



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

October 1, 2015

Mr. John Dent
Site Vice President
Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360-5508

SUBJECT: PILGRIM NUCLEAR POWER STATION – PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT AND NOTICES OF VIOLATION
05000293/2015010

Dear Mr. Dent:

On August 20, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Pilgrim Nuclear Power Station (Pilgrim). The enclosed report documents the inspection results, which were discussed on August 20, 2015, with you and other members of your staff.

NRC inspectors examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the samples selected for review, the inspectors concluded that Entergy Nuclear Operations, Inc., (Entergy's) implementation of the corrective action program and overall performance related to evaluating and resolving problems was marginally effective. In most cases, Entergy identified issues and entered them into the corrective action program at a low threshold. However, Entergy did not consistently prioritize, evaluate, and implement corrective actions to resolve problems in a timely manner, commensurate with the safety significance of the issues.

In addition to implementation of the corrective action program, the inspectors also reviewed Entergy's use of operating experience, conduct of self-assessments, and safety conscious work environment at the station. Based on the samples selected for review, the inspectors did not identify any issues with Entergy's use of industry operating experience at Pilgrim. The inspectors concluded that the self-assessments reviewed were generally effective in identifying issues and improvement opportunities. Finally, the inspectors found no evidence of significant challenges to Pilgrim's safety conscious work environment. Based on the inspectors' observations, Pilgrim staff are willing to raise nuclear safety concerns through at least one of the several means available.

Enclosures 3 and 4 contain Sensitive Unclassified Non-Safeguards Information. When separated from Enclosures 3 and 4, the transmittal document is DECONTROLLED.

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Two violations of very low safety significance (Green) are cited in the enclosed Notices of Violation (Notices). The details of the first violation are documented in Enclosures 1 and 2. The second violation contains security-related information and is documented in Enclosures 3 and 4. The NRC evaluated both of these violations in accordance with the NRC Enforcement Policy, located on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The NRC is citing both of these violations because all of the criteria specified in Section 2.3.2.a of the NRC Enforcement Policy for a non-cited violation were not satisfied. Specifically, Entergy did not restore compliance within a reasonable amount of time after the NRC first issued these violations in Inspection Report 05000293/2013008, issued November 20, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13326A072).

You are required to respond to this letter and should follow the instructions specified in the enclosed Notices when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in response to the Notices. The NRC review of your response to the Notices will also determine whether enforcement action is necessary to ensure compliance with regulatory requirements.

The inspectors determined that the security-related cited violation had a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because Entergy did not thoroughly evaluate the issue to ensure that resolutions addressed causes and extent of condition, commensurate with the significance of the issue [P.2]. Also, the deficiency described in this cited violation was corrected or compensated for, and the plant was in compliance with applicable physical protection and security requirements within the scope of this inspection before inspectors left the site.

This report also documents two findings of very low safety significance (Green). The inspectors determined that each of these findings also involved a violation of NRC requirements. However, because of the very low safety significance, and because they were entered into your corrective action program, the NRC is treating these findings as non-cited violations, consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the non-cited violations in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Pilgrim. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at Pilgrim.

In accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

However, the material enclosed herewith contains security-related information in accordance with 10 CFR 2.390(d)(1), and its disclosure to unauthorized individuals could present a security vulnerability. Therefore, the material in Enclosures 3 and 4 will not be made available

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electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. If you choose to provide a response, and security-related information is necessary to provide an acceptable response, please mark your entire response "Security-Related Information – Withhold from Public Disclosure under 10 CFR 2.390" in accordance with 10 CFR 2.390(d)(1), and follow instructions for withholding in 10 CFR 2.390(b)(1). In accordance with 10 CFR 2.390(b)(1)(ii), the NRC is waiving the affidavit requirements for your response.

Sincerely,

/RA/

Raymond R. McKinley, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket No. 50-293
License No. DPR-35

Enclosures:

1. (Public) Notice of Violation
2. (Public) Inspection Report 05000293/2015010
w/Attachment: Supplementary Information
3. (Non-Public) Notice of Violation
(CONTAINS OFFICIAL USE ONLY – SECURITY-RELATED INFORMATION (OUO-SRI))
4. (Non-Public) Inspection Report 05000293/2015010
w/Attachment: Supplementary Information
(CONTAINS OFFICIAL USE ONLY – SECURITY-RELATED INFORMATION (OUO-SRI))

cc w/encl 1, encl 2; w/o encl 3, encl 4; w/o OUO-SRI:
Distribution via ListServ

cc w/encl 1, encl 2, encl 3, encl 4; w/OUO-SRI:
P. Beabout, Protective Services Department Section Manager
J. Giarrusso, SLO, Massachusetts Emergency Management Agency (MEMA)

J. Dent

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/RA/

Raymond R. McKinley, Chief
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Letter to John Dent from Raymond R. McKinley dated October 1, 2015

SUBJECT: PILGRIM NUCLEAR POWER STATION – PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT AND NOTICES OF VIOLATION
05000293/2015010

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NOTICE OF VIOLATION

Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station

Docket No. 50-293
License No. DPR-35

During an NRC inspection conducted from August 3 through August 20, 2015, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 50.54(q)(2) requires, in part, that a holder of a nuclear power reactor operating license shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E to this part, and the planning standards of 10 CFR 50.47(b).

10 CFR 50.47(b)(8) requires, in part, that adequate equipment to support the emergency response are provided and maintained.

The Pilgrim Nuclear Power Station (Pilgrim) Emergency Plan states, in part, that Pilgrim has two meteorological towers, a 220' primary and a 160' back-up, equipped with instrumentation for continuous reading of the wind speed, wind direction, air temperature, and delta air temperature.

Contrary to the above, since December 2011, Entergy Nuclear Operations, Inc. (Entergy) did not follow and maintain the effectiveness of the Pilgrim Emergency Plan to meet the requirement that adequate equipment to support the emergency response was provided and maintained. 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.

This violation is associated with a Green Significance Determination Process finding.

Pursuant to the provisions of 10 CFR 2.201, Entergy Nuclear Operations, Inc. (Entergy) is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the Pilgrim Nuclear Power Station, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Enclosure 1

If you contest this enforcement action, you should provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases of your claim of withholding (e.g., explain why the disclosure of information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 1st day of October, 2015.

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-293

License No. DPR-35

Report No. 05000293/2015010

Licensee: Entergy Nuclear Operations, Inc. (Entergy)

Facility: Pilgrim Nuclear Power Station

Location: 600 Rocky Hill Road
Plymouth, MA 02360

Dates: August 3 – 20, 2015

Team Leader: C. Bickett, Senior Project Engineer, Region I

Inspectors: D. Caron, Senior Security Inspector, Region I
E. Knutson, Senior Resident Inspector, FitzPatrick
B. Scrabeck, Resident Inspector, Pilgrim
R. Taylor, Senior Project Inspector, Region II

Approved By: Raymond R. McKinley, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Enclosure 2

SUMMARY

IR 05000293/2015010; 08/03/2015 – 08/20/2015; Pilgrim Nuclear Power Station (Pilgrim); Biennial Baseline Inspection of Problem Identification and Resolution. The inspectors identified one finding in the area of problem identification, one finding in the area of problem evaluation, and two findings in the area of problem resolution.

This U.S. Nuclear Regulatory Commission (NRC) team inspection was performed by three regional inspectors, including an inspector from Region II, one senior resident inspector, and one resident inspector. During this inspection, the inspectors identified four findings of very low safety significance (Green). Two of these findings were classified as cited violations because Entergy did not restore compliance within a reasonable amount of time after the NRC initially identified the violations. The other two findings were classified as non-cited violations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Problem Identification and Resolution

Based on the samples selected for review, the inspectors concluded that Entergy was generally effective at identifying issues and entering them into the corrective action program at a low threshold. However, the inspectors noted several examples where Entergy missed identification of conditions adverse to quality throughout the two-year period since the last problem identification and resolution inspection in October 2013. Additionally, the inspectors identified one violation related to an inadequate compensatory measure that resulted from Entergy not identifying an adverse condition in the corrective action program for resolution.

