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## Pilgrim 1 – Quarterly Plant Inspection Findings

### 3Q/2017 – Plant Inspection Findings

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### Initiating Events

**Significance:** G Jun 30, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Inaccurate Suppression Pool Water Level Instrument not Identified during Post-Event Prompt Investigation**

An NRC-identified Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified because Entergy staff did not identify and correct a condition adverse to quality related to suppression pool water level indication when the 'A' suppression pool wide range instrument provided inaccurate level indication during the inadvertent suppression pool water level increase event on March 31, 2017. As corrective actions, Entergy entered Technical Specification (TS) 3.2.F, "Protective Instrumentation - Surveillance Information Readouts," and repaired the instrument. This issue was entered into Entergy's corrective action program (CAP) as condition report (CR) 2017-2965.

The performance deficiency is more than minor because if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, inaccurate level indication during off-normal changing level conditions in the suppression pool could result in operator actions not warranted by plant conditions. The finding is also associated with the Initiating Events cornerstone. Using IMC 0609, Appendix A, Exhibit 1, issued June 19, 2012, "The Significance Determination Process for Findings At-Power," the inspectors determined the finding was of very low safety significance (Green) because the finding did not cause a reactor trip and a loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution - Identification, because the Entergy organization did not demonstrate an appropriately low threshold for entering problems into their CAP. Specifically, Entergy's prompt investigation of the inadvertent suppression pool level increase event did not identify that the 'A' suppression pool wide range level instrument was not indicating properly and required corrective maintenance.

Inspection Report# : 2017002 (*pdf*)

**Significance:** G Mar 12, 2017

Identified By: NRC

Item Type: FIN Finding

**Failure to Issue Appropriate Corrective Actions to Preclude Repetition for the Causes of the September 2016 Scram**

The NRC team identified a Green finding because Entergy did not issue appropriate CAPRs in accordance with Entergy procedure EN-LI-102, "Corrective Action Process," Revision 28. Specifically, Entergy did not issue adequate CAPRs associated with Root Cause 1 of the feedwater regulating valve failure in September 2016 that resulted in a manual scram. As a result of the NRC team's questions, Entergy issued procedure 1.13.2, "Vendor and Technical Information Reviews," Revision 0, as "continuous use" to ensure that planners will always have the checklist in-hand when planning work to ensure that appropriate vendor technical information is always included in applicable work instructions. Entergy entered the NRC team's concerns in the corrective action program as CR-PNP-2017-00687 and CR-PNP-2017-00936.

The performance deficiency was more than minor because it is associated with the equipment performance attribute of the Initiating Events cornerstone and if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, if left uncorrected, the performance deficiency could have the potential to result in repetition of a significant condition adverse to quality, loss of control of feedwater regulating valve 642A and a manual scram. The NRC team evaluated the finding using Exhibit 1, "Initiating Events Screening Questions," of IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," and determined this finding did not cause a reactor trip or the loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition. Therefore, the NRC team determined the finding was of very low safety significance (Green). The NRC team determined that the finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because individuals did not follow processes, procedures, and work instructions. Specifically, Entergy did not follow procedure EN-LI-102, which provides the station standards for crafting a corrective action and states, in part, that the corrective action descriptions must be worded to ensure that the adverse condition or cause/factor is addressed.

Inspection Report# : 2016011 (*pdf*)

**Significance:** G Dec 31, 2016

Identified By: Self-Revealing

Item Type: FIN Finding

**Feedwater Regulating Valve Failure Results in Reactor Scram**

A self-revealing Green finding was identified for the inadequate implementation of a work order on the 'A' feedwater regulating valve (FRV) encoder as required by EN-WM-102. Specifically, Entergy did not install a wire assembly on the 'A' FRV encoder as required by the work instructions located in the vendor manual. The wire loosened, resulting in the 'A' FRV failing open and the operators inserting a manual scram. In response to the loose connection, Entergy added a sealant to the connector to ensure all wires remain in place on both FRVs. Entergy entered the issue into the corrective action program (CAP) under condition report (CR) 2016-6635.

The inspectors determined that the finding is more than minor because it is associated with the equipment performance 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 a shutdown as well as power operations. Specifically, the performance deficiency affected the reliability and capability of the 'A' FRV which led to a plant scram, tripping of the reactor feed pumps, and closure of the main steam isolation valves (MSIVs). The inspectors evaluated this finding using IMC 0609.04, "Initial Characterization of Findings," issued October 7, 2016, and IMC 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," issued June 19, 2012, and determined a detailed

risk evaluation was required because the 'A' FRV failure caused a reactor trip and partial loss of feedwater (power conversion system).

