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

June 18, 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 - NRC 95002 SUPPLEMENTAL FOLLOW-UP INSPECTION REPORT 05000293/2015009

Dear Mr. Dent:

On May 8, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed a follow-up supplemental inspection in accordance with Inspection Procedure (IP) 95002, "Supplemental Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area," at your Pilgrim Nuclear Power Station (Pilgrim). Specifically, Pilgrim experienced four reactor scrams in 2013 which resulted in two performance indicators (PIs) in the Initiating Events cornerstone, Unplanned Scrams per 7000 Critical Hours and Unplanned Scrams with Complications, crossing the threshold from Green to White. The enclosed inspection report documents the inspection results, which were discussed on May 8, 2015, with you and other members of your staff.

The NRC previously completed a supplemental inspection in December 2014 to review your actions to address the White PIs. Inspection results are documented in NRC Inspection Report 05000293/2014008, dated January 26, 2015 (Reference ML15026A069). At that time, the NRC staff determined Entergy's actions to address the two White PIs were not sufficient and that collectively, the issues represented a significant weakness as described in NRC IP 95002. Accordingly, the NRC assigned two parallel White PI inspection findings and identified the need to complete an additional inspection after Entergy staff had addressed the extent of condition concerns, made sufficient progress on the improvements to the corrective action program (CAP), and informed the NRC staff of their readiness for further inspection.

The objectives of this follow-up supplemental inspection were to verify that Entergy addressed the deficiencies which resulted in the assignment of two parallel White PI inspection findings in NRC Inspection Report 05000293/2014008. Specifically, this inspection was performed to verify that Entergy has: (1) assessed the independent failure analysis of the faulted 345kV electrical switchyard insulators for potential impact to the root cause evaluation (RCE) and revised as appropriate; (2) assessed the revised RCE for the February 8, 2013 winter storm station impact and associated reactor scram, to include additional actions for the incomplete initial effectiveness review; (3) evaluated the effectiveness of additional maintenance department human performance related corrective actions implemented during the inspection through in-progress and completed work; (4) completed the evaluation of the cause(s) for the

failed electrical cable splice that resulted in a loss of all three reactor feedwater pumps and has revised the RCE to include additional corrective actions, if appropriate; and (5) evaluated the revisions to the RCEs for the overall common cause evaluation, which included taking action to understand why corrective actions intended to address the identified CAP implementation weakness were not effective at ensuring the inspection objectives were satisfied. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. The inspectors completed their onsite reviews on May 8, 2015.

The NRC determined that Pilgrim's extent of condition reviews and corrective actions related to the original four root causes were sufficient and appropriate to address the identified significant weakness as documented in Supplemental Inspection Report 05000293/2014008. Additionally, no findings of significance were identified as a result of this inspection. Based upon the collective results of this inspection and Supplemental Inspection Report 05000293/2014008, the NRC determined the inspection objectives of IP 95002 have been satisfied.

Because the objectives of IP 95002 were satisfied, the two parallel White findings assigned in the December 2014 IP 95002 supplemental inspection will be considered closed at the end of the second quarter 2015. On May 27, 2015, the NRC issued Special Inspection Report 05000293/2015007, which was associated with the January 27, 2015 partial loss of offsite power event (ADAMS Accession Number ML15147A412). The special inspection report documented a preliminary White finding associated with Entergy's inadequate identification, evaluation, and correction of the 'A' safety/relief valve (SRV) failure to open upon manual actuation during a plant cooldown on February 9, 2013. After the significance determination for the 'A' SRV finding is finalized, the NRC will assess Pilgrim's overall performance in relation to the Reactor Oversight Process Action Matrix.

Accordingly, Pilgrim's performance will remain within the Degraded Cornerstone Column of the NRC's Reactor Oversight Process Action Matrix as discussed in the Pilgrim Annual Assessment Letter (Report 05000293/2014001), dated March 4, 2015. If Pilgrim transitions to a different Action Matrix Column following the final significance determination for the preliminary White finding, then the transition will be communicated in a future correspondence. Additionally, the NRC will continue to assess the effectiveness and sustainability of your efforts to address challenges in CAP implementation during the next biennial problem identification and resolution inspection, scheduled for August 2015.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 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 Public Document Room or from the

Publicly Available Records component of ADAMS. ADAMS is accessible from the NRC Website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Ho K. Nieh, Director
Division of Reactor Projects

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

Enclosure:
Inspection Report 05000293/2015009
w/Attachment: Supplemental Information

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OFFICE	RI/DRP	RI/DRP	RI/DRP		
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DATE	6 / 11 / 15	6 / 16 /15	6 / 18 /15		

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.	50-293
License No.	DPR-35
Report No.	05000293/2015009
Licensee:	Entergy Nuclear Operations, Inc. (Entergy)
Facility:	Pilgrim Nuclear Power Station
Location:	Plymouth, Massachusetts
Dates:	May 4, 2015 through May 8, 2015
Inspectors:	S. Hansell, Senior Resident Inspector, Lead Inspector T. Setzer, Senior Project Engineer G. Newman, Resident Inspector
Approved by:	Raymond R. McKinley, Chief Reactor Projects Branch 5 Division of Reactor Projects

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SUMMARY OF FINDINGS

Inspection Report (IR) 05000293/2015009; 05/04/2015 – 05/08/2015; Pilgrim Nuclear Power Station (Pilgrim); Follow-up Supplemental Inspection – Inspection Procedure (IP) 95002.

The report covered an on-site inspection by a Senior Resident Inspector, Senior Project Engineer, and one Resident Inspector. No findings were identified. The U.S. Nuclear Regulatory Commission's (NRC's) program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5, February 2014.

Cornerstone: Initiating Events

The NRC staff performed this supplemental inspection in accordance with IP 95002, "Supplemental Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area," to assess Entergy's actions to evaluate and implement changes to address the initial IP 95002 supplemental inspection (IR 05000293/2014008) conducted, in part, to review the two White performance indicