



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

May 20, 2016

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 – SUPPLEMENTAL INSPECTION  
REPORT (PHASE ‘B’) 05000293/2016009**

Dear Mr. Dent:

On April 8, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed Phase ‘B’ of Inspection Procedure (IP) 95003, “Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input,” at your Pilgrim Nuclear Power Station (Pilgrim). The enclosed inspection report documents the inspection results, which were discussed with you and members of your staff.

Consistent with the NRC Reactor Oversight Process Action Matrix in Inspection Manual Chapter 0305, “Operating Reactor Assessment Program,” the NRC is performing this supplemental inspection because Pilgrim transitioned into the Repetitive Degraded Cornerstone Column (Column 4), as discussed in the annual assessment letter, dated March 2, 2016, (ML16061A419<sup>1</sup>). The NRC completed the Phase ‘A’ portion of this supplemental inspection on January 15, 2016. The purpose of this inspection was to review aspects of Pilgrim’s corrective action program and to determine whether continued operation of Pilgrim was acceptable and whether additional regulatory actions were necessary to arrest declining plant performance. The Phase ‘A’ inspection evaluated Entergy Nuclear Operations, Inc. (Entergy’s) progress in addressing corrective action program weaknesses identified during previous inspections by reviewing long-standing open corrective actions, corrective actions associated with a sample of NRC violations, and classification of adverse versus non-adverse condition reports. The Phase ‘B’ inspection reviewed Entergy’s overall corrective action program performance since the last biennial problem identification and resolution inspection in August 2015.

To accomplish these objectives, the team examined selected procedures and representative records, observed activities, and interviewed personnel. In particular, the team concentrated on the quality of cause evaluations for identified issues, and whether the corrective actions adequately addressed the causes identified in the cause analyses. The results of the Phase ‘A’

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<sup>1</sup> Designation in parentheses refers to an Agencywide Documents Access and Management System (ADAMS) accession number. Documents referenced in this report are publicly available using the accession number in ADAMS.

and Phase 'B' inspections will inform the final scope of the Phase 'C' inspection, which will complete the review of the IP 95003 inspection objectives. The results of the IP 95003 inspection will be used to inform future regulatory actions and oversight.

Based on the samples selected for review, the team determined that Entergy generally identified problems, entered them into the corrective action program, properly prioritized and evaluated the issues commensurate with the safety significance of the problem, and generally implemented corrective actions appropriately. However, the team identified four condition reports that were not closed out in accordance with process requirements. One of these cases resulted in inadequate corrective action implementation, as noted below. Based on the overall results of this inspection, as well as a review of performance indicators and inspection results from the first quarter of 2016, the NRC concluded that Pilgrim continues to operate safely, and additional regulatory actions beyond those prescribed for plants in Column 4 are not required at this time.

This report documents one finding of very low safety significance (Green), which was also determined to be a violation of NRC requirements. The finding involved inadequate implementation of a corrective action to revise a maintenance procedure, as described in the enclosed report. However, because of the very low safety significance and because it has been entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV), consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the NCV 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspectors at Pilgrim. In addition, if you disagree with the cross-cutting aspect assignment discussed in the enclosure, 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 Inspectors at Pilgrim.

J. Dent

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In accordance with Title 10 of the *Code of Federal Regulations* 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 the NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA Scott C. Flanders for/***

David C. Lew  
Acting Regional Administrator

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

Enclosure:  
Inspection Report 05000293/2016009  
w/Attachment: Supplementary Information

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J. Dent

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION I**

Docket No. 50-293

License No. DPR-35

Report No. 05000293/2016009

Licensee: Entergy Nuclear Operations, Inc. (Entergy)

Facility: Pilgrim Nuclear Power Station (Pilgrim)

Location: 600 Rocky Hill Road  
Plymouth, MA 02360

Dates: April 4 to April 8, 2016

Inspectors: N. Perry, Senior Resident Inspector, Team Leader  
A. DeFrancisco, Technical Assistant  
M. Draxton, Project Engineer  
J. Vazquez, Resident Inspector (Acting)

Approved by: Arthur L. Burritt, Chief  
Reactor Projects Branch 5  
Division of Reactor Projects

## SUMMARY

Inspection Report 05000293/2016009; 04/04/2016 – 04/08/2016; Pilgrim; Supplemental Inspection – Inspection Procedure (IP) 95003.