A Region I senior reactor analyst (SRA) used the Standardized Plant Analysis Risk (SPAR) model for Pilgrim, Version 8.24, and SAPHIRE, Version 8.1.4, to complete the detailed risk evaluation. The estimated increase in core damage frequency (CDF) was calculated to be  $4E-7$ /year, or very low safety significance (Green). For issues resulting in an increase in  $CDF > 1E-7$ , IMC 0609 requires an evaluation of large early release frequency (LERF) using the guidance of NUREG-1765, "Basis Document for LERF Significance Determination Process," and IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," issued May 6, 2004. The performance deficiency associated with the failure of the 'A' FRV and resultant reactor trip would be considered a Type A finding and, as such, the calculated increase in CDF value is used in conjunction with an appropriate LERF factor (multiplier) to determine the estimated increase in LERF associated with the issue. In the absence of early core damage sequences for this event, LERF is not a significance risk contributor and the safety significance of this performance deficiency is defined by the estimated increase in CDF ( $4E-7$ /year) or Green. This finding has a cross-cutting aspect of Human Performance, Work Management, in that Entergy did not adequately implement the process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, maintenance staff were provided a work order that did not meet station requirements to ensure the work could be adequately performed. Specific steps of the vendor manual were not used to direct work by staff and led to an installation error. The work planning process also did not implement the engineering recommendation to perform a practice installation on the equipment prior to installing equipment in the field.

Inspection Report# : 2016004 (*pdf*)

## Mitigating Systems

**Significance:** G Jun 30, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Improper System Restoration Results in Suppression Pool Inoperability**

A self-revealing Green NCV of TS 5.4.1.a, "Procedures," was identified on March 31, 2017, when operators did not follow procedures and caused an inadvertent increase in the suppression pool water level. The inspectors determined that the operators did not restore the core spray system valve line-up as prescribed in Attachment 11 of Entergy Procedure 2.2.20, "Core Spray," and the maintenance safety tag clearance sheet. Operator implementation of these documents is directed by Entergy Procedure EN-OP-102, "Protective Caution Tagging," section 5.19[4](b). As corrective actions, Entergy performed additional management oversight of control room operations and performed a root cause evaluation (RCE). This issue was entered into the CAP as CR-2017-2785.

The performance deficiency is more than minor because it is associated with the equipment reliability attribute of the Mitigating Systems cornerstone objective 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, the out of specification conditions on March 31, 2017, impacted suppression pool reliability because the suppression pool was not maintained within parameters required to ensure operability. Additionally, significant analysis was necessary to show the suppression pool and associated supports remained functional when TS requirements were not met. Using IMC 0609, Appendix A, Exhibit 2, issued June 19, 2012, "The Significance Determination Process for Findings At-Power," the inspectors determined the finding was of very low safety significance (Green) because the finding did not affect the design or qualification of a mitigating structure, system, or component (SSC), the finding did not represent a loss of system and/or function, the finding did not represent an actual loss of a function of a single train for greater than the TS allowed outage time (AOT), and the finding did not represent an actual loss of a function of one or more non-TS trains of equipment. Specifically, the suppression pool, including down-comers and supports, remained functional following the influx of water. The finding has a cross-cutting aspect in the area of Human Performance - Procedure Adherence, because Entergy personnel did not follow processes, procedures, and work instructions.

Specifically, Entergy personnel did not follow procedures and work instructions during the restoration of the core spray system.

Inspection Report# : 2017002 (*pdf*)

**Significance:**  Jun 30, 2017

Identified By: NRC

Item Type: FIN Finding

**Failure to Follow Procedure Requirements for the Control of a Flood Protection Barrier**

An NRC-identified Green finding was identified because Entergy personnel did not follow Procedure 1.3.135, "Control of Doors," to adequately control a condenser bay flood protection door. Specifically, on May 22, 2017, Entergy personnel failed to control door 25A, which is designed to mitigate condenser bay flooding to preclude adversely impacting the important to safety instrument air system. Entergy's short-term corrective actions included closing the door and providing additional operator training. This issue was entered into the CAP as CR 2017-5746.

The performance deficiency is more than minor because it is associated with the configuration 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. The finding was evaluated using IMC 0609, Appendix A, Exhibit 4, "External Events Screening Questions," issued June 19, 2012, with respect to the degraded safety function of the flood barrier door. The finding was determined to be of very low safety significance (Green) because the failure of the flood door was determined to not degrade the instrument air system ability to support the feedwater injection function or the alternate injection through the control rod drive system. This is because the backup diesel driven compressor was available to be started locally and supply the instrument air headers. The finding also did not involve the total loss of any safety function. The finding has a cross-cutting aspect in the area of Human Performance - Procedure Adherence, because Entergy personnel did not follow processes, procedures, and work instructions. Specifically, Entergy personnel did not follow procedural requirements to adequately control flood protection door 25A.

Inspection Report# : 2017002 (*pdf*)

**Significance:**  Mar 31, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Follow Procedures for Controlled Shutdown**

The inspectors identified a Green NCV of TS 5.4.1 "Procedures," when Entergy did not follow the site procedures for limiting condition for operation (LCO) entries, Technical Specification (TS) usage, and procedure adherence. Specifically, on March 1, 2017, Entergy did not implement procedure 1.3.6, "Technical Specifications-Adherence and Clarifications," and perform the procedural required preparation steps to commence a controlled and orderly shutdown when required by TS LCOs. Additionally, Entergy did not properly exit a TS LCO, based on procedure 1.3.34.2, "Limiting Conditions for Operation Log," requirements. Entergy entered the issue into the corrective action program (CAP) as condition report (CR) 2017-3724.

