure Adherence, because individuals did not recategorize the CR to a higher level requiring a causal evaluation, as required by EN-LI-102 when a licensee event report (LER) was issued. The site also did not retain the failed safety-related part, as required by EN-MA-101-02. Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Nov 19, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Analyze Reactor Recirculation System Motor Operated Valves for the Post-fire Cold Shutdown Function**

The team identified a finding of very low safety significance involving a non-cited violation of Pilgrim Operating License Condition 3.F for failure to implement and maintain all aspects of the approved Fire Protection Program. Specifically, Entergy's post fire safe shutdown analysis did not adequately evaluate system requirements necessary to achieve cold shutdown conditions when the 'A' Reactor Recirculation System motor operated valves are damaged by fire. As a result, Entergy may not have been able to establish cold shutdown within 72 hours, as required by their safe shutdown analysis and regulatory requirements for this scenario. Entergy entered this issue into their corrective action program as condition reports CR-PNP-2015-09136 and CR-PNP-2015-09400, and implemented fire watches in the affected fire areas as an interim compensatory measure.

The finding was more than minor because it was similar to example 3.k of the NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and was associated with the Protection Against External Factors (e.g., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The team evaluated this issue in accordance with IMC 0609, Appendix F, "Fire Protection SDP." This finding screened to very low safety significance (Green) because it did not affect the ability to reach and maintain a hot shutdown condition (i.e., it only affected the ability to reach or maintain cold shutdown conditions). This finding had a cross-cutting aspect in the area of Problem Identification & Resolution, Evaluation, because, in 2013, Entergy incorrectly assumed that the 'B' RRS MOVs would be available during any fire that could damage the 'A' MOV cables without thoroughly evaluating whether the routing for the 'B' MOV cables ensured they would remain undamaged and available. [P.2]

Inspection Report# : [2015008](#) (*pdf*)

**Significance:**  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Main Control Room Annunciators 10 CFR 50.65(a)(2) Not Met**

Green. Inspectors identified a Green NCV of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, paragraph (a)(2), because Entergy did not adequately demonstrate that the main control room annunciators (a)(2) performance was effectively controlled through performance of appropriate preventative maintenance. Specifically, Entergy did not identify and properly account for functional failures of the

main control room (MCR) annunciators in February 2015 and May 2015, and did not recognize that the train exceeded its performance criteria and required a Maintenance Rule (a)(1) evaluation. Entergy entered the issue into the corrective action program under condition report 2015-7986 and CR 2015-7988 and is performing the Maintenance Rule (a)(1) evaluation.

The finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affects the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). Specifically, following the three failures of the main control annunciator panel in February 2015 and May 2015, Entergy did not identify the failures as functional failures, and consequently, did not establish goals and monitoring criteria in accordance with 10 CFR 50.65(a)(1). The inspectors evaluated the significance of this finding using IMC 0609 Appendix A, The Significance Determination Process (SDP) for Findings at Power.” The finding is of very low safety significance because the finding was not a design or qualification deficiency and did not represent a loss of safety function.

The inspectors determined that the finding has a cross cutting aspect in the area of Problem Identification and Resolution, Evaluation, in that the organization thoroughly evaluates issues to ensure that resolution addresses causes and extent of conditions commensurate with their safety significance. Specifically, Entergy identified all of the failures of the MCR annunciator system, however, Entergy did not include maintenance rule monitoring functions in the evaluation of the MCR annunciator system failures (P.2).

Inspection Report# : [2015003](#) (*pdf*)

**Significance:**  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Inadequate EDG Common Cause Determinations Result in TS Violation**

Green. The inspectors identified a Green Non-Cited Violation (NCV) of TS 3.5.F, “Minimum Low Pressure Cooling and Diesel Generator Availability,” for failure to adequately perform technical specification (TS) surveillance requirement (SR) 4.5.F.1 to determine that the ‘B’ Emergency Diesel Generator (EDG) was not inoperable due to a common cause failure, or to perform the TS-specified EDG monthly surveillance test, within 24 hours of the time that operators determined that the ‘A’ EDG was inoperable. Specifically, on July 1, 2015 after the ‘A’ EDG was declared inoperable due to unexpected annunciator response during engine pre-start checks, and again on July 28, 2015, when the ‘A’ EDG was declared inoperable due to reactive load oscillations during a routine surveillance, Entergy performed an inadequate common cause failure determination that did not address the failure mechanism of the inoperable EDG, which had not yet been determined. This issue has been entered into the corrective action program as condition report CR-PNP-2015-8073, and additional guidance has been provided to the operations crew in the form of an operations section standing order, pending permanent corrective actions.

The 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, the operability of the ‘B’ EDG was not verified as required, either through determination that it was not inoperable due to a common cause failure or through performance of the monthly TS-required surveillance. In accordance with Exhibit 2 of IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” the inspectors determined that this finding was of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent actual loss of function of a single train for greater than its technical specification allowed outage time, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event.

This finding had a cross-cutting aspect in the area of Human Performance, Conservative Bias, because Entergy did not use decision making practices that emphasized prudent choices over those that are simply allowed, or in this case those choices that were perceived to be allowed. Specifically, Entergy's credited SR 4.5.F.1 based on an administrative review instead of more deliberate actions or evaluations that would be necessary to confirm that a common cause condition did not exist. (H.14)

Inspection Report# : [2015003](#) (pdf)

**Significance:**  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Inadequate Operability Assessment of the Shutdown Transformer**

Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, "Instructions, Procedures, and Drawings," when Entergy failed to adequately assess the operability of the shutdown transformer as required by EN-OP-104, "Operability Evaluation Process". Specifically, Entergy failed to evaluate changes to the 23KV line supplying the shutdown transformer that resulted in the shutdown transformer incorrectly being called operable. This issue has been entered into the corrective action program under CR 2015-7787. Entergy is conducting a causal analysis and operators have been given interim guidance to declare the shutdown transformer inoperable under similar conditions.

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, a modification was made to the site, as described in the UFSAR that was unrecognized by Entergy during the operability determination process and resulted in the incorrect operability determination for the shutdown transformer. In accordance with Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, and did not represent an actual loss of function of a single train for greater than its TS allowed outage time.

This finding has a cross cutting aspect in the area of Human Performance, Avoid Complacency, in that individuals did not recognize and plan for the possibility of mistakes, latent problems, or inherent risk, even while expecting successful outcomes. Specifically, personnel did not fully evaluate the change to the 23KV line, and instead relied on a previous incorrect operability determination to justify declaring the shutdown transformer operable. (H.12)

Inspection Report# : [2015003](#) (pdf)

**Significance:** N/A Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Provide 10 CFR 50.59 Evaluation Associated with Offsite Power Alignment**

Inspectors identified a Severity Level IV, NCV of 10CFR 50.59 "Changes, Tests and Experiments" in that Entergy failed to perform a written evaluation to provide the basis for a change to the facility that required a license amendment. Specifically, the inspectors identified that contrary to 10 CFR 50.59, Entergy failed to evaluate whether the placement of a 23KV line aboveground required a license amendment pursuant to 10 CFR 50.59 (c)(1). Entergy is performing a causal analysis, updating required procedures, and issued a standing order to ensure the site remains in TS compliance with only the 23 kV line 108 able to supply power to maintain the shutdown transformer operable.

The performance deficiency was dispositioned using the traditional enforcement process because it could potentially

impede or impact the regulatory process. In accordance with the NRC Enforcement Manual, Revision 9, Part II, Enforcement of 10 CFR 50.59 and Related FSAR, Sections 2.1.3.E.1 and 2.1.3.E.6, this violation was determined to be more than minor because Entergy failed to conduct a safety evaluation when required and there was a reasonable likelihood that the change requiring 10 CFR 50.59 evaluation would have required Commission review and approval prior to implementation. Because this violation involves the traditional enforcement process and does not have an underlying technical violation that would be considered more than minor, the inspectors did not assign a cross-cutting aspect, in accordance with IMC 0612.