The inspection was conducted by a senior resident inspector, two region-based inspectors, and a resident inspector. The inspectors identified one non-cited violation (NCV), which was of very low safety significance (Green). The significance of most 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 the Cross-Cutting Areas," dated December 4, 2014. All violations of U.S. Nuclear Regulatory Commission (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.

The NRC performed this supplemental inspection in accordance with IP 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input," to review Energy's progress in addressing corrective action program (CAP) weaknesses identified in previous inspections. This inspection served as partial completion of IP 95003, Section 02.02.a.

### Cornerstone: Mitigating Systems

- Green. The inspectors identified a Green NCV of Title 10 of the *Code of Federal Regulations* (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy did not ensure that an identified condition adverse to quality related to maintenance work on the salt service water (SSW) pumps was corrected. Specifically, Entergy did not implement a procedure change to require installation of additional anti-rotation pins. This procedure change was specified as a corrective action in an equipment apparent cause evaluation (E-ACE) [condition report (CR)-2015-09189], and addressed the assembly of a pump component relied upon to maintain operability of the SSW system. As immediate corrective action, Entergy captured this issue in their CAP as CR-2016-02401, CR-2016-02446, and CR-2016-02454. Additionally, Entergy implemented the necessary procedure change and ensured additional anti-rotation pins were installed during the most recent rebuilds of the 'A' and 'B' SSW pumps.

The finding was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the absence of additional anti-rotation pins contributed to the failure of the spider bearings, which led Entergy to declare the 'A' SSW pump inoperable on November 7, 2015. Absent a procedure change identified as a corrective action for this condition that required installation of additional anti-rotational pins, this vulnerability continued to exist, which could contribute to subsequent spider bearing failure, thereby rendering a SSW pump inoperable. In accordance with IMC 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined that this finding was of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, and did not involve an actual loss of a safety function of a single train for greater than its technical specification

allowed outage time. The inspectors determined that this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Resolution, because Entergy failed to ensure that established corrective actions adequately resolved and corrected the identified issues in a manner commensurate with their safety significance. Specifically, Entergy did not ensure that the corrective action taken adequately captured the intent of the corrective action as prescribed in the E-ACE. Furthermore, four CR closeout barriers within Entergy's CAP failed to recognize and correct the issue. [P.3] (Section 4OA4.c)

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA4 Supplemental Inspection (95003)

##### .1 Problem Identification and Resolution Assessment

###### a. Inspection Scope

The NRC performed this supplemental inspection in accordance with IP 95003, “Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input,” to review Entergy’s progress in addressing CAP weaknesses identified in previous inspections. This inspection served as partial completion of IP 95003, Section 02.02.a. The objectives of this inspection were to assess Entergy’s ability to identify and correct problems by reviewing problem identification, prioritization and evaluation of issues, and corrective actions. Specific guidance for this objective is provided in IP 95003, which directs the inspectors to evaluate whether Entergy’s evaluations into significant deficiencies are of a depth commensurate with the significance of the issue; that root and contributing causes of risk-significant deficiencies are identified; and corrective actions are taken to correct immediate problems and to prevent recurrence. Specifically, the team reviewed a sampling of: (1) CRs initiated since August 2015 to determine if cause evaluations were thorough and if corrective actions were taken and addressed the causes; (2) NRC violations that have not been reviewed by other inspections to determine if Entergy had taken appropriate actions to address the issues; and (3) corrective action documentation closed since August 2015 for CRs initiated prior to then to determine if they appropriately addressed the identified causes. The inspection team compared performance in these areas to the requirements and standards contained in 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” and Entergy’s procedures. Additionally, the inspection team attended multiple meetings involving the review, prioritization, disposition, and closeout of CRs.

###### Effectiveness of Identification

In addition to the items described above, the inspectors toured areas in the plant with plant staff, interviewed plant personnel at all levels, reviewed completed surveillance tests, and observed a post-maintenance testing activity in the control room. The inspectors also reviewed a sample of CRs written to document issues identified regarding CAP areas for improvement. The inspectors completed this review to verify that Entergy entered conditions adverse to quality into their CAP as appropriate.

###### Effectiveness of Prioritization and Evaluation

The inspectors reviewed the evaluation and prioritization of CRs including 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 the issues.



### 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 CRs 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.

#### b. Observations

##### Effectiveness of Identification

Based on the selected samples, plant walkdowns, and interviews of site personnel in multiple functional areas, the inspectors determined that Entergy generally identified problems and entered them into the CAP at a low threshold. The inspectors observed staff and supervisors at screening and condition review group meetings appropriately questioning and challenging CRs to ensure clarification and proper classification of the issues. Based on the samples reviewed, the inspectors determined that Entergy trended equipment and programmatic issues and appropriately identified problems in CRs. The inspectors verified that conditions adverse to quality identified through this review were entered into the CAP as appropriate. In response to questions by the inspectors, Entergy personnel promptly initiated CRs and/or took immediate action to address the issues. The inspectors identified one observation regarding Entergy's problem identification:

- Failure to Identify Adverse Condition Related to Safety-Related Flow Converter

10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, that conditions adverse to quality are promptly identified and corrected. Contrary to the above, as of April 5, 2016, a condition adverse to quality, related to the as-found condition of the safety-related neutron monitoring systems flow converter FC-Z7-A, was not promptly identified. On April 5, 2016, upon removing and replacing the flow converter under work order 52370722-01, Entergy technicians observed that the removed original flow converter was missing the two screws that secure the cover to the chassis. The replaced flow converter was installed with the two screws in place; however, it was slightly modified under an engineering change to have its washers removed, such that it would fit flush in the rack. Although Entergy identified via the CAP that the replacement converter needed to have its washers removed during the replacement, it did not note or assess the discrepant condition of the original converter. CR-2016-2392 was initiated on the issue. This issue screened to minor in accordance with IMC 0612, Appendix B, because the discrepant condition did not impact the safety function of the flow converter or surrounding equipment; for example, Entergy did not credit the screws for seismic restraint.

##### Effectiveness of Prioritization and Evaluation

The inspectors determined that, in general, Entergy appropriately prioritized and evaluated issues commensurate with the safety significance of the identified problem. Entergy screened CRs for operability and reportability, categorized the CRs by

significance, and assigned actions to the appropriate department for evaluation and resolution. The CR screening process considered human performance issues, radiological safety concerns, repetitiveness, adverse trends, and potential impact on the safety conscious work environment.

Based on the sample of CRs reviewed, the inspectors noted that the guidance provided by Entergy CAP implementing procedures appeared sufficient to ensure consistency in categorization of issues. Operability and reportability determinations were generally performed when conditions warranted, and the evaluations supported the conclusions. Causal analyses appropriately considered the extent of condition or problem, generic issues, and previous occurrences of the issue.

#### Effectiveness of Corrective Actions

The inspectors concluded that corrective actions for identified deficiencies were generally timely and adequately implemented. For significant conditions adverse to quality, Entergy identified actions to prevent recurrence. The inspectors concluded that corrective actions to address the sample of NRC NCVs and findings since the last problem identification and resolution inspection were timely and effective. However, the inspectors did observe some weaknesses in Entergy's resolution of identified issues.

Entergy procedure EN-LI-102, "Corrective Action Program," Section 5.6[5](e) states, "individuals closing corrective actions verify that the required action has been taken and any additional actions are issued." It goes on to state that "ensuring that the response is adequate, answers all aspects of the assigned action, and the intent of the action is met." Contrary to the above, the inspectors identified four examples where Entergy did not close out CRs with moderate significance in accordance with process requirements. Additionally, multiple closure reviews conducted as part of the CAP process did not identify these deficiencies. One of these cases resulted in inadequate corrective action implementation, as described in the finding documented in Section 4OA4.c.