The performance deficiency is more than minor because if left uncorrected, would have the potential to lead to a more significant safety concern. Specifically, the Entergy operations staff exited the LPCI LCO without personal observation by the senior reactor operator (SRO) signing off the work order (WO) that the maintenance postwork testing was complete and failed to implement the procedural required preparation steps to perform a controlled and

orderly shutdown when required by TS LCOs. Inspectors evaluated this finding using IMC 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, and determined that the finding was of very low safety significance (Green), because the finding 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 had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, in that individuals follow processes, procedures, and work instructions. Specifically, Entergy did not use procedural guidance explicitly put in place to provide operators clear direction on how to prepare and perform an orderly shutdown upon entering a TS LCO with shutdown requirements. [H.8]

Inspection Report# : 2017001 (*pdf*)

**Significance:** G Mar 21, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Adequately Monitor the Performance of Maintenance Rule Scoped Components**

The NRC team identified a Green non-cited violation of 10 CFR 50.65(a)(2), "Requirements for monitoring the effectiveness of maintenance at nuclear power plants." Specifically, Entergy did not demonstrate that the performance of 18 maintenance rule scoped components was effectively controlled through the performance of appropriate preventive maintenance, and did not establish goals and monitoring in accordance with 10 CFR 50.65(a)(1). Entergy's immediate corrective action was to initiate a CR to evaluate moving the affected systems to 10 CFR 50.65(a)(1) monitoring requirements. Entergy entered this issue in the corrective action program as CR-PNP-2017-00401.

The performance deficiency 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 availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Entergy failed to demonstrate that the performance of the 18 maintenance rule scoped components was being effectively controlled through the performance of appropriate preventive maintenance which adversely impacts the reliability of those systems. The NRC team evaluated the finding using Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," and determined this finding did not affect the design or qualification of a mitigating structure, system, or component; represent a loss of system and/or function; involve an actual loss of function of at least a single train or two separate safety systems for greater than its technical specification-allowed outage time; or represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant. Therefore, the NRC team 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, Evaluation, in that Entergy failed to thoroughly evaluate and ensure that resolution of the identified issue, maintenance not being performed on maintenance rule scoped components, included reclassifying the components as necessary. Specifically, Entergy failed to demonstrate that the performance of 18 maintenance rule scoped components was effectively controlled through the performance of appropriate preventive maintenance, or through performance goals and monitoring.

Inspection Report# : 2016011 (*pdf*)

**Significance:** TBD Mar 12, 2017

Identified By: NRC

Item Type: AV Apparent Violation

**Design Change Not Appropriately Reviewed by Entergy**

The NRC team identified a preliminary greater than Green finding and apparent violation of 10 CFR Part 50, Appendix

B, Criterion III, "Design Control," associated with Entergy's failure to ensure that design changes were subject to design control measures commensurate with those applied to the original design and were approved by the designated responsible organization. Specifically, Entergy received a new style right angle drive for the 'A' emergency diesel generator radiator blower fan from a vendor but failed to adequately review the differences in the design of the drives to identify potential new failure mechanisms for the part or the need for related preventive measures. Entergy entered this issue into the corrective action program as CR-PNP-2016-07443.

The performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the team screened the finding for safety significance and determined that a detailed risk evaluation was required based on the 'A' emergency diesel generator being inoperable for greater than the technical specification allowed outage time.

Region I senior reactor analysts performed a detailed risk evaluation. The finding was preliminarily determined to be of greater than very low safety significance (greater than Green). The risk important sequences were dominated by external fire risk. Specifically, a postulated fire in the 'B' 4 kilovolt (KV) switchgear room with a consequential loss of the unit auxiliary generator power supply, non-recoverable loss of off-site power (LOOP) to both safety buses A5 and A6, loss of the 'B' emergency diesel generator with the conditional failure of the 'A' emergency diesel generator, along with the loss of bus A8 feed (from the shutdown transformer or station blackout (SBO) diesel generator) to safety buses A5 and A6. The internal event risk was dominated by weather related LOOPS, failure of the 'A' emergency diesel generator, with failure of the 'B' emergency diesel generator and SBO diesel generator to run, along with failure to recover offsite power or the emergency diesel generators. See Attachment 1, "'A' Emergency Diesel Generator Cooling Water System Degradation Detailed Risk Evaluation," for a detailed review of the quantitative criteria considered in the preliminary risk determination.

The NRC team did not assign a cross-cutting aspect to this finding because the performance deficiency occurred in May 2000. Entergy's program has undergone changes since May 2000, and the NRC team did not identify any recent examples of this performance deficiency. Other aspects of Entergy's performance related to this issue are further discussed in Sections 5.10.3 and 6.3.4.