Inspection Report# : [2015003](#) (*pdf*)

**Significance:** **G** Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Inadequate Operability Determination for the X-107B EDG Results in TS Violation**

The inspectors identified a Green NCV 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when Entergy staff performed an inadequate operability determination that assessed the X-107B emergency diesel generator (EDG) following cylinder head leakage indications during pre-start checks for a planned monthly operability run. Specifically, after engine coolant had been observed spraying from one of the open cylinder test cocks during X-107B EDG pre-start checks, operators determined that the EDG remained operable because the volume of leakage that had been observed would not have precluded a successful start of the engine. Operators did not consider that potential sources of leakage, such as a crack in the cylinder or cylinder head, could reasonably worsen during operation, such that the engine would not be able to complete its 30-day mission time, and therefore should be declared inoperable. Entergy's immediate corrective actions included replacement of the X-107B EDG 9L cylinder head and sending out the damaged cylinder head for analysis by a vendor. The completion of the analysis by the vendor is being tracked by CR-2015-2109.

The 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, Entergy staff inadequately determined that the X-107B EDG was operable, which resulted in the operability of the X-107A EDG not being verified, either through determination that it was not inoperable due to a common cause failure or performing TS SR 4.5.F.1 in its entirety. This finding was evaluated using Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power." The inspectors determined that this finding was of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent actual loss of a safety function of a single train for greater than its TS allowed outage time, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. This finding had a cross-cutting aspect in the area of Human Performance, Conservative Bias, because Entergy staff did not use decision making practices that emphasized prudent choices over those that are simply allowed. Specifically, Entergy staff's operability determination for the X-107B EDG was based on the conclusion that the asfound condition would not have caused the engine to be inoperable because it would not have created a hydraulic lock; they did not consider that the condition would likely worsen during EDG operation, nor did their operability determination consider EDG mission time [H.14].

Inspection Report# : [2015002](#) (*pdf*)

**Significance:** **W** Mar 20, 2015

Identified By: NRC

Item Type: VIO Violation

### **Failure to Identify, Evaluate, and Correct 'A' SRV Failure to Open Upon Manual Actuation**

A self-revealing preliminary White finding and Violation (VIO) of 10 CFR 50, Appendix B, Criterion XVI,

“Corrective Action,” and Technical Specification (TS) 3.5.E, “Automatic Depressurization System,” was identified for the failure to identify, evaluate, and correct a significant condition adverse to quality associated with the ‘A’ SRV. Specifically, Entergy failed to identify, evaluate, and correct the ‘A’ SRV’s failure to open upon manual actuation during a plant cooldown on February 9, 2013. In addition, the failure to take actions to preclude repetition resulted in the ‘C’ SRV failing to open due to a similar cause following the January 27, 2015, LOOP event. Entergy entered this issue in to the corrective action program (CAP) as CR-PNP-2015-01983, CR-PNP-2015-00561, and CR-PNP-2015-01520. Immediate corrective actions included replacing the ‘A’ and ‘C’ SRVs and completing a detailed operability analysis of the installed SRVs which concluded that a reasonable assurance of operability existed. This finding does not present a current safety concern because the ‘A’ and ‘C’ SRVs were replaced during the outage following the January 27, 2015 LOOP and reactor trip event. Also, Entergy performed a detailed operability analysis of the installed SRVs which concluded that a reasonable assurance of operability existed.