- Failure to Complete Corrective Action Prior to Closure in Corrective Action Tracking System

The corrective action for an apparent cause evaluation (ACE) was closed out in the corrective action tracking system on March 27, 2016, and was not complete. The ACE addressed the lessons learned from a partial loss of offsite power event, resulting from a winter storm in January 2015, which had not been adequately implemented. The key corrective action addressing the apparent cause was to provide a briefing. A training performance needs analysis was attached but was incomplete, although the ACE stated that training had been completed on March 25, 2016. No further actions for performing the briefing were being tracked in the corrective action tracking system. In addition, the ACE did not address why an effectiveness review was not required (CR-2016-01113). This issue screened to minor in accordance with IMC 0612, Appendix B, because the ACE was scheduled for review by the Corrective Action Review Board and at least one board member had identified the discrepancies.

- Failure to Properly Document Procedure Revisions

EN-LI-102, Section 5.6[4](e) states, “when a procedure change is required per a CR’s corrective action plan, document the procedure and revision number in the corrective action.” Contrary to the above, on January 8, and March 23, 2016, actions taking credit for closing out operations department standing orders to station procedure revisions in two corrective action evaluation documents did not document the procedure number and revision number (CR-2015-09233 and CR-2016-01114). This issue screened to minor in accordance with IMC 0612, Appendix B, because the procedures were changed and this was only a documentation issue that did not significantly affect plant stability or challenge critical safety functions.

- Failure to Adhere to Required Actions

On March 7, 2016, a corrective action was closed without adhering to the required actions of the corrective action. Specifically, the corrective action required a briefing to all operations work liaisons on the lessons learned from a delay in relocating a room temperature sensor for the ‘A’ emergency diesel generator. The corrective action closure required that a brief summary of the event presented to the operations work liaisons be attached to the closure documentation. Instead, only the ACE, referenced station procedures, and the attendance sheet were attached (CR-2016-00523). This issue screened to minor in accordance with IMC 0612, Appendix B, because the required briefing did occur. This was only a documentation issue and did not significantly affect plant stability or challenge critical safety functions.

c. Findings

Failure to Correct a Condition Adverse to the Quality Associated with the SSW System

Introduction. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” because Entergy did not ensure that an identified condition adverse to quality related to maintenance work on the SSW pumps was corrected. Specifically, Entergy did not implement a procedure change specified as a corrective action in an E-ACE (CR-2015-09189), which addressed the assembly of a pump component relied upon to maintain operability of the SSW system.

Description. The SSW system at Pilgrim consists of two loops, each containing two SSW pumps, along with a fifth pump that can be connected to either loop. The safety function of the SSW system is to provide cooling to the reactor building closed cooling water system, which cools emergency and safety-related systems, during all modes of operation.

On November 7, 2015, the ‘A’ SSW pump was declared inoperable after divers discovered debris at the bottom of the SSW bay, identified to be pieces of the pump’s spider bearings. These circular bearings provide radial support to the pump shaft in order to maintain its position within the pump column. Each of these bearings contains two anti-rotation pins, which prevent the bearings from spinning within the pump column. Prior to this event, a maintenance procedure associated with periodic SSW pump rebuilds, 3.M.4-14.2, “Salt Service Water Pumps: Routine Maintenance,” Attachment 6, recommended the installation of up to three additional anti-rotation pins.

Subsequent to the pump being declared inoperable, CR-2015-09189 was generated, and an E-ACE was completed. Through this E-ACE, it was determined that the apparent cause of the pump failure was an angular misalignment of the pump, which resulted in excessive loading of the spider bearings and led to their premature failure. Additionally, a contributing cause was that the anti-rotation bearings were not robust enough to handle the long-term dynamic loading associated with the misalignment. In light of this contributing cause, the E-ACE called for the 3.M.4-14.2 procedure to be revised to make the installation of three additional anti-rotation pins a requirement for subsequent pump rebuilds. This had previously been a recommendation within the procedure, but the E-ACE determined that the installation of additional pins needed to be mandatory. The corrective action, as listed in the E-ACE, explicitly stated, "This is currently optional." However, when the corrective action from the E-ACE was translated to Entergy's condition reporting system, this statement was omitted, and the corrective action thus failed to adequately capture the intent of the corrective action as prescribed in the E-ACE. As a result, the required procedure change was not incorporated into the procedure.