Inspection Report# : 2016011 (*pdf*)

**Significance:**  Mar 12, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Identify All Root Causes of a Significant Condition Adverse to Quality**

The NRC team identified a Green non-cited violation of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy did not adequately determine all root causes associated with a significant condition adverse to quality related to the failure to identify, evaluate, and correct the 'A' SRV's failure to open upon manual actuation during a plant cooldown on February 9, 2013. Specifically, Entergy did not establish adequate measures to assure that the cause of a significant condition adverse to quality, inadequate shift manager operability determination rigor and its associated causes, were adequately determined and corrective action taken to preclude repetition. Entergy's immediate corrective actions included planning to conduct operations management face-to-face conversations with shift manager qualified individuals to reinforce the shift manager's responsibility for operability and functionality determination accuracy and rigor. Entergy entered this issue into the corrective action program as CR-PNP-2017-00363 and CR-PNP-2017-00828.

The performance deficiency was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, if left uncorrected, the performance deficiency could have the potential to result in repetition of a failure to identify, evaluate, and correct an SRV's failure to open or a similar significant condition adverse to quality. The NRC team evaluated the finding using Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," and determined this finding did not affect the design or qualification of a mitigating structure, system, or component; represent a loss of system and/or function; involve an actual loss of function of at least a single train or two separate safety systems for greater than its technical specification-allowed outage time; or represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant. Therefore, the NRC team determined the finding was of very low safety significance (Green). The NRC team determined that the finding had a cross-cutting aspect in the area of Human Performance, Avoid Complacency, because individuals did not recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, Entergy incorrectly assumed that CR-PNP-2013-00825 contained inadequate information to determine that the 'A' SRV had not opened, and this assumption ultimately impacted the root cause results documented in CR-PNP-2016-01621.

Inspection Report# : 2016011 (*pdf*)

**Significance:**  Mar 12, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Establish Corrective Actions to Preclude Repetition of a Significant Condition Adverse to Quality**

The NRC team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy did not implement CAPRs for a significant condition adverse to quality identified in root cause evaluation CR-PNP-2016-00716, "Implementation of the Corrective Action Program," Revision 2. Specifically, the team identified that CAPRs for Entergy's continued weaknesses in the implementation of the corrective action program were inadequate. Entergy entered this issue into their corrective action program for further evaluation as CR-PNP-2017-00053, CR-PNP-2017-00410, and CR-PNP-2017-01134.

The performance deficiency was more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to preclude repetition of this significant condition adverse to quality could result in continuing weaknesses in implementation of the corrective action program, which was designated as a fundamental problem, and thus a contributing factor for PNPS Column 4 performance. Additionally, weaknesses with corrective action program implementation could result in equipment issues where operability is not maintained. The NRC team evaluated the finding using Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," and determined this finding did not affect the design or qualification of a mitigating structure, system, or component; represent a loss of system and/or function; involve an actual loss of function of at least a single train or two separate safety systems for greater than its technical specification-allowed outage time; or represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant. Therefore, the NRC team determined the finding was of very low safety significance (Green). The NRC team determined that the finding had a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because individuals did not follow processes, procedures, and work instructions. Specifically, Entergy did not follow procedure EN-LI-102, which provides the station standards for crafting a corrective action and states, in part, that the corrective action descriptions must be worded to ensure that the adverse condition or cause/factor is addressed.

Inspection Report# : 2016011 (*pdf*)

**Significance:**  Mar 12, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Programmatic Issue with Implementation of the Operability Determination Process**

The NRC team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Specifically, the NRC team identified a programmatic issue because in some cases, Entergy did not enter the operability determination process when appropriate, and, when the process was entered, did not adequately document the basis for operability, in accordance with Procedure EN-OP-104, "Operability Determination Process," Revision 11. In each of the examples discussed, though the basis for operability was not adequate, all components were determined to be operable upon further evaluation. Entergy entered this issue into their corrective action program as CR-PNP-2017-00626.

The performance deficiency was more than minor because if left uncorrected, could lead to a more significant safety issue. Specifically, the failure to enter and document a basis for operability could lead to not recognizing inoperable safety-related equipment, and place the reactor at a higher risk of core damage in a design basis accident. The NRC team evaluated the finding using Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," and determined this finding did not affect the design or qualification of a mitigating structure, system, or component; represent a loss of system and/or function; involve an actual loss of function of at least a single train or two separate safety systems for greater than its technical specification-allowed outage time; or represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant. Therefore, the NRC team determined the finding was of very low safety significance (Green). This finding had a cross-cutting aspect in the area of Human Performance, Teamwork. Specifically, the operations and engineering departments did not demonstrate a strong sense of collaboration and cooperation with respect to holding each other accountable when performing operability determinations to ensure nuclear safety is maintained.

Inspection Report# : 2016011 (*pdf*)

**Significance:**  Mar 12, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Establish Corrective Actions to Address Scope of Procedure Quality Issues**

The NRC team identified a Green non cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy implemented inadequate corrective actions to address the procedure quality issues identified in CR-PNP-2016 02058. Specifically, Entergy inappropriately limited their corrective actions to those procedures that increased integrated risk above normal, and did not include other types of safety related procedures that did not meet their procedure quality standards and resulted in procedure quality being a problem area. Entergy entered this issue into their corrective action program for further evaluation as CR-PNP-2017-00400.