This performance deficiency is more than minor because it could reasonably be viewed as a precursor to a significant event if two of the four SRVs failed to open when demanded to depressurize the reactor, following the failure of high pressure injection systems or torus cooling, to allow low pressure injection systems to maintain reactor coolant system inventory following certain initiating events. In addition, it is associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

The inspectors screened this issue for safety significance in accordance with IMC 0609, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions.” The screening determined that a detailed risk evaluation was required because it was assumed that for a year period, two of the four SRVs were in a degraded state such that they potentially would not have functioned to open at some pressure lower than rated pressure and would not fulfill their safety function for greater than the TS allowed outage time. Specifically, the assumptions of failures to open were based on: a failed actual opening demand at 200 psig reactor pressure on January 27, 2015, for the ‘C’ SRV; examination of the valve internals at the testing vendor (National Technical Systems); and a previous failed actual opening demand at 114 psig reactor pressure on February 9, 2013, for the ‘A’ SRV. The risk evaluation was performed using IMC 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria,” issued April 12, 2012. The NRC made a preliminary determination that the finding was of low to moderate safety significance (White) based on quantitative and qualitative evaluations.

This finding had a cross-cutting aspect in Problem Identification and Resolution, Evaluation, because Entergy did not thoroughly evaluate issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. Specifically, Entergy staff did not thoroughly evaluate the operation of the ‘A’ SRV during the February 9, 2015 plant cooldown and should have reasonably identified that the ‘A’ SRV did not open upon three manual actuation demands [P.2].

Update: The Preliminary White finding and AV was documented in IR 05000293/2015007, dated May 27, 2015.

Update: The final significance of the finding was determined to be White and was documented in Inspection Report 05000293/2015011, dated September 1, 2015.

Inspection Report# : [2015007](#) (*pdf*)

Inspection Report# : [2015011](#) (*pdf*)

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## Barrier Integrity



**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Inadequate Implementation of Corrective Action following Winter Storm Juno**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Actions,” because Entergy did not adequately implement corrective actions for an identified condition adverse to quality. Specifically, Entergy did not implement all of the procedure changes needed to ensure shutdown cooling was placed in service in a timely matter after plant shutdown in preparation for or during a severe winter storm. Entergy entered this issue into the CAP as CR 2016-0120 and updated procedure 2.1.42 to meet the requirements of the corrective actions in CR 2015-0558. Inspectors verified that the new procedure revision included the required actions.

The inspectors determined this performance deficiency is more than minor because it is associated with the procedure quality attribute of the Barrier Integrity cornerstone, and adversely affected its objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspectors determined that this finding is of very low safety significance (Green) in accordance with IMC 0609, Attachment 4 and Exhibit 3 of Appendix A, because it did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, and heat removal components. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because Entergy staff did not ensure procedure revisions were made in accordance with the requirements of EN-LI-102, “Corrective Action Program.”  
Inspection Report# : [2015004](#) (*pdf*)

## **Emergency Preparedness**

**Significance:**  Aug 20, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Inadequate Guidance and Invalid Compensatory Measures for Out-of-Service EAL Instrumentation**

The inspectors identified a Green non-cited violation of 10 CFR 50.54(q)(2) because Entergy did not follow and maintain an emergency plan that meets the requirements of planning standards 10 CFR 50.47(b) and Appendix E. Specifically, the Emergency Plan Implementing Procedure specified insufficient equipment as the primary method of emergency action level assessment, and directed invalid compensatory measures to be used when the primary method of emergency action level assessment for reactor coolant system leakage was unavailable. Entergy entered these issues into the corrective action program as condition reports CR-PNP-2015-7183 and CR-PNP-2015-7394. Additionally, since the time of this inspection, Entergy completed and issued the new procedure governing equipment important to emergency response.

This finding was more than minor because it was associated with the emergency response organization performance attribute of the Emergency Preparedness cornerstone and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the incomplete procedural guidance and the inadequate compensatory measure could have led to an emergency not being declared in a timely manner. The inspectors evaluated the finding using IMC 0609, Appendix B, “Emergency Preparedness Significance Determination Process,” and determined the finding was of very low safety significance (Green). The finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Identification, because Entergy did not ensure that the issues were promptly reported and documented in the corrective action program at a low threshold. Specifically, while performing the extent of condition review of emergency plan implementing procedure EP-IP-100.1, “Emergency Action Levels,” Entergy did

not effectively utilize the corrective action program to identify and correct newly identified deficiencies with the guidance for emergency action level assessment and the invalid compensatory measures. This resulted in the associated degradation of the emergency plan assessment capability remaining in effect. [P.1]

Inspection Report# : [2015010](#) (*pdf*)

**Significance:**  Aug 20, 2015

Identified By: NRC

Item Type: VIO Violation

### **NOV for Untimely Actions to Restore Station Meteorological Towers**

The inspectors identified a Green cited violation 10 CFR 50.54(q)(2) because Entergy did not ensure that the Pilgrim Emergency Plan met the planning standards in 10 CFR 50.47(b). Specifically, in December 2011, Entergy cancelled preventative maintenance of the 160' back-up meteorological tower, and that tower became non-functional. As a result, on eight occasions between March 18, 2012, and August 15, 2015, when the 220' primary meteorological tower was also non-functional for various reasons, Pilgrim did not have instrumentation available on either tower for continuous reading of the wind speed, wind direction, air temperature, and delta air temperature. At the time of this inspection in August 2015, Entergy was in the process of obtaining necessary permits for construction of the new tower.

This finding is more than minor because it is associated with the facilities and equipment attribute of the Emergency Preparedness cornerstone and adversely affected the cornerstone objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. In accordance with IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Table 5.8-1, the inspectors determined the finding to be of very low safety significance (Green) because the planning standard function was degraded. Specifically, a significant amount of equipment necessary to implement the emergency plan was not functional to the extent that an emergency response organization member could not perform assigned functions, in the absence of compensatory measures. However, Pilgrim was able to make adequate dose assessments at all times using the National Weather Service to obtain necessary data. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Resolution, because Pilgrim did not take effective corrective actions to address issues in a timely manner commensurate with their safety significance. Specifically, numerous delays and extensions of corrective actions resulted in a period of approximately two years in which the adverse condition identified by the inspectors had not been corrected, during which additional outages of the primary meteorological tower have resulted in additional unnecessary degradation of the Pilgrim Emergency Plan. [P.3]

Inspection Report# : [2015010](#) (*pdf*)

## **Occupational Radiation Safety**

**Significance:**  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Comply with RWP Instructions to Contact RP Prior to Dogbone Gasket Removal**

The inspector identified a self-revealing Green NCV of Technical Specification 5.4.1, Regulatory Guide 1.33, Appendix "A" Procedures. Procedure EN RP 100 Radiation Worker Expectations, Section 5.4 Radiological Work Permit (RWP), requires radiation workers to comply with verbal and written instructions. RWP 2015530, Task 1 requires workers to "Contact Radiation Protection prior to entry to discuss work scope" and to allow for "RP survey when accessible surfaces are exposed." Contrary to these requirements, on April 28, 2015, several workers failed to

inform RP when performing condenser dogbone gasket removal activity, which resulted in Radiation Protection (RP) not conducting the necessary contamination surveys. Performing this work without notifying RP resulted in five workers receiving unintended internal exposures. When identified, Entergy immediately stopped work on this project, conducted a safety meeting between RP and the Entergy contractors, performed the RP surveys on the accessible surfaces and enforced the RWP respiratory protection requirements for the remaining work. This issue was entered into the Entergy corrective action program (CR-PNP-2015-07577).

The inspectors determined that the performance deficiency was more than minor because it affected the Radiation Safety – Occupational Radiation Safety Cornerstone attribute of Program and Process associated with exposure/contamination controls and because it resulted in the unintended internal exposure of five workers. It was determined to be of very low safety significance (Green) because it was not related to ALARA, it did not involve an overexposure or a potential for an overexposure and because the licensees ability to assess dose was not compromised. A cross-cutting aspect of Procedure Adherence in the area of Human Performance was assigned for individuals failing to follow processes, procedures and work instructions, in that workers did not follow the verbal and written instructions on the RWP to discuss the scope of work with RP prior to beginning the work. [H.8]

Inspection Report# : [2015003](#) (*pdf*)