Though Entergy's identification of issues was generally effective, the inspectors determined that Entergy's implementation of the corrective action program related to evaluating and resolving problems was marginally effective. Entergy did not consistently prioritize, evaluate, and implement corrective actions to resolve problems in a timely manner, commensurate with the safety significance of the issues. The inspectors identified one violation related to inadequate procedures, and two cited violations because Entergy did not restore compliance within a reasonable amount of time after the NRC issued the original violations in November 2013. Additionally, the inspectors noted multiple examples of deficiencies related to evaluation and resolution of issues throughout the two-year inspection period. Also of note, Pilgrim's self-assessment of the corrective action program performed in preparation for this inspection determined that the effectiveness of both causal analyses and resolution of issues in a thorough and timely manner were unsatisfactory.

The inspectors determined that in general, Entergy appropriately considered industry operating experience information for applicability, and used the information for corrective and preventive actions to identify and prevent similar issues when appropriate. The inspectors concluded that the self-assessments reviewed were generally thorough and effective in identifying issues and improvement opportunities.

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

Cornerstone: Initiating Events

- Green. 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." Corrective actions include, in part, for Entergy engineers to establish operational limits for the offgas system, to include the factors of reactor power, air in-leakage, sea water system alignment, status of the augmented offgas system, status of the main turbine, and sea water inlet temperature, and to incorporate these limitations into site procedures. 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. Additionally, this performance deficiency is similar to example 4.b in IMC 0612, Appendix E, "Examples of Minor Issues," in that it contributed to a reactor trip. 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] (Section 40A2.c.(1))

Cornerstone: Emergency Preparedness

- Green. The inspectors identified a Green cited violation of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 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] (Section 40A2.c.(2))

- Green. 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 (program elements not meeting 50.47(b) planning standards) 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, Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process." Using Figure 5.4-1, "Significance Determination for Ineffective EALs and Overclassification," and the example in Table 5.4-1, the inspectors 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] (Section 4OA2.c.(3))

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution (71152B)

This inspection constitutes one biennial sample of problem identification and resolution as defined by Inspection Procedure 71152. All documents reviewed during this inspection are listed in the Attachment to this report.

.1 Assessment of Corrective Action Program Effectiveness

a. Inspection Scope

The inspectors reviewed the procedures that described Entergy's corrective action program at Pilgrim. To assess the effectiveness of the corrective action program, the inspectors reviewed performance in three primary areas: problem identification, prioritization and evaluation of issues, and corrective action implementation. The inspectors compared performance in these areas to the requirements and standards contained in 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," 10 CFR 73.55(b)(10), and Entergy procedure EN-LI-102, "Corrective Action Program," Revision 24. For each of these areas, the inspectors considered risk insights from the station's risk analysis and reviewed condition reports selected across the seven cornerstones of safety in the NRC's Reactor Oversight Process. Included in this sample were condition reports that documented Entergy's evaluation and corrective actions for a selective sample of non-cited violations and findings that had been identified since the last biennial problem identification and resolution inspection completed in October 2013. Additionally, the inspectors observed Operational Focus, Condition Report Screening Committee, Condition Review Group, and Corrective Action Review Board meetings. Finally, the inspectors reviewed corrective action program insights from NRC inspection reports issued since the last biennial problem identification and resolution inspection (period of review: October 2013 through August 2015). The inspectors selected items from the following functional areas for review: engineering, operations, maintenance, emergency preparedness, radiation protection, chemistry, physical security, and oversight programs.

(1) Effectiveness of Problem Identification

In addition to the items described above, the inspectors reviewed system health reports, a sample of completed corrective and preventative maintenance work orders, completed surveillance test procedures, operator logs, and department performance review meeting reports. The inspectors also completed field walkdowns of various areas and systems on site, including the salt service water system, main control room, and central alarm station. Additionally, the inspectors reviewed a sample of condition reports written to document issues identified through internal self-assessments, audits, emergency preparedness drills, and the operating experience program. The inspectors completed this review to verify that Entergy entered conditions adverse to quality into their corrective action program as appropriate.

(2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors reviewed the evaluation and prioritization of a sample of condition reports issued since the last NRC biennial problem identification and resolution inspection, completed in October 2013. The inspectors also reviewed condition reports that were assigned lower levels of significance that did not include formal cause evaluations to ensure that they were properly classified. The inspectors' review included the appropriateness of the assigned significance, the scope and depth of the causal analysis, and the timeliness of resolution. The inspectors assessed whether the evaluations identified likely causes for the issues and developed appropriate corrective actions to address the identified causes. Further, the inspectors reviewed equipment operability determinations, reportability assessments, and extent-of-condition reviews for selected problems to verify these processes adequately addressed equipment operability, reporting of issues to the NRC, and the extent of the issues.

(3) Effectiveness of Corrective Actions

The inspectors reviewed Entergy's completed corrective actions through documentation review and, in some cases, field walkdowns to determine whether the actions addressed the identified causes of the problems. The inspectors also reviewed condition reports for adverse trends and repetitive problems to determine whether corrective actions were effective in addressing the broader issues. The inspectors reviewed Entergy's timeliness in implementing corrective actions and effectiveness in precluding recurrence for significant conditions adverse to quality. The inspectors also reviewed a sample of condition reports associated with selected non-cited violations and findings to verify that Entergy personnel properly evaluated and resolved these issues. In addition, the inspectors expanded the corrective action review to five years to evaluate Entergy's corrective actions related to salt service water system deficiencies.

b. Assessment

(1) Effectiveness of Problem Identification

Based on the selected samples, plant walkdowns, and interviews of site personnel in multiple functional areas, the inspectors concluded that Entergy generally identified issues and entered them into the corrective action program at a low threshold. However, the inspectors identified one violation, discussed in Section 4OA2.1.c.(3), in this area. Additionally, the inspectors noted several examples where Entergy missed identification of conditions adverse to quality throughout the period of review for this inspection (October 2013 through August 2015).

(a) Inspection Observations

Weaknesses in Corrective Action Program Oversight

Entergy procedure EN-LI-102, "Corrective Action Program," Revision 24, allows the station to close condition reports and corrective actions to work orders, provided certain criteria are met, as described in Attachment 9.6 to this procedure. EN-LI-102, Section 5.9, "Program Oversight," states that the production department will periodically, typically at least monthly, report to the Condition Review Group the status of work orders with condition reports and corrective actions closed to them.

The focus of this report should be the monitoring for timely resolution for those work orders per Entergy procedure EN-WM-100, “Work Request Generation, Screening, and Classification.” The inspectors identified that the Condition Review Group has not reviewed this information since prior to February 2015.

The inspectors independently screened this issue in accordance with IMC 0612, Appendix B, “Issue Screening,” and IMC 0612, Appendix E, “Examples of Minor Issues,” and determined that this issue was minor. Specifically, inspectors reviewed a sample of work orders that had condition reports or corrective actions closed to them and did not identify any that were categorized improperly or affected the operability of a safety-related system. Entergy documented this issue in their corrective action program as condition reports CR-PNP-2015-06926 and CR-PNP-2015-06939. The Condition Review Group meeting agenda has been updated to ensure that this information is reviewed on a monthly basis.

(b) Inspection Period Observations

The NRC has previously documented specific examples of weaknesses in identification of conditions adverse to quality over the period of review for this inspection. This includes:

- In NRC Inspection Report 2015001, the inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XI, “Test Control,” because Entergy did not establish requirements in accordance with their test program for safety-related 4160V degraded voltage relays. Entergy had multiple opportunities to identify that undervoltage dropout settings for relays 127-509/1 and 2 were not being tested during establishment of the test setup or through periodic trending against similar relays in other systems. (NCV 2015001-01)
- In NRC Inspection Report 2015007, the inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” because Entergy did not identify and correct a condition adverse to quality associated with the partial voiding of the ‘A’ core spray discharge header on January 27, 2015, following the loss of the keepfill system due to a loss of offsite power. (NCV 2015007-05)
- In NRC Inspection Report 2015002, the inspectors identified a Green non-cited violation 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 radioactive material in quantities of concern to a waste processor without adhering to a transportation security plan. The security transportation plan requirements became effective in March 2003, but had not been effectively identified by Entergy. (NCV 2015002-04)

(2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors determined that Entergy’s implementation of the corrective action program related to prioritization and evaluation of issues was marginally effective. The inspectors identified one self-revealing finding in this area related to inadequate

procedures for operation of the condensate system and plant start-up that resulted in a reactor scram (Section 4OA2.c.(1)). The inspectors also determined that there were weaknesses in functionality determinations performed by operations, and noted that inadequate evaluation of an issue contributed to the violation discussed in Enclosure 4. Additionally, over the two-year period of inspection, the inspectors noted several examples in multiple Reactor Oversight Process cornerstones where Entergy did not properly prioritize and evaluate issues commensurate with the safety significance of the identified problem. Also of note, Pilgrim's self-assessment of the corrective action program performed in preparation for this inspection identified that the effectiveness of causal analyses was unsatisfactory.

(a) Inspection Observations

Weaknesses in Functionality Determinations

Inspectors reviewed various condition reports documenting occasions when the 220' meteorological tower was out of service. Each time the 220' meteorological tower was out of service, the station performed functionality determinations of the emergency plan in accordance with Entergy procedure EN-OP-104, "Operability Determination Process." In multiple cases, the inspectors noted that the functionality determinations for the emergency plan credited the 160' meteorological tower and the National Weather Service as a back-up source of information. Though the National Weather Service was available, the 160' meteorological tower has been out of service since 2011. Pilgrim entered this issue into their corrective action program as condition report CR-PNP-2015-07207. See Section 4OA2.c.(2) for more detail.

(b) Inspection Period Observations

The NRC has previously documented specific examples of ineffective prioritization or evaluation of issues over the period of review for this inspection. This includes:

- In NRC Inspection Report 2013005, the inspectors identified a Green non-cited violation of 10 CFR 50.54(t)(1), "Conditions of Licenses," because Entergy did not provide an adequate justification for exceeding the 12-month interval to perform a review of its emergency preparedness program elements. Entergy did not thoroughly evaluate a similar issue identified in 2009 and did not implement corrective actions to address the issue. (NCV 2013005-01)
- In NRC Inspection Report 2014002, inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," because Entergy did not correctly translate their design basis related to the shutdown transformer into station procedures. This resulted from Entergy not thoroughly evaluating and understanding the results of a calculation that was performed to support the operability of the shutdown transformer. (NCV 2014002-02)
- In NRC Inspection Report 2014008, inspectors identified a Green finding because Entergy did not fully derive the causes of the manual scram on August 22, 2013, following a loss of all feedwater. Entergy focused on the causes related to the modification of the feed pump trips and did not investigate the

causes of a failed cable splice which directly caused an electrical transient that resulted in the automatic tripping of all three reactor feed pumps. (FIN 2014008-01)

- In NRC Inspection Report 2014005, inspectors identified a severity level IV non-cited violation of 10 CFR 50.59, “Changes, Tests, and Experiments,” when Entergy did not perform an adequate 50.59 evaluation and obtain a license amendment prior to implementing a change to the plant that required a change to technical specifications. (NCV 2014005-01)
- In NRC Inspection Report 2015007, the inspectors identified a White violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” because Entergy did not identify, evaluate, and correct the ‘A’ safety relief valve’s failure to open upon manual actuation. Entergy staff did not thoroughly evaluate the operation of the ‘A’ safety relief valve during the February 9, 2015, plant cooldown, and should have reasonably identified that the valve did not open upon three manual actuation demands. (VIO 2015007-02)
- In NRC Inspection Report 2015007, the inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” when Entergy staff performed an inadequate past operability evaluation that assessed performance of the ‘C’ safety relief valve. Specifically, following the January 27, 2015, reactor scram, operators placed an open demand on the ‘C’ safety relief valve twice during post-scram recovery operations, but the valve did not respond as expected and did not perform its pressure reduction function on both occasions. Entergy’s subsequent past operability evaluation for the valve’s operation incorrectly concluded that the valve was fully capable of performing its required functions during its installed service. (NCV 2015007-01)
- In NRC Inspection Report 2015002, inspectors documented a self-revealing Green finding when residual heat removal pump ‘B’ experienced cavitation during refueling outage 20 that was a result of inadequate corrective actions associated with equipment used to determine flow rate. Entergy did not thoroughly evaluate and develop appropriate corrective actions for issues associated with the ultrasonic flow meter in 2011 and 2013 to ensure that the causes were addressed to prevent challenges using this equipment during alternate fuel pool cooling. (FIN 2015002-01)
- In NRC Inspection Report 2015002, inspectors identified a Green non-cited violation of 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 following cylinder head leakage indications during pre-start checks for a planned monthly operability run. 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. (NCV 2015002-02)

(3) Effectiveness of Corrective Actions

The inspectors determined that Entergy's implementation of the corrective action program related to resolution of issues was marginally effective. The inspectors identified two cited violations in this area. Specifically, the inspectors noted that Entergy did not implement timely corrective actions associated with a violation documented in 2013 related to the station's meteorological towers (Section 4OA2.1.c.(2)). The second violation is discussed in Enclosure 4. The inspectors also noted weaknesses in closure of condition reports and corrective actions, as discussed below. Additionally, over the two-year period of inspection, the inspectors noted several examples in multiple Reactor Oversight Process cornerstones where Entergy did not implement corrective actions to resolve adverse conditions in a timely manner, commensurate with the safety significance of the issues. Two of these examples are documented in Enclosure 4. Also of note, Pilgrim's self-assessment of the corrective action program performed in preparation for this inspection determined that the effectiveness of the corrective action program in resolving issues in a timely manner was unsatisfactory.

(a) Inspection Observations

Weaknesses in Corrective Action Closure

The inspectors noted some examples where closure of a condition report or corrective action did not meet the standards described in Entergy procedure EN-LI-102, "Corrective Action Program."

- Inspectors reviewed condition report CR-PNP-2014-02007, which Entergy wrote to address a previous NRC non-cited violation related to an inadequate risk assessment. The inspectors noted that one of the actions, related to conduct of a performance analysis, referenced other corrective actions that were never generated in the condition report. Additionally, the condition report did not contain sufficient documentation to support closure of this action. EN-LI-102, Section 5.6[4] states that with respect to corrective action response, documentation should be attached to provide objective evidence that the action was completed. Though not attached to or documented in the condition report, Entergy performed a training evaluation action request that resulted in completion of a performance analysis and risk assessment training for operations. Entergy documented this issue in condition report CR-PNP-2015-07224.
- Inspectors reviewed corrective actions generated from the problem identification and resolution focused area self-assessment that Entergy performed in preparation for this inspection. Corrective action 13 to the self-assessment (LO-PNPLO-2015-00121), documented a negative observation associated with classification of condition reports as adverse versus non-adverse. The corrective action also stated that this negative observation included a need for a better understanding of corrective action program requirements related to NRC commitments and design and licensing basis commitments. EN-LI-102, Section 5.6[4] states that the corrective action response must address the intent of the action. Inspectors noted that the response to the corrective action only addressed the concern related to understanding of commitments, and did not

address the issues related to classification of condition reports as adverse versus non-adverse. Entergy documented this issue in condition report CR-PNP-2015-07193.

- Inspectors reviewed condition report CR-PNP-2013-06829, corrective action nine, that was written to ensure trees and other vegetation around the 220' meteorological tower were maintained so that instrumentation on the tower was not adversely affected. Through a series of due date extensions and inappropriate closure of this corrective action to other corrective actions, Entergy extended the due date of this action almost a year without following the required process defined in EN-LI-102, Section 5.6[3]. Inspectors also noted a second example similar to this issue where the station closed a condition report to subsequent condition reports without completing the specified action. This example is discussed as part of the cited violation in Enclosure 4.

The inspectors evaluated each of these examples independently in accordance with IMC 0612, Appendix B, "Issue Screening," and determined that these issues were minor. With the exception of the example documented in Enclosure 4, the respective corrective actions are either completed or in progress and being tracked by another condition report.

Corrective Action Implementation Weaknesses in Common Cause Evaluation CR-PNP-2015-00375

Entergy performed a common cause evaluation under condition report CR-PNP-2015-00375 to address the deficiencies that led to failure of the NRC 95002 supplemental inspection and subsequent issuance of two parallel White findings in November 2014. In May 2015, the NRC conducted a 95002 supplemental follow-up inspection which, in part, reviewed this cause evaluation and the status of the associated corrective actions.

During this biennial problem identification and resolution inspection, the inspectors reviewed the status of the corrective actions that were not complete at the time of the NRC 95002 supplemental follow-up inspection. The inspectors noted that Entergy continues to implement the corrective action plan developed as part of CR-PNP-2015-00375. However, the inspectors did note some weaknesses related to certain time-based corrective actions. Entergy procedure EN-LI-102, "Corrective Action Program," Section 5.6[4] states that a corrective action response must not indicate correction or implementation based on future action (a promise). The inspectors identified multiple examples of actions in the corrective action plan that were written such that the action needed to continue under a certain frequency for a certain period of time, but could be closed after completing a fewer number of cycles, with a promise to continue the action through the specified time period. For example, one action stated, "Director Regulatory and Performance Improvement to validate performance shortfalls...are captured during quarterly accountability meetings through June 2015. This action can be signed off once the review has been completed for three quarters, with the understanding that it will continue for one year." The inspectors also noted an example where the plan was worded such that the station would have to "establish and maintain" an action, and the station closed the action even though the "maintain" portion was not complete. In both cases, once

the initial corrective action was closed, there was no follow-up assignment created to ensure that the action would continue for the specified time period. The inspectors evaluated this issue in accordance with IMC 0612, Appendix B, "Issue Screening," and determined that this issue was minor. Though there was no documented corrective action tracking completion through the specified time period, Entergy had not missed completion of any of the actions at the time of this inspection. Entergy entered this issue into their corrective action program as condition report CR-PNP-2015-06937.

(b) Inspection Period Observations

The NRC has previously documented specific examples of ineffective or untimely implementation of corrective actions over the period of review for this inspection. This includes:

- In NRC Inspection Report 2013004, inspectors identified a Green non-cited violation of 10 CFR 50, Criterion XVI, "Corrective Action," because Entergy did not complete a design control review for the station blackout fuel oil transfer system in a timely manner. Specifically, the lack of design control measures when this system was first proposed in 1999 was initially identified in August 2012 and was not corrected as of September 2013. (NCV 2013004-01)
- In NRC Inspection Report 2014008, inspectors identified a Green finding because Entergy did not implement corrective actions in accordance with program requirements which resulted in not identifying and correcting several conditions adverse to quality. This includes examples where Entergy inappropriately cancelled or closed corrective actions, implemented actions that did not meet the intent of the original corrective action written to address the adverse condition, and did not complete effectiveness reviews in accordance with program requirements. (FIN 2014008-02)
- In NRC Inspection Report 2015002, inspectors identified a Green non-cited violation of 10 CFR 20.1406(c) in that Entergy did not conduct operations to minimize the introduction of residual radioactivity on site. Effective corrective actions were not taken to address issues in a timely manner commensurate with their safety significance. (NCV 2015002-03)
- In NRC Inspection Report 2015002, the inspectors documented the results of the semi-annual trend review conducted in accordance with Inspection Procedure 71152, "Problem Identification and Resolution." The review noted that Entergy determined that the largest weaknesses in executing the corrective action program were associated with performing the evaluation and resolution of a condition report, along with the closure process. The inspectors also noted challenges with the corrective action program's ability to address deficiencies in the Beta annunciator system that date back to July 2013.

c. Findings

(1) Inadequate Procedures for Placing the Main Turbine in Service

Introduction. 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."

Description. On May 21, 2015, Pilgrim was starting up following the completion of a refueling outage. During this startup, there were several parameters or system lineups that were out of normal, but permissible by plant operating procedures. First, the observed condenser air in-leakage was higher than normal. Entergy first observed an increase of air in-leakage by approximately 40 – 50 standard cubic feet per minute (scfm), to a new baseline level of approximately 70 scfm on February 8, 2015, during the startup following a forced outage. Entergy observed a corresponding rise in offgas system flowrate, to a value of 200 scfm. At the time of the shutdown for the refueling outage, the source of this air in-leakage had not been located, and therefore, had not been corrected. Subsequently, during the post refueling outage startup on May 22, 2015, Entergy observed offgas system flowrate at a level greater than 200 scfm, which is off of the indicated scale.

Secondly, due to indications of seawater leakage during the startup, only two of the four condenser waterboxes were in service. On May 21, 2015, hotwell conductivity exceeded the action level for increased sampling. When Entergy initially placed the main turbine in service, the condensate pump suction conductivity levels degraded, and operators isolated the affected waterbox and secured the 'B' sea water pump for inspection and repair of any leaks. Upon securing the sea water pump, there was a degradation and subsequent stabilization of condenser hotwell temperature, offgas system flowrate, offgas system temperatures, and condenser vacuum. Operators recognized the degraded conditions and set benchmarks for additional action, but concluded that there was no immediate operational threat.

Additional factors included the lineup of the augmented offgas system and delays in placing the main turbine online. Operators experienced challenges placing the augmented offgas system in service due to high moisture levels in the system. Although the augmented offgas system is not required to be in service during a startup, it does provide certain benefits. With the augmented offgas system in service, operators have the benefit of direct measurements of condenser air-in-leakage, as well as increased air removal capability of the offgas system. The delays in placing the main turbine in service were due to abnormal noise at the generator that was noted on the initial turbine roll at 20:32 on May 21, 2015. The startup was suspended with reactor power maintained at approximately 18 – 20 percent, while the generator noise was investigated and corrected. This caused a delay of approximately nine hours until the main turbine was placed in service at 05:27 on May 22, 2015, during which time the condenser was in a two waterbox lineup, the offgas system was operating at reduced capacity and with high air in-leakage, and steam was entering the condenser directly via the turbine

bypass valves, resulting in a buildup of non-condensable gasses in the upper portions of the condenser air space.

Ultimately, when steam was admitted to the condenser via the main turbines, this large volume of gas was displaced and exhausted to the offgas system, which exceeded that system's capabilities. Upon observing the degrading vacuum, operators entered procedure 2.4.36, "Degrading Condenser Vacuum," and at 07:26, due to continued lowering condenser vacuum, operators tripped the main turbine. Vacuum continued to degrade, and operators reduced power. At 08:21, Entergy determined that a shutdown was required and continued lowering power. Operators realigned the seawater system for three waterbox operation, however this action further overloaded the offgas system, and at 10:02, upon reaching the assigned benchmark of 12 in-Hg condenser vacuum, operators inserted a manual scram and proceeded to place the reactor in a hot shutdown condition. After the scram, and due to the reduced steam input to the main condenser, vacuum stabilized and the main condenser remained available for removal of decay heat.

Entergy performed an evaluation and determined that plant staff did not adequately understand the design limitations of the offgas system, which resulted in allowing a combination of plant conditions to exist that overloaded the system, and resulted in degradation of condenser vacuum, requiring a manual reactor scram. Entergy has entered this issue into the corrective action program as condition report CR-PNP-2015-5197. Corrective actions include, in part, for Entergy engineers to establish operational limits for the offgas system, to include the factors of reactor power, air in-leakage, sea water system alignment, status of the augmented offgas system, status of the main turbine, and sea water inlet temperature, and to incorporate these limitations into site procedures.

Analysis. The inspectors determined that not adequately maintaining Procedures 2.1.1, "Startup from Shutdown," 2.2.93, "Main Condenser Vacuum System," and 2.4.36, "Decreasing Condenser Vacuum," as required by Technical Specification 5.4.1.a, was a performance deficiency that was reasonably within Entergy's ability to foresee and correct, and should have been prevented. Specifically, Entergy did not provide sufficient detail in these procedures resulting in operators not having appropriate guidance to identify and mitigate the key events of May 22, 2015. The 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. Additionally, this performance deficiency is similar to example 4.b in IMC 0612, Appendix E, "Examples of Minor Issues," in that it contributed to a reactor trip. The inspectors evaluated the finding using IMC 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," issued June 19, 2012. 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]

Enforcement. Technical Specification 5.4.1.a requires, in part, that written procedures shall be maintained covering the listed in Appendix A of Regulatory Guide 1.33, Revision 2, dated February 1978, which includes general plant operating procedures for hot standby to minimum load (nuclear startup); turbine startup and synchronization of the generator; startup and changing modes of operation of the turbine generator system; and procedures for combating a loss of condenser vacuum. Contrary to the above, prior to May 22, 2015, Entergy did not adequately maintain these written procedures required by Appendix A of Regulatory Guide 1.33, Revision 2. Specifically, Entergy did not ensure that adequate operational limits were known and understood for the offgas system while placing the main turbine in service during a reactor startup, and did not ensure that such operational limits were incorporated into plant operating procedures 2.1.1, "Startup from Shutdown," 2.2.93, "Main Condenser Vacuum System," and 2.4.36, "Decreasing Condenser Vacuum." Because this issue was of very low safety significance (Green) and has been entered into Entergy's corrective action program as CR-PNP-2015-5197, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC's Enforcement Policy. **(NCV 05000293/2015010-01, Inadequate Procedures for Placing Main Turbine in Service)**

(2) Untimely Actions to Restore Station Meteorological Towers

Introduction. The inspectors identified a Green cited violation of 10 CFR Part 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, on various occasions in 2012 through 2015, Pilgrim did not maintain both meteorological towers as necessary to support emergency response.

Description. Per 10 CFR 50.54(q)(2), licensees are required to follow and maintain the effectiveness of an emergency plan that meets the planning standards of 10 CFR 50.47(b). One of these standards, 10 CFR 50.47(b)(8), requires licensees to provide and maintain adequate equipment to support emergency response. Pilgrim has two meteorological towers onsite, both of which are credited in the Pilgrim's Emergency Plan. The meteorological towers are used to provide data on the wind speed, wind direction, air temperature, and delta air temperature to perform offsite dose assessments during a radiological emergency condition. The 220' meteorological tower provides data remotely, and is the primary source used to gather this data. The 160' meteorological tower is the back-up local data source. The local National Weather Service station is available as an alternate source of data in the event that the meteorological towers are unavailable. However, unlike the meteorological towers, the data provided by the National Weather Service is not specific to Pilgrim, but is derived based on measurements from instruments located in neighboring communities.

In December 2011, Entergy stopped performing preventative maintenance on the 160' meteorological tower. Subsequent to the 160' meteorological tower becoming non-functional, the 220' meteorological tower was out of service from March 18, 2012, through July 19, 2012, due to a broken aspirator fan; February 8, 2013, through March 13, 2013, due to effects from winter storm Nemo, and April 26, 2013, through April 30, 2013, due to power being secured for an outage. During these periods, the 160' and

220' meteorological towers were no longer capable of providing a continuous reading of the parameters mentioned above, and therefore did not have the capability to provide accurate data necessary to perform assessment of offsite dose consequences during a radiological emergency condition, as required by Pilgrim's Emergency Plan. As a result, Entergy was relying on the information from the National Weather Service as an alternate data source.

In November 2013, the inspectors had identified that Entergy did not maintain in effect a provision of its emergency plan. Specifically, emergency equipment needed to support emergency response was not provided when the station cancelled preventative maintenance for the 160' meteorological tower and the 220' meteorological tower was non-functional for extended periods of time. The NRC dispositioned this performance deficiency as a non-cited violation in NRC Inspection Report 2013008. Entergy entered the condition into the corrective action program under condition report CR-PNP-2013-6829. However, the inspectors determined that Entergy's actions to address the adverse condition have not been addressed in a timely manner. In March 2014, Entergy developed initial corrective actions to reinstitute preventive maintenance on the 160' meteorological tower and restore the tower to operation; however, these corrective actions were not implemented. In July 2014, Entergy decided to cease plans to restore the 160' meteorological tower and instead to design and construct a new tower. At the time of this inspection in August 2015, Entergy was in the process of obtaining necessary permits for construction of the new tower.

Due to the delays in both the initiation and the implementation of corrective actions, the condition that was identified by the inspectors in 2013 continues to exist. Moreover, during that time period there have been numerous additional instances where the 220' meteorological tower was non-functional: from January 14, 2015, through January 19, 2015, due to a malfunctioning wind sensor; January 27, 2015, due to effects from winter storm Juno; February 21, 2015, through April 12, 2015, due to a failed differential temperature instrument; May 4, 2015, and May 5, 2015, due to power being secured during an outage; and August 11, 2015, through August 15, 2015, due to malfunctioning wind sensors and the effects of nearby construction activities. During these periods, both the 160' and 220' meteorological towers were no longer capable of providing a continuous reading of the parameters mentioned above, and therefore did not have the capability to provide accurate data necessary to perform assessment of offsite dose consequences during a radiological emergency condition, as required by Pilgrim's Emergency Plan. And again, as a result, Entergy was relying on the information from the National Weather Service as an alternate data source.

Analysis. The inspectors determined that not maintaining the 160' and 220' meteorological towers in accordance with 10 CFR 50.47(b)(8), resulting in both towers being out of service concurrently for eight separate periods between 2012 and 2015, was a performance deficiency that was within Entergy's ability to foresee and correct, and should have been prevented. This performance deficiency 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, issued September 26, 2014, 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 has 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]

Enforcement. 10 CFR 50.54(q)(2) requires, in part, that a holder of a nuclear power reactor operating license shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E to this part, and the planning standards of 10 CFR 50.47(b). 10 CFR 50.47(b)(8) requires, in part, that adequate equipment to support the emergency response are provided and maintained. The Pilgrim Emergency Plan states, in part, that Pilgrim has two meteorological towers, a 220' primary and a 160' back-up, equipped with instrumentation for continuous reading of the wind speed, wind direction, air temperature, and delta air temperature. Contrary to the above, since December 2011, Entergy did not follow and maintain the effectiveness of the Pilgrim Emergency Plan to meet the requirement that adequate equipment to support the emergency response was provided and maintained. 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. The NRC documented a Green non-cited violation related to this issue on November 20, 2013, in NRC Inspection Report 2013008. Because Entergy did not restore compliance at the first opportunity within a reasonable period of time following the issuance of the non-cited violation, this violation is being cited, consistent with NRC Enforcement Policy, Section 2.3.2. A Notice of Violation is attached (Enclosure 1). **(VIO 05000293/2015010-02, Untimely Actions to Restore Station Meteorological Towers)**

(3) Inadequate Guidance and Invalid Compensatory Measures for Out-of-Service Emergency Action Level Instrumentation

Introduction. 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.

Description. The emergency action level declaration conditions for reactor coolant system identified leakage is determined based on the volume of water pumped from the drywell equipment sump. Similarly, the declaration conditions for reactor coolant system unidentified or pressure boundary leakage are determined based on the volume of water pumped from the drywell floor sump. The emergency action level threshold for an Unusual Event (SU6.1) is 10 gallons per minute of unidentified or pressure boundary leakage or 25 gallons per minute identified leakage. Entergy utilizes Emergency Plan Implementing Procedures to provide guidance to operators and emergency response organization members for following and maintaining the planning standard functions in the approved Emergency Plan. Specifically, Entergy developed Emergency Plan Implementing Procedure EP-IP-100.1, “Emergency Action Levels,” to provide guidance to operators for classifying abnormal plant events as well as compensating actions for out-of-service emergency action level equipment.

In the extent of condition review of an apparent cause evaluation for the inadequate compensatory measures identified by the inspectors on January 27, 2015, for the assessment of bay level, Entergy determined that the prescribed compensatory measure for the assessment of reactor coolant system leakage was invalid. Specifically, EP-IP-100.1, Attachment 9.2, “Emergency Action Level Related Equipment,” listed level indicator LI-5008, the primary containment water level indicator, as the alternate source of information. The purpose of LI-5008 is to provide indication of water level in the primary containment in the event that an accident requires the deliberate flooding of the containment. Entergy staff determined that this compensatory measure was inadequate to provide timely assessment of reactor coolant system leak rates.

Although Entergy initially identified this invalid compensatory measure during the apparent cause evaluation, the station did not write a condition report in accordance with EN-LI-118, “Cause Evaluation Process.” Entergy staff chose to correct this issue as part of a longer term procedure revision which called for the development of a larger and more comprehensive procedure governing equipment important to emergency response, which was a corrective action for the inadequate bay level compensatory measures. Since Entergy did not enter the issue regarding the primary containment water level invalid compensatory measure into the corrective action program, the measure remained in place, and no interim guidance was provided to staff in order to assist in more accurate and timely emergency action level assessment until the new procedure governing equipment important to emergency response was issued.

Additionally, during review of procedure EP-IP-100.1, inspectors determined that the specified emergency action level equipment for the assessment of reactor coolant system leakage was incomplete and inaccurate. Specifically, the drywell floor sump pumps are appropriately specified for the assessment of unidentified or pressure boundary leakage, however they were given the incorrect designation of P-306A/B, while the correct designation for this equipment is P-305A/B. Since the procedure listed the correct name of the drywell floor sump pumps, equipment that is routinely used by operators, the inspectors determined that the incorrect component number was a minor editorial error that would not have reasonably interfered with emergency action level assessment. However, in addition, the appropriate equipment for the assessment of identified leakage, drywell equipment sump pumps P-301A/B, was absent from the listing of emergency action level related equipment. Consequently, plant operators were

provided with incomplete guidance in EP-IP-100.1 to aid in the assessment of emergency action level thresholds for reactor coolant system leakage. Moreover, in the event of equipment malfunction or normal maintenance that renders the drywell equipment sump pumps P-301A/B unavailable, Entergy staff did not have clear guidance to inform a determination of a major loss of assessment capability.

The inspectors performed a review of the revision history of EP-IP-100.1, and determined that the invalid compensatory measure has been in place since January 2008, when the procedure was revised to incorporate Attachment 9.2 for the purpose of listing necessary equipment for emergency action level declaration and to provide associated compensatory measures when the equipment is out of service. The inspectors also determined that the incomplete listing of equipment in the same attachment for the assessment of reactor coolant system leakage had been in place since September 2013, when the attachment was revised to replace the generic listing of monitored parameters with more specific references to equipment used in assessment of emergency action level entry conditions. The inspectors reviewed the information being used to develop the proposed equipment important to emergency response procedure, and verified that Entergy identified the incomplete information in the development of the proposed procedure. However, as in the case of the invalid compensatory measure, this newly identified deficiency with the current procedure was not entered into the corrective action program, and therefore, the inadequate guidance for emergency action level assessment was allowed to remain in place with no interim guidance provided to Entergy staff. Entergy has 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 has completed and issued the new procedure governing equipment important to emergency response.

Analysis. The inspectors determined that not maintaining complete procedural guidance or valid compensatory measures for out-of-service emergency action level equipment in accordance with 10 CFR 50.47(b) was a performance deficiency that was within Entergy's ability to foresee and correct and should have been prevented. Specifically, Entergy did not ensure that equipment and the compensatory measure listed in Attachment 9.2 of EP-IP-100.1, "Emergency Action Levels," Revision 11, was adequate to support timely assessment of emergency action level entries. This NRC-identified performance deficiency was more than minor because it was associated with the emergency response organization performance (program elements not meeting 50.47(b) planning standards) 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, Attachment 4, "Initial Characterization of Findings," issued June 19, 2012, and IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," issued September 26, 2014. The inspectors determined the finding was associated with risk significant planning standard 10 CFR 50.47(b)(4), "Emergency Classification System," and corresponded to the following Green Finding example in Table 5.4-1: an EAL has been rendered ineffective such that any Alert or Unusual Event would not be declared, or declared in a degraded manner for a particular off-normal event. Therefore, using Figure 5.4-1, "Significance Determination for Ineffective EALs and Overclassification,"

and the example in Table 5.4-1, the inspectors 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 EP-IP-100.1, 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]

Enforcement. 10 CFR 50.54(q)(2) requires, in part, that a licensee shall follow and maintain an emergency plan that meets the planning standards of 10 CFR 50.47(b) and Appendix E. 10 CFR 50.47(b) requires, in part, that emergency response plans must include a standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters. Contrary to the above, from January 2008 through August 2015, Entergy did not maintain an emergency plan that met the planning standards of 10 CFR 50.47(b) and Appendix E that require emergency response plans to include a standard emergency classification and action level scheme based on accurate facility and system and effluent parameters. Specifically, Emergency Plan Implementing Procedure EP-IP-100.1 directed a compensatory measure of alternative indication with the use of LI-5008, Primary Containment Water Level Indicator, which was an invalid compensatory measure and would have resulted in untimely assessment of emergency action level thresholds. Additionally, from September 2013 through August 2015, the equipment listed in EP-IP-100.1 as the primary method of assessment of reactor coolant system leakage was inadequate, as it did not specify all equipment needed to monitor the associated emergency action level for the entire range of possible entry conditions. Because this violation is of very low safety significance and has been entered into Entergy's corrective action program, this finding is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV 05000293/2015010-03, Inadequate Guidance and Invalid Compensatory Measures for Out-of-Service EAL Instrumentation)**

.2 Assessment of the Use of Operating Experience

a. Inspection Scope

The inspectors reviewed a sample of condition reports associated with review of industry operating experience to determine whether Entergy appropriately evaluated the operating experience information for applicability to Pilgrim and had taken appropriate actions, when warranted. The inspectors also reviewed evaluations of operating experience documents associated with a sample of NRC generic communications to ensure that Entergy adequately considered the underlying problems associated with the issues for resolution via their corrective action program. In addition, the inspectors observed various plant activities to determine if the station considered industry operating experience during the performance of routine and infrequently performed activities.

b. Assessment

The inspectors determined that Entergy appropriately considered industry operating experience information for applicability, and used the information for corrective and preventive actions to identify and prevent similar issues when appropriate. The inspectors determined that operating experience was appropriately applied and lessons learned were communicated and incorporated into plant operations and procedures when applicable. The inspectors also observed that industry operating experience was routinely discussed and considered during the conduct of pre-job briefs and various other meetings at the site.

c. Findings

No findings were identified.

.3 Assessment of Self-Assessments and Audits

a. Inspection Scope

The inspectors reviewed a sample of audits, including the most recent audit of the corrective action program, departmental self-assessments, and assessments performed by independent organizations. Inspectors performed these reviews to determine if Entergy entered problems identified through these assessments into the corrective action program, when appropriate, and whether Entergy initiated corrective actions to address identified deficiencies. The inspectors evaluated the effectiveness of the audits and assessments by comparing audit and assessment results against self-revealing and NRC-identified observations made during the inspection.

b. Assessment

The inspectors concluded that self-assessments, audits, and other internal Entergy assessments were generally effective in identifying issues. The inspectors observed that Entergy personnel knowledgeable in the subject completed these audits and self-assessments in a methodical manner. Entergy completed these audits and self-assessments to a sufficient depth to identify issues which were then entered into the corrective action program for evaluation. In general, the station implemented corrective actions associated with the identified issues commensurate with their safety significance.

c. Findings

No findings were identified.

.4 Assessment of Safety Conscious Work Environment

a. Inspection Scope

During interviews with station personnel, the inspectors assessed the safety conscious work environment at Pilgrim. Specifically, the inspectors interviewed personnel to determine whether they were hesitant to raise safety concerns to their management and/or the NRC. The inspectors also reviewed a sample of anonymous condition

reports, and the results of the last safety culture survey, conducted in 2012. The inspectors interviewed the station Employee Concerns Program coordinator to determine what actions are implemented to ensure employees were aware of the program and its availability with regards to raising safety concerns, and reviewed a sample of Employee Concerns Program files to ensure that Entergy entered issues into the corrective action program when appropriate.

b. Assessment

During interviews, Pilgrim staff stated that they were willing to raise safety issues. The inspectors noted that none of the staff interviewed stated that they personally experienced or were aware of a situation in which an individual had been retaliated against for raising a safety issue. All persons interviewed demonstrated an adequate knowledge of the corrective action program and the Employee Concerns Program. Additionally, the station was in the process of conducting a site-wide safety culture survey during this inspection. Based on these limited interviews, and review of the various documentation discussed above, the inspectors concluded that there was no evidence of an unacceptable safety conscious work environment and no significant challenges to the free flow of information.

c. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On August 20, 2015, the inspectors presented the inspection results to Mr. John Dent, Site Vice President, and other members of the Pilgrim staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Dent, Site Vice President
P. Beabout, Security Manager
G. Blankenbiller, Chemistry Manager
R. Brooks, Radiation Protection Technician
D. Calabrese, Emergency Preparedness Manager
M. Cardinal, Electrician
B. Chenard, Engineering Director
S. Cook, Chemistry Technician
J. Cox, Radiation Protection Supervisor
R. Daly, Security Superintendent
K. Drown, Performance and Improvement Manager
M. Gastlick, Senior Supervisor, Security
M. Jacobs, Manager of Nuclear Oversight
G. Kelly, Electrical Maintenance Supervisor
C. Lewis, Instrument and Control Technician
K. Lowther, Employee Concerns Program Coordinator
J. MacDonald, Senior Operations Manager
D. Noyes, Director of Regulatory and Performance Improvement
J. Ohrenberger, Senior Maintenance Manager
E. Perkins, Regulatory Assurance Manager
R. Pierson, Senior Supervisor, Security
J. Sabina, Inservice Testing Program Engineer
J. Shumate, PS&O Manager
D. Smith, Mechanical Maintenance Supervisor
L. Timus, Mechanic
T. Wheble, Instrument and Control Maintenance Supervisor
M. Williams, Nuclear Safety Licensing Specialist
A. Zielie, Radiation Protection Manager

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

05000293/2015010-01	NCV	Inadequate Procedures for Placing Main Turbine in Service (Section 4OA2.c(1))
05000293/2015010-03	NCV	Inadequate Guidance and Invalid Compensatory Measures for Out-of-Service EAL Instrumentation (Section 4OA2.c(3))

Attachment

Opened

05000293/2015010-02	VIO	Untimely Actions to Restore Station Meteorological Towers (Section 4OA2.c(2))
05000293/2015010-04	VIO	Security Finding (Enclosure 4)

LIST OF DOCUMENTS REVIEWED

Condition Reports (* indicates that condition report was generated as a result of this inspection)

CR-HQN-2015-00291	CR-PNP-2013-05246	CR-PNP-2014-01321
CR-PNP-2008-02038	CR-PNP-2013-05256	CR-PNP-2014-01775
CR-PNP-2009-04552	CR-PNP-2013-05385	CR-PNP-2014-01994
CR-PNP-2009-04696	CR-PNP-2013-06186	CR-PNP-2014-02007
CR-PNP-2010-01557	CR-PNP-2013-06386	CR-PNP-2014-02008
CR-PNP-2010-02420	CR-PNP-2013-06684	CR-PNP-2014-02043
CR-PNP-2010-02846	CR-PNP-2013-06697	CR-PNP-2014-02112
CR-PNP-2010-03555	CR-PNP-2013-06721	CR-PNP-2014-02319
CR-PNP-2010-04531	CR-PNP-2013-06736	CR-PNP-2014-02379
CR-PNP-2011-00242	CR-PNP-2013-06741	CR-PNP-2014-02514
CR-PNP-2011-01180	CR-PNP-2013-06818	CR-PNP-2014-02739
CR-PNP-2011-01538	CR-PNP-2013-06829	CR-PNP-2014-02743
CR-PNP-2011-02696	CR-PNP-2013-06830	CR-PNP-2014-02749
CR-PNP-2011-03068	CR-PNP-2013-06831	CR-PNP-2014-02967
CR-PNP-2011-03636	CR-PNP-2013-06906	CR-PNP-2014-03381
CR-PNP-2011-04301	CR-PNP-2013-06961	CR-PNP-2014-03763
CR-PNP-2011-04503	CR-PNP-2013-07023	CR-PNP-2014-03973
CR-PNP-2011-05591	CR-PNP-2013-07025	CR-PNP-2014-03999
CR-PNP-2012-00669	CR-PNP-2013-07231	CR-PNP-2014-04009
CR-PNP-2012-00907	CR-PNP-2013-07313	CR-PNP-2014-04546
CR-PNP-2012-01359	CR-PNP-2013-07336	CR-PNP-2014-04676
CR-PNP-2012-01520	CR-PNP-2013-07445	CR-PNP-2014-04733
CR-PNP-2012-02304	CR-PNP-2013-07540	CR-PNP-2014-04951
CR-PNP-2012-02644	CR-PNP-2013-07547	CR-PNP-2014-05017
CR-PNP-2012-04248	CR-PNP-2013-07679	CR-PNP-2014-05065
CR-PNP-2012-04291	CR-PNP-2013-07824	CR-PNP-2014-05125
CR-PNP-2012-04621	CR-PNP-2013-07888	CR-PNP-2014-05561
CR-PNP-2012-04816	CR-PNP-2013-07907	CR-PNP-2014-05746
CR-PNP-2012-05202	CR-PNP-2013-07984	CR-PNP-2014-05825
CR-PNP-2012-05244	CR-PNP-2013-08042	CR-PNP-2014-05877
CR-PNP-2013-00213	CR-PNP-2014-00136	CR-PNP-2014-06294
CR-PNP-2013-00428	CR-PNP-2014-00149	CR-PNP-2014-06746
CR-PNP-2013-00610	CR-PNP-2014-00249	CR-PNP-2015-00062
CR-PNP-2013-00853	CR-PNP-2014-00251	CR-PNP-2015-00243
CR-PNP-2013-01158	CR-PNP-2014-00270	CR-PNP-2015-00277
CR-PNP-2013-01538	CR-PNP-2014-00815	CR-PNP-2015-00324
CR-PNP-2013-01570	CR-PNP-2014-00985	CR-PNP-2015-00499
CR-PNP-2013-01784	CR-PNP-2014-01207	CR-PNP-2015-00558
CR-PNP-2013-01819	CR-PNP-2014-01229	CR-PNP-2015-00559

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CR-PNP-2015-00730	CR-PNP-2015-04216	CR-PNP-2015-06837*
CR-PNP-2015-00806	CR-PNP-2015-04313	CR-PNP-2015-06851*
CR-PNP-2015-00888	CR-PNP-2015-04370	CR-PNP-2015-06883*
CR-PNP-2015-00948	CR-PNP-2015-04411	CR-PNP-2015-06926*
CR-PNP-2015-00949	CR-PNP-2015-04530	CR-PNP-2015-06937*
CR-PNP-2015-01164	CR-PNP-2015-04531	CR-PNP-2015-06939*
CR-PNP-2015-01233	CR-PNP-2015-04729	CR-PNP-2015-06945*
CR-PNP-2015-01308	CR-PNP-2015-04731	CR-PNP-2015-06946*
CR-PNP-2015-01402	CR-PNP-2015-04865	CR-PNP-2015-06947*
CR-PNP-2015-01535	CR-PNP-2015-04998	CR-PNP-2015-06948*
CR-PNP-2015-01614	CR-PNP-2015-05197	CR-PNP-2015-06963*
CR-PNP-2015-01623	CR-PNP-2015-05337	CR-PNP-2015-06968*
CR-PNP-2015-01679	CR-PNP-2015-05425	CR-PNP-2015-06969*
CR-PNP-2015-01752	CR-PNP-2015-05534	CR-PNP-2015-06991*
CR-PNP-2015-01764	CR-PNP-2015-05745	CR-PNP-2015-06997*
CR-PNP-2015-01808	CR-PNP-2015-05746	CR-PNP-2015-07183*
CR-PNP-2015-01908	CR-PNP-2015-05825	CR-PNP-2015-07190*
CR-PNP-2015-02343	CR-PNP-2015-05826	CR-PNP-2015-07193*
CR-PNP-2015-02555	CR-PNP-2015-05827	CR-PNP-2015-07207*
CR-PNP-2015-02559	CR-PNP-2015-05829	CR-PNP-2015-07222*
CR-PNP-2015-02716	CR-PNP-2015-05833	CR-PNP-2015-07224*
CR-PNP-2015-02800	CR-PNP-2015-05834	CR-PNP-2015-07228*
CR-PNP-2015-03366	CR-PNP-2015-05836	CR-PNP-2015-07239*
CR-PNP-2015-03906	CR-PNP-2015-05837	CR-PNP-2015-07247*
CR-PNP-2015-04025	CR-PNP-2015-05839	CR-PNP-2015-07394
CR-PNP-2015-04105	CR-PNP-2015-06314	
CR-PNP-2015-04115	CR-PNP-2015-06338	

Learning Organization Documents

LO-HQNLO-2007-00211	LO-PNPLO-2014-00069	LO-PNPLO-2014-00105
LO-PNPLO-2014-00014	LO-PNPLO-2014-00072	LO-PNPLO-2014-00139
LO-PNPLO-2014-00033	LO-PNPLO-2014-00093	LO-PNPLO-2015-00101
LO-PNPLO-2014-00058	LO-PNPLO-2014-00096	LO-PNPLO-2015-00121