The performance deficiency was more than minor because it affected the procedure quality attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Entergy limited corrective actions to procedures that increased integrated risk above normal or trip sensitive and failed to include other procedures associated with safety related components that reflected the broader population reviewed during the collective evaluation. The NRC team evaluated the finding using Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," and determined this finding did not affect the design or qualification of a mitigating structure, system, or component; represent a loss of system and/or function; involve an actual loss of function of at least a single train or two separate safety systems for greater



than its technical specification-allowed outage time; or represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant. Therefore, the NRC team determined the finding was of very low safety significance (Green). The NRC team determined that this finding had a cross-cutting aspect related to Human Performance, Resources, because the leaders failed to ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety. Specifically, based on available resources, Entergy chose to limit the scope of safety related procedures being revised to only those that resulted in high integrated risk or were trip sensitive.

Inspection Report# : 2016011 (*pdf*)

**Significance:**  Mar 12, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Promptly Correct a Condition Adverse to Quality for the Residual Heat Removal System**

The NRC team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy did not take timely corrective action for a previously identified condition adverse to quality. Specifically, Entergy failed to adequately resolve, through repair or adequate evaluation, gasket leakage on the 'B' residual heat removal heat exchanger, which resulted in continued degradation and leakage for the heat exchanger gasket. Entergy did not consider this leakage as a degraded condition, with the potential to impact both the operability of the residual heat removal system, and PNPS's licensing basis with regards to leakage of a closed loop system outside of containment. After the NRC team raised the issue, Entergy performed an operability determination that established a reasonable expectation of operability pending implementation of corrective actions. Entergy entered this issue into their corrective action program as CR-PNP-2016-09725.

The performance deficiency was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to correct identified gasket leakage resulted in continued degradation and leakage of the heat exchanger gasket. The NRC team evaluated the finding using Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," and determined this finding did not affect the design or qualification of a mitigating structure, system, or component; represent a loss of system and/or function; involve an actual loss of function of at least a single train or two separate safety systems for greater than its technical specification-allowed outage time; or represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant. Therefore, the NRC team determined the finding was of very low safety significance (Green). The finding had a cross-cutting aspect in Human Performance, Conservative Bias, because Entergy failed to use decision making practices that emphasize prudent choices over those that are simply allowable.

Inspection Report# : 2016011 (*pdf*)

**Significance:**  Mar 12, 2017

Identified By: NRC

Item Type: FIN Finding

**Failure to Adequately Develop and Implement Targeted Performance Improvement Plans**

The NRC team identified a Green finding because Entergy did not adequately develop and implement a CAPR of a root cause related to a Category 'A' CR, as required by Entergy Procedure EN-LI-102, "Corrective Action Program." Specifically, Entergy did not adequately develop and implement the Targeted Performance Improvement Plans, which were designated as a CAPR for the root cause for the Nuclear Safety Culture Fundamental Problem. Entergy documented this issue in the corrective action program for further evaluation as CR-PNP-2017-00406.

The performance deficiency was more than minor because if left uncorrected, it could lead to a more significant safety

concern. Specifically, inadequate implementation of the Targeted Performance Improvement Plans could result in recurrence of a culture in which leaders are not holding themselves and their subordinates accountable to high standards of performance, resulting in continuing performance issues at the station. The NRC team evaluated the finding using Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," and determined this finding did not affect the design or qualification of a mitigating structure, system, or component; represent a loss of system and/or function; involve an actual loss of function of at least a single train or two separate safety systems for greater than its technical specification-allowed outage time; or represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant. Therefore, the NRC team determined the finding was of very low safety significance (Green). This finding had a cross-cutting aspect in the area of Human Resources, Change Management, because leaders did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. In this case, PNPS leaders did not apply sufficient rigor in development and implementation of the Targeted Performance Improvement Plans such that they would be an adequate method to drive and sustain positive changes in the station's safety culture.

Inspection Report# : 2016011 (*pdf*)

**Significance:** N/A Mar 12, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Report Condition Prohibited by Technical Specifications and a Safety System Functional Failure**

The NRC team identified a Severity Level IV non-cited violation of 10 CFR 50.73, "Licensee Event Report System," associated with Entergy's failure to submit a licensee event report within 60 days following discovery of an event meeting the reportability criteria. Specifically, on September 28, 2016, Entergy identified the 'A' emergency diesel generator was inoperable. The NRC team determined that the condition was prohibited by technical specifications and the inoperability of the 'A' emergency diesel generator existed for a period of time longer than allowed by Technical Specification 3.5.F, "Core and Containment Cooling Systems." This was also reportable as a safety system functional failure. Entergy entered this issue into the corrective action program as CR-PNP-2016-09552.