## Public Radiation Safety

**Significance:**  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Conduct Operations to Minimize the Introduction of Residual Radioactivity to the Site**

The inspectors identified a Green NCV of 10 CFR 20.1406(c) in that Entergy did not conduct operations to minimize the introduction of residual radioactivity on site. Entergy did not take action to reduce residual radioactive waste from the site in a timely manner over fourteen years. Entergy entered this issue into the corrective action program as CR-2015-05745 with actions to characterize and evaluate the adverse conditions identified by the inspector

The issue is more than minor because it is associated with the program and process attribute of the Public Radiation Safety cornerstone and affected the cornerstone objective to ensure the licensee's ability to prevent inadvertent release and/or loss of control of licensed material to an unrestricted area. In accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," the finding was determined to be of very low safety significance (Green) because Entergy had an issue involving radioactive material control, but did not involve: (1) transportation; or (2) public exposure in excess of 0.005 Rem. The finding has a cross-cutting aspect in the area of problem identification and resolution, Resolution, in that Entergy did not adequately address the radioactive waste in a fourteen year time period (P.3).

Inspection Report# : [2015002](#) (*pdf*)

**Significance:**  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Properly Ship Category 2 Radioactive Material - Quantity of Concern**

The inspectors identified a Green NCV of 10 CFR 71.5, "Transportation of Licensed Material," and 49 CFR 172, Subpart I, "Safety and Security Plans." Specifically, Entergy shipped a category 2 RAM-QC on public highways to a waste processor without adhering to a transportation security plan. Prior to shipment, Entergy's staff failed to

recognize that the quantity of radioactive material met the definition RAM QC. Entergy entered the issue into their corrective action program as CR-2015-05746 to address changes in Department of Transportation requirements.

The issue is more than minor because it is associated with the program and process attribute of the Public Radiation Safety cornerstone and affected the cornerstone objective to ensure the safe transport of radioactive material on public highways in accordance with regulations. The finding was determined to be of very low safety significance (Green) because Entergy had an issue involving transportation of radioactive material, but it did not involve: (1) a radiation limit that was exceeded; (2) a breach of package during transport; (3) a certificate of compliance issue; (4) a low level burial ground nonconformance; or (5) a failure to make notifications or provide emergency information. The finding had a cross-cutting aspect in the area of problem identification and resolution, Identification, in that the licensee did not have a low threshold for identifying issues. Specifically, the security transportation plan requirements became effective in March 2003, had not been effectively identified by Entergy (P.1).

Inspection Report# : [2015002](#) (*pdf*)

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## 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.

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## Miscellaneous

**Significance:** N/A Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Submit an LER**

The inspectors identified a Severity Level IV NCV because Entergy personnel did not provide a written report to the NRC within 60 days after discovery of the event as required by 10 CFR 50.73(a)(2)(i)(B) for a condition which was prohibited by TS 3.5.E, "Automatic Depressurization System (ADS)." Specifically, on January 27, 2015, Pilgrim experienced a loss of offsite power and reactor scram during a winter storm. While operators performed a reactor cooldown with manual operation of safety relief valves (SRVs), the 3C SRV twice failed to open upon demand by the operations crew. Entergy staff initiated condition report CR-PNP-2015-0561 to document SRV 3C's failure to open, and the valve was immediately declared inoperable. The inspectors determined that the improper operation of SRV 3C was reportable in accordance with 10 CFR 50.73(a)(2)(i)(B). Entergy has captured this issue in condition report CR-2015-6191.

Because this issue had the potential to affect the NRC's ability to perform its regulatory function, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using example 6.9.d.9 from the Enforcement Policy, the inspectors determined that the violation was a Severity Level IV (a failure of a licensee to make a report required by 10 CFR 50.72 or 10 CFR 50.73) violation. Because this violation involves the traditional enforcement process and does not have an underlying technical violation, inspectors did not assign a cross-cutting aspect to this violation in accordance with IMC 0612, Appendix B.

Inspection Report# : [2015002](#) (*pdf*)

Last modified : July 11, 2016