NRC Violations and Findings

05000293/2011007-03, Inadequate Evaluation of the Effect of Non-Class I Equipment Internal Flooding on Redundant Safety Related Equipment

05000293/2013005-01, Failure to Provide Adequate Justification to Extend the 12-Month Review Frequency of the Emergency Preparedness Program

05000293/2013008-02, Failure to Maintain Station Meteorological Towers

05000293/2014003-01, Failure to Manage a Yellow Risk Condition for Unavailable Torus Vent Valve

05000293/2014003-02, Failure to Comply with Technical Specification Required Actions for Inoperable Primary Containment Isolation Valve

05000293/2015001-01, Failure to Perform Testing of Safety Related Undervoltage Alarm Relays

05000293/2015002-03, Failure to Conduct Operations to Minimize the Introduction of Residual Radioactivity to the Site

05000293/2015002-04, Failure to Properly Ship Category 2 Radioactive Material - Quantity of Concern

05000293/2015007-03, Inadequate Loss of Instrument Air Abnormal Procedure
05000293/2015007-06, Failure to Implement Compensatory Measures for Out-of-Service
Emergency Action Level Instrumentation
05000293/2015007-07, Failure to Report a Major Loss of Emergency Assessment Capability
05000293/2015007-08, Inadequate Testing of the Diesel-Driven Air Compressor

Operating Experience

NRC Information Notice 2014-08: Need for Continuous Monitoring of Active Systems in Loaded
Spent Fuel Storage Canisters (Including Vacuum Drying Process)
Pilgrim Nuclear Power Station operating experience evaluation for GE SIL 667, supplement 2,
and EPRI OE concerning ECP measurements from the mitigation monitoring system that
were not representative of reactor vessel and piping conditions
Pilgrim Nuclear Power Station response to 2009 operating experience regarding failure of
control rod drive system hydraulic control unit directional control valve cap screws that
resulted in the associated control rod drifting into the core
Pilgrim Nuclear Power Station response to NRC-IN-2014-03, Turbine Driven Auxiliary
Feedwater Pump Overspeed Trip Mechanism Issues
Pilgrim Nuclear Power Station response to NRC-IN-2014-04, Potential for Teflon Material
Degradation in Containment Penetrations, Mechanical Seals, and Other Components
Pilgrim Nuclear Power Station response to NRC-IN-2014-05, Verifying appropriate dosimetry
evaluation
Pilgrim Nuclear Power Station response to NRC-RIS-2014-004, National Source Tracking
System long term storage indicator
Fleet Security Operating Experience, January 2015 to August 2015
NEI 12-03, Att. A, Industry Security Operating Experience, January 2015 to August 2015
JAF 2014-08-01, Operating Experience, 8/26/14

Procedures

2.1.1, Startup from Shutdown, Revision 192
2.2.93, Main Condenser Vacuum System, Revision 74
2.2.99, Main Turbine Generator, Revision 52
2.4.36, Decreasing Condenser Vacuum, Revision 33
EN-EC-100, Guidelines for Implementation of the Employee Concerns Program, Revision 8
EN-EC-100-01, Employee Concern Coordinator Training Program, Revision 1
EN-EP-202, Equipment Important to Emergency Preparedness, Revision 1
EN-FAP-LI-001, Condition Review Group (CRG), Revision 5
EN-LI-102, Corrective Action Program, Revision 24
EN-LI-102, Corrective Action Program, Revision 24
EN-LI-102-02, Condition Report Closeout Review, Revision 9
EN-LI-104, Self-Assessment and Benchmark Process, Revision 11
EN-LI-118, Cause Evaluation Process, Revision 21
EN-LI-121, Trending and Performance Review Process, Revision 17
EN-LI-121-01, Trend Codes, Revision 6
EN-NS-221, Security Organization, Standards and Expectations, Revision 7
EN-OE-100, Operating Experience Program, Revision 23
EN-OE-100, Operating Experience Program, Revision 24
EN-OP-104, Operability Determination Process, Revision 9
EN-PL-190, Maintaining a Strong Safety Culture, Revision 3
EN-QV-100, Conduct of Nuclear Oversight, Revision 11
EN-QV-136, Nuclear Safety Culture Monitoring, Revision 5

EN-WM-100, Work Request (WR) Generation, Screening, and Classification, Revision 10
EP-AD-270, Equipment Important to Emergency Response (EITER), Revision 0
EP-AD-601, Emergency Action Level Technical Bases Document, Revision 5
EP-IP-100.1, Emergency Action Levels (EALs), Revisions 4, 9, and 11
IN1-247, Calibration and Loop Accuracy of LT-5008, Revision 0
SEP-PNPS-IST-001, PNPS Inservice Pump and Valve Testing Program, Revision 4

Self-Assessments and Audits

QA-03-2015-PNP-1	QA-12/18-2013-PNP-1	QS-2015-PNP-019
QA-07-2014-PNPS-1	QA-12/18-2015-PNP-1	QS-2015-PNPS-023
QA-07-2015-PNP-1	QA-14/15-2013-PNP-1	QA-16-2014-HQN-1
QA-10-2014-PNP-1	QA-2-6-2013-PNP-1	QA-16-2013-HQN-1

Miscellaneous

116-C28, Blockwall Re-evaluation Wall No. 65.17, Revision 1
2013-55, Focused Benchmark Plan and Report Template, 9/12/13
3Q14 Pilgrim APRM Report
4Q13 Pilgrim APRM Report
4Q14 Pilgrim APRM Report
Calculation No. PS88, Voltage Profile and Loading Study for New Security Power System,
8/28/90
Condition Review Group Pre-Screening Meeting Report, dated August 4, 2015
Condition Review Group Summary Agenda Report, dated August 3, 2015
LER 05000293/1999-009-00, Manual Scram at 27 Percent Power Due to Degrading Main
Condenser Vacuum
LER 05000293/2012-002-00, Manual Reactor Scram Due to Degraded Condenser Vacuum
LER 05000293/2014-001-00, Condition Prohibited By Technical Specifications
LER 05000293/2015-005-00, Degrading Condenser Vacuum Resulting in Manual Reactor
Scram
Meteorological tower project schedule
Nuclear Safety Culture Monitoring Panel Meeting Minutes, April 15, 2015
Operational Focus Meeting Agenda, dated August 6, 2015
O-RQ-04-01-187
Pilgrim Condition Review Group Summary Agenda Report, dated August 6, 2015
Pilgrim Condition Review Group Summary Agenda Report, dated August 10, 2015
Pilgrim Condition Review Group Summary Agenda Report, dated August 11, 2015
Pilgrim Condition Review Group Summary Agenda Report, dated August 18, 2015
Pilgrim Corrective Action Excellence Plan, Revision August 2, 2015
Pilgrim Memo from J. Priest, Emergency Preparedness Manager, detailing National Weather
Service Capability, dated January 16, 2013
Pilgrim NIOS Site Status Report
Pilgrim Nuclear Safety Culture Chronology (First Quarter 2013 through Second Quarter 2015)
Pilgrim Nuclear Station 2012 Entergy Employee Engagement Survey
Pilgrim Safety Review Committee Meeting Minutes, dated March 19, 2015
Pilgrim Safety Review Committee Meeting Minutes, dated September 10, 2014
Pilgrim SRC 2013-002 Summary
Pilgrim Station Operations Subcommittee Meeting Summary, January 2014
PMRQ 27726-01: Inspect external water box inlet expansion joints
PMRQ 27727-01: Inspect external water box outlet expansion joints
PNPS-2014-188

Quality Assurance Program Manual, Revision 29

Salt Service Water System 29 Maintenance Rule (a)(1) Action Plan, Revision 3, dated June 24, 2014

SDBD-29, System Design Basis Document for the Salt Service Water System, Revision E1

System Health Report for Salt Service Water System, third quarter 2014 through second quarter 2015

Tailgate Package, dated August 4, 2015

Tailgate Package, dated July 28, 2015

Work Order 52504622

LIST OF ACRONYMS

CFR	Code of Federal Regulations
IMC	Inspection Manual Chapter
NRC	Nuclear Regulatory Commission