Because this performance deficiency had the potential to impact the NRC's ability to perform its regulatory function, the NRC team evaluated the performance deficiency using traditional enforcement. The violation was evaluated using Section 2.3.11 of the NRC Enforcement Policy, because the failure to submit a required licensee event report may impact the ability of the NRC to perform its regulatory oversight function. In accordance with Section 6.9.d, Example 9, of the NRC Enforcement Policy, this violation was determined to be a Severity Level IV non-cited violation.

Because this violation involves the traditional enforcement process and does not have an underlying technical violation, the NRC team did not assign a cross-cutting aspect to this violation, in accordance with IMC 0612, Appendix B.

Inspection Report# : 2016011 (*pdf*)

**Significance:**  Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Promptly Perform an Operability Evaluation for a Recirculation Flow Converter**

The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Entergy did not perform a prompt operability determination and adequately evaluate the operability of a recirculation flow converter in a timely manner in accordance with procedure EN-OP-104, "Operability Determination Process." As a result, Entergy allowed this flow converter to remain in service, without reasonable assurance of its capability to perform its required safety function, from the time the adverse condition was discovered on October 3, 2016, until the component was declared inoperable and replaced on October 21, 2016. Entergy entered the initial equipment failure into the CAP as CR 2016-07622 and

CR 2017-0854. Entergy took corrective actions to replace the inoperable flow converter.

The inspectors determined that this performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and it adversely affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The issue is also similar to the more than minor example in IMC 0612, Appendix E, "Examples of Minor Issues," issued August 11, 2009, Example 3j because the flow converter's capability to perform its required safety function could not be reasonably assured. The inspectors screened this finding in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," and determined that this finding was of very low safety significance (Green) because the finding affected a single reactor protection system (RPS) trip signal to initiate a reactor scram, but did not affect the function of other redundant trips or diverse methods of reactor shutdown, did not involve control manipulations that unintentionally added positive reactivity, and did not result in a mismanagement of reactivity by operator. The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance, Conservative Bias, because Entergy did not use decision making-practices that emphasize prudent choices over those that are simply allowable. Specifically, Entergy did not take a conservative approach in making the decision to keep the 'A' recirculation flow converter in service when available information regarding its operability was incomplete. Operators continued to act based on the assumption that the flow converter would remain operable, without reasonable assurance. Management did not adequately prioritize the completion of the operability evaluation for this safety-related component. Instead, the completion of the evaluation was delayed due to a heavy workload on the available staff who were qualified to provide the necessary input.

Inspection Report# : 2016004 (*pdf*)

**Significance:** G Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

#### **Ineffective Corrective Actions to Correct High Pressure Coolant Injection System Vibrations**

A self-revealing Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified in that Entergy did not identify and correct a condition adverse to quality related to high pressure coolant injection (HPCI) pump degraded performance, as required by EN-LI-102, "Corrective Action Program." EN-LI-102, requires, in part, that "individuals closing corrective actions verify that the required action has been taken ensuring that the response is adequate, answers all aspects of the assigned action, and the intent of the action is met." Specifically, vibrations on the HPCI main pump to speed reducer coupling were not addressed during HPCI system maintenance, despite a degrading trend starting May 21, 2015. This led to the HPCI system being declared inoperable on November 7, 2016, after vibration levels exceeded the in-service testing (IST) action range threshold. Entergy's corrective actions included modeling vibrations of the HPCI system during operation and installing a stiffening plate on the HPCI pump support pedestal in order to dampen vibrations associated with the system. Entergy has entered this into their CAP as CR 2016-8657.

The inspectors determined that this performance deficiency was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage.) Specifically, Entergy did not address the increase in HPCI pump vibrations from May 21, 2015, to November 7, 2016, when the vibrations increased into the IST Action range and resulted in pump inoperability. In accordance with IMC 0609.04, "Initial Characterization of Findings," issued October 7, 2016, and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) because the finding did not affect the design or qualification of a mitigating structure, system, or component (SSC), represent a loss of system and/or

function, involve an actual loss of a function of at least a single train or two separate safety systems for a greater time than allowed by technical specifications (TS), or represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program. The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance, Design Margins, in that the organization operates and maintains equipment within design margins, and margins are carefully guarded and changed only through a systematic and rigorous process. Specifically, Entergy did not demonstrate that the work process supports nuclear safety and maintenance of design margins by minimizing long-standing equipment issues, preventive maintenance (PM) deferrals, and maintenance and engineering backlogs. Entergy's failure to effectively manage design margins regarding HPCI system vibrations led to a continuing degradation of the system, and the eventual need to declare the HPCI system inoperable on November 7, 2016.

Inspection Report# : 2016004 (*pdf*)

**Significance:** **G** Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Properly Assess and Manage Risk Associated with Shutdown Transformer Protective Relay Testing**

The inspectors identified a Green NCV of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for Entergy's failure to properly assess and manage the increase in risk due to performing protective relay calibration and functional testing associated with the shutdown transformer (SDT) on seven occasions from December 9, 2005, through August 27, 2014. Specifically, Entergy did not identify that the performance of calibration and functional testing of protective relays associated with the SDT would prevent the 4160V safety buses from being automatically powered by other required sources, and consequently, did not properly assess and manage the increase in risk. Entergy's corrective action requires the unit to be in an outage to perform the tests. Entergy entered the issue into the CAP under CR 2017-0856.

The inspectors determined that this performance deficiency was more than minor because it is associated with the configuration 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. Additionally, the finding was similar to Example 7e of NRC IMC 0612, Appendix E, "Examples of Minor Issues," in that the overall elevated plant risk would have put the plant into a higher licensee-established risk category and would have required additional risk mitigating actions (RMAs). The inspectors evaluated the finding using the Significance Determination Process, Attachment 0609.04, "Initial Characterization of Findings," issued October 7, 2016. Because the finding involved a maintenance rule risk assessment, it was screened through IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," issued May 19, 2005. The finding screened as very low safety significance (Green) using Flowchart 1 of Appendix K because the incremental core damage probability deficit (ICDPD) was determined to be greater than 1E-6 and less than 1E-5, and three or more RMAs were taken. The inspectors concluded this finding had 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 issues, and inherent risk, even while expecting successful outcomes. Specifically, the unavailability of the startup transformer (SUT) and emergency diesel generators (EDGs) during portions of testing was a latent issue that Entergy did not identify, and the associated increase in risk was not assessed and managed.

Inspection Report# : 2016004 (*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.

Update: Discussed in IP 95003 Report - Item was not closed out due to the NRC team identifying the collective issues associated with the root cause methodologies as a significant weakness, such that the objectives of IP 95001 (for closing out the specific White Finding) could not be satisfied. The IP 95001 was performed in conjunction with the team IP 95003. (IR# 05000293/2016011 dated May 10, 2017)

Inspection Report# : 2015007 (*pdf*)

Inspection Report# : 2015011 (*pdf*)

Inspection Report# : 2016011 (*pdf*)

## Barrier Integrity

**Significance:**  Jun 30, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

### Secondary Containment Testing not Performed per Technical Specifications

An NRC-identified Green NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," and TS 4.7.C, "Containment Systems - Secondary Containment," was identified when Entergy performed a surveillance test requiring a refueling outage while online. Specifically, Entergy performed Procedure 8.7.3, "Secondary Containment Leak Rate Test," TS Surveillance Requirement (SR) 4.7.C from February 27, 1997, to April 5, 2017. As corrective actions, Entergy re-performed the test during the April 2017 refueling outage prior to refueling. This issue was entered into the CAP as CR 2017-2900.

The performance deficiency is more than minor because it is associated with the configuration control attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protects the public from radionuclide releases caused by accidents or events. Specifically, Entergy intentionally removed the safety function of standby gas and secondary containment for operational convenience and did not comply with the requirements of TS SR 4.7.C which requires the test to be performed during a refueling outage before refueling. In accordance with IMC 0609.04, "Initial Characterization of Findings," issued October 7, 2016, and Exhibit 3 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green), because the finding only represented a degradation of the radiological barrier function provided for the SBGTS. The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance - Conservative Bias, in that Entergy personnel did not use decision making-practices that emphasize prudent choices over those that are simply allowable. Specifically, operators did not refer to the TSs to understand the required conditions for a secondary containment surveillance test. Operators followed an inadequate site procedure for the plant conditions at the time and did not question why removal of a safety function for operational convenience was acceptable.

Inspection Report# : 2017002 (*pdf*)

**Significance:**  Jun 30, 2017

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### Damper Failure Causes Loss of Secondary Containment

A self-revealing Green NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and TS 3.7.C.2, "Containment Systems - Secondary Containment," was identified because Entergy did not establish an appropriate interval to overhaul the secondary containment isolation dampers. As a result, the refueling floor supply isolation dampers were operated beyond the recommended overhaul interval and subsequently failed. Entergy's corrective actions included cleaning, lubricating, and post-work testing the failed refueling floor supply isolation dampers. This issue was entered into the CAP as CR 2017-0494.

The performance deficiency is more than minor because it is associated with the SSC and barrier performance attribute

of the Barrier Integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents or events. Specifically, Entergy's preventative maintenance (PM) for the refueling floor supply isolation dampers was inadequate to ensure the availability and reliability of SSC's required to maintain secondary containment operable. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 3 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 only represented a degradation of the radiological barrier function provided by the reactor building and standby gas treatment system (SBGTS). The finding has a cross-cutting aspect in the area of Problem Identification and Resolution - Resolution, in that Entergy personnel did not take effective corrective actions to address issues in a timely manner. Specifically, in 2016, Entergy personnel identified there were deficiencies in the PM program with technical justifications for deferring PMs. Entergy reasonably had the opportunity to identify which PMs were not performed within recommended guidelines and make appropriate changes as needed.