The inspectors identified four CR closeout barriers within Entergy's CAP that failed to recognize and correct the issue. These barriers involved the failure to revise the procedure, and the required reviews by the maintenance department performance improvement coordinator (DPIC), an engineering reviewer responsible for performing the CR closure review, and an engineering manager ultimately responsible for ensuring proper closure of the CR and associated corrective actions. Additionally, although not required by Entergy procedures, another review, involving a DPIC Closure Review Committee, also missed the inadequate corrective action. This committee review was implemented as an additional measure to improve the quality of CR closeout packages and to ensure all corrective actions were appropriately implemented. Furthermore, the individual tasked with implementing the corrective action was also involved in two of the other failed barriers. The practice of an individual being involved in the process of reviewing his/her own work was not explicitly prohibited by Entergy procedures; however, having the DPIC who performed the action also be responsible for reviewing the adequacy of the closure reduced the effectiveness of the additional checks on the work performed.

As immediate corrective action, Entergy captured these issues in their CAP as CR-2016-02401, CR-2016-02446, and CR-2016-02454. Additionally, Entergy incorporated the necessary changes into an updated version of procedure 3.M.4-14.2. Entergy also confirmed that during rebuilds of the 'A' and 'B' SSW pumps, which took place after the November 7, 2015, failure of the 'A' SSW pump, the additional anti-rotation pins were installed.

Analysis. The inspectors determined that inadequately implementing a procedure change specified to address a condition adverse to quality was a performance deficiency within Entergy's ability to foresee and correct, and should have been prevented. The inspectors determined this performance deficiency was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the absence of additional anti-rotation pins contributed to the failure of the spider bearings, which led Entergy to declare the 'A' SSW pump inoperable on November 7, 2015. Absent a procedure change identified as a corrective

action for this condition that required installation of additional anti-rotational pins, this vulnerability continued to exist, which could contribute to subsequent spider bearing failure, thereby rendering a SSW pump inoperable. In accordance with IMC 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined that this finding was of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, and did not involve an actual loss of a safety function of a single train for greater than its technical specification allowed outage time.

The inspectors determined that this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Resolution, because Entergy failed to ensure that established corrective actions adequately resolved and corrected the identified issues in a manner commensurate with their safety significance. Specifically, Entergy did not ensure that the corrective action taken fulfilled the intent of the corrective action prescribed by the associated E-ACE. Furthermore, four CR closeout barriers within Entergy's CAP failed to recognize and correct this deficiency. [P.3]

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to the above, following the November 7, 2015, failure of the 'A' SSW pump, Entergy corrective measures did not ensure that an identified condition adverse to quality associated with a procedure for the performance of SSW pump maintenance was corrected. Specifically, Entergy failed to revise a maintenance procedure to require the installation of additional anti-rotation pins in accordance with a corrective action established by an E-ACE. Entergy entered this issue into their CAP as CR-2016-02401, CR-2016-02446, and CR-2016-02454 and subsequently made the required procedural changes in Revision 67 of procedure 3.M.4-14.2. This violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000293/2016009-01, Failure to Correct a Condition Adverse to Quality Associated with the Salt Service Water System)**

d. Assessment Result

Based on the samples selected for review, the team determined that Entergy generally identified problems, entered them into the CAP, properly prioritized and evaluated the issues commensurate with the safety significance of the problem, and generally implemented corrective actions appropriately. However, the team identified four CRs that were not closed out in accordance with process requirements. The actions affected in these cases included the implementation of: lessons learned from previous events, procedure changes, and staff briefings and training. One of these cases resulted in a violation related to inadequate corrective action implementation. Based on the overall results of this inspection, as well as a review of performance indicators and inspection findings from the first quarter of 2016, the NRC concluded that Pilgrim continues to operate safely, and additional regulatory actions beyond those prescribed for plants in Column 4 are not required at this time.

4OA6 Meetings, Including Exit

On April 8, 2016, the inspectors presented the inspection results to Mr. John Dent, Site Vice President, and other members of his staff. The inspectors confirmed that all proprietary information examined during the inspection had been returned to the Entergy staff.

**ATTACHMENT: SUPPLEMENTARY INFORMATION**

**SUPPLEMENTARY INFORMATION****KEY POINTS OF CONTACT**Licensee Personnel:

J. Dent, Site Vice President  
 E. Cota, Maintenance  
 B. Deacon, Maintenance  
 K. Drown, Performance Improvement Manager  
 J. Falconieri, Engineering  
 A. Ferris, Operations Reactor Manager  
 P. Gavin, Instrumentation and Control  
 K. Gracia, Operations Shift Manager  
 M. Lynch, Engineering Fix It Now  
 P. Miner, Regulatory Assurance  
 D. Mortimer, Senior Operations Specialist  
 J. Ohrenburger, Maintenance Manager  
 J. Parameter, Senior Emergency Planner  
 E. Perkins, Manager, Regulatory Assurance  
 B. Vandermeer, Instrumentation and Control  
 T. White, Design Engineering

**LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED**Opened and Closed

05000293/2016009-01	NCV	Failure to Correct a Condition Adverse to Quality Associated with the Salt Service Water System (Section 4OA4.c)
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**LIST OF DOCUMENTS REVIEWED**Procedures

3.M.3-1, A5/A6 Buses 4kV Protective Relay Calibration/Functional Test and Annunciator Verification – Critical Maintenance, Revisions 143 and 144  
 3.M.4-14.2, Salt Water Service Pumps: Routine Maintenance, Revisions 65, 66, and 67\*  
 8.M.2-2.64, RCIC Steam Line Low Pressure – Critical Maintenance, Revisions 34 through 44  
 EN-DC-178, System Walkdowns, Revision 7  
 EN-FAP-LI-001, Condition Review Group (CRG), Revision 5  
 EN-FAP-OU-110, Critical Maintenance Identification and Oversight, Revision 3  
 EN-FAP-WM-011, Work Planning Standard, Revision 4  
 EN-LI-102, Corrective Action Program, Revisions 25 and 26  
 EN-LI-108, Event Notification and Reporting, Revision 12  
 EN-LI-118, Cause Evaluation Process, Revision 22  
 EN-MA-101-03, Maintenance Work Preparation Process, Revision 6  
 EN-OE-100, Operating Experience Program, Revision 24  
 EN-OP-112, Night and Standing Orders, Revision 2

EN-OP-117, Operations Assessment Resources, Revision 9  
EN-TQ-129, Planner Training Program, Revision 0  
EN-WM-105, Planning, Revisions 11, 12, and 16  
EP-AD-270, Equipment Important To Emergency Response (EITER), Revision 1  
NOP98A1, Nuclear Organization Procedure, Revision 37

Drawing

M8-4, Assembly Drawing Service Water Pump P208 A, B, C, D, and E, Revision 31

Quality Assurance Audits, Peer Reviews, and Self-Assessments

Pilgrim Nuclear Oversight Functional Area Performance Report - September to October 2015,  
November 19, 2015

Pilgrim Nuclear Oversight Functional Area Performance Report - February 2016, March 8, 2016

Pilgrim Nuclear Oversight Functional Area Performance Report - July to August 2016,  
September 30, 2015

Cause Evaluations

ACE 2016-0036, Breaker Rackup for Residual Heat Removal PP 'C'

E-ACE 2015-8300, Relay 127A-A6/2 Failed to Operate on Loss of Voltage (2015-8300)

Root Cause Evaluation 2013-04302, Shut Down Due to Degraded Condenser

Root Cause Evaluation 2014-4052, Feedwater Heater E-103B Shell Leak

Completed Surveillances

8.M.2-2-6.4, RCIC Steam Line Low Pressure – Critical Maintenance, Revision 44, completed  
September 30, 2014

8.M.2-3.6.5, FC-Z7-A, APRM Flow Converter Post Maintenance Test, Revision 44, completed  
April 5, 2016

8.M.2-3.6.5, Neutron Monitoring System Flow Converter and Calibration Test, Revision 15,  
completed October 2002

EN-MA-101-03, Maintenance Work Preparation Process for FC-Z7-A, Flow Converter  
Replacement, Revision 6, completed under WO 52370722

Work Orders

334804

436069

52370722

52587750

Miscellaneous

ACE, Multiple Opportunities Missed to Understand and Identify Risk Significance and Perform  
Appropriate Cause Analyses (CR-2015-09853) dated December 18, 2015

Corrective Action Review Board Meeting Agenda, January 29, 2016

CRG CR Summary, April 6, 2016

Daily Plant Status Report, April 4, 2016

Engineering Change 64069

E-ACE, 'A' SSW Pump Spider Bearing Failure (CR-2015-09189) dated November 11, 2015

eSOMS Notice of Change Module ID#33, Improper Approval of Surveillance Acceptance  
Criteria dated April 1, 2016

Licensee Event Report 2015-004-01, 480V Bus B6 Auto Transfer Function Degraded

MR#02118236, Work Instructions for 35-FC-27-A A Recirc Flow Converter, Revision 0,  
completed October 2002

Notes from DPIC Closure Review Committee Meeting dated February 24, 2016

NTWI-15, Nuclear Training Attendance, Course EN-WM-105/EN-FAP-WM-011 Review,  
Revision 5, dated January 14, 2015



Online T-Week Report, Work Week 1614, T-01 System Review dated March 25, 2016  
 Performance Review Meeting Report, Pilgrim Operations, January, and February 2016  
 Pilgrim Aggregate Performance Review Meeting Report, October, November, December and  
 January (February 2016 Meeting)  
 Pilgrim Site Performance Indicators, March 30, 2016  
 Pilgrim Station Coordinated Meeting Schedule, March 10, 2016  
 PLP-ESPC-R20-3, Presentation Material from Refueling Outage 20 Session 3 ESP General  
 Continuing Training, Revision 1  
 PNP CRG Summary Agenda Report Prescreen dated April 6, 2016  
 PMID-RQ 50076625-01  
 Purchase Order 10461348 issued October 19, 2015, for Flow Converter Circuit Card Assembly  
 SSW Monthly Walkdown Checklist  
 SDBD-29, System Design Basis for the Salt Service Water System, Revision E1  
 V-1096, 4160 Metal-Clad Switchgear, Magne-Blast Circuit Breakers and Vacuum Circuit  
 Breakers  
 Weekly Online Readiness Indicator dated April 8, 2016

#### Condition Reports

2012-00669	2013-04190	2013-05949	2014-04052
2015-00375	2015-00558	2015-01759	2015-02109
2015-03454	2015-05197	2015-06780	2015-07049
2015-07285	2015-07295	2015-07355	2015-07993
2015-08286	2015-08403	2015-09139	2015-09189
2015-09233	2015-09376	2015-09382	2015-09413
2015-09474	2015-09570	2015-09853	2016-00025
2016-00070	2016-00120	2016-00523	2016-00707
2016-01072	2016-01113	2016-01114	2016-01912
2016-02198	2016-02243	2016-02378*	2016-02392*
2016-02401*	2016-02439*	2016-02446*	2016-02453*
HQN-2016-00464*			

\*Developed as a result of NRC inspection

#### **LIST OF ACRONYMS USED**

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ACE	apparent cause evaluation
CAP	corrective action program
CR	condition report
DPIC	department performance improvement coordinator
E-ACE	equipment apparent cause evaluation
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NCV	non-cited violation
NRC	Nuclear Regulatory Commission, U.S.
SSW	salt service water