Inspection Report# : 2017002 (*pdf*)

**Significance:**  Mar 31, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Untimely Corrective Actions Associated with Boraflex Degradation in the Spent Fuel Pool**

The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," when Entergy did not take timely corrective action to correct a condition adverse to quality. Specifically, when BADGER testing results revealed gaps in neutron absorber material that exceeded spent fuel storage design feature assumptions and therefore did not ensure compliance with TSs, the station did not establish corrective actions to ensure configurations and limitations would meet subcriticality analysis beyond September 2017. Entergy entered this into the CAP as CR 2017-1650 and is performing a root cause evaluation to evaluate options and establish corrective actions to ensure compliance is met beyond this timeframe.

The performance deficiency was more than minor because it was associated with the Barrier Integrity cornerstone attribute of configuration control (reactivity control) and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 3 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 finding did not adversely affect any of the barrier integrity screening questions. The inspectors determined this finding had a cross-cutting aspect in Problem Identification and Resolution, Evaluation, because the organization did not thoroughly evaluate issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. Specifically, the casual evaluation written to address the boraflex degradation was focused on restoring compliance and correcting immediate condition, and did not include longer term corrective actions to mitigate the likelihood of recurrence.

Inspection Report# : 2017001 (*pdf*)

**Significance:**  Mar 12, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Ineffective Corrective Actions to Address Conditions Adverse to Quality Regarding Components in Contact with or Close Proximity to the Drywell Liner**

The NRC team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," associated with Entergy's failure to correct a condition adverse to quality affecting safety-related equipment.

Specifically, during a previous NRC inspection in August 2016, inspectors identified numerous locations in the drywell where non-seismic equipment was either in contact, or close proximity, with the drywell liner and had caused damage. Entergy initiated CRs and performed an operability evaluation for the identified issues. However, following a review of these CRs, the NRC team determined that Entergy failed to take corrective actions to address the condition adverse to quality. Entergy entered this issue into the corrective action program as CR-PNP-2016-09346 and CR-PNP-2016-09377 to perform an extent of condition review, secure the loose grating that had caused damage to the liner, and evaluate the need for a clearance criteria between components such as floor grating and support structures and the containment liner.

The performance deficiency was more than minor because it was associated with the configuration control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 3, "Barrier Integrity Screening Questions," the NRC team determined that this finding was of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment (valves, airlocks, etc.), containment isolation system (logic and instrumentation), and heat removal components. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because the engineering evaluation of the degraded condition identified by the inspectors did not thoroughly evaluate the containment liner issues to ensure that resolutions address causes and extents of condition commensurate with their safety significance.

Inspection Report# : 2016011 (*pdf*)

**Significance:**  Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

**Failure to Correct a Condition Adverse to Quality Associated with Main Steam Isolation Valve**

A self-revealing Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified in that Entergy did not promptly correct a condition adverse to quality associated with the operability of a MSIV. Specifically, Entergy did not take timely corrective actions to inspect and remove debris from air tubing that supplied air to a valve actuator after the associated MSIV failed a surveillance test on March 29, 2016. This uncorrected condition subsequently led to a repeat failure of the valve on August 16, 2016. Entergy entered these issues into their CAP as CR 2016 2250 and CR 2016 5987 and developed corrective actions to revise associated procedures as needed, replaced the affected MSIV air pack manifold, cleared loose debris from the affected air tubing, and scheduled the replacement of affected air tubing during the next refueling outage.

The inspectors determined that this performance deficiency was more than minor because it was associated with the barrier performance attribute of the Barrier Integrity cornerstone and it adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, when MSIV-1C failed to meet its surveillance requirements on March 29, 2016, Entergy did not take corrective actions necessary to adequately identify and resolve the underlying issue of system debris being present in air tubing, which affected the valve actuator and caused a slow closing time for the valve. This inaction led to continued valve inoperability, for a duration greater than that allowed by TS, which presented itself during a subsequent operability test on August 16, 2016. The inspectors screened this finding in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power;" using Exhibit 3, "Barrier Integrity Screening Questions." The inspectors determined that this finding was of very low safety significance (Green) because the finding did not involve an actual open pathway in the physical integrity of reactor containment or involve an actual reduction in function of hydrogen igniters in the reactor containment. The inspectors determined that this issue had a cross-cutting aspect in the area of Human Performance,



Conservative Bias, because Entergy did not use decision-making practices that emphasize prudent choices over those that were simply allowable. Specifically, when the MSIV initially failed its surveillance in March 2016, Entergy did not take a conservative approach in their operability determination and immediate response to the issue. This was demonstrated by the fact that, following the March 2016 valve failure, when a cause evaluation identified the likelihood of debris in air tubing affecting valve operability, individuals rationalized that the degraded condition had been resolved on its own and would not recur. Entergy acted on this assumption, rather than making the conservative determination that the effect of present debris could impact continued operability in an unpredictable manner, as it did during the subsequent failed surveillance test in August 2016.

Inspection Report# : 2016004 (*pdf*)

## **Emergency Preparedness**

## **Occupational Radiation Safety**

## **Public Radiation Safety**

## **Security**

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

## **Miscellaneous**

Current data as of : November 29, 2017

*Page Last Reviewed/Updated Monday, November 06, 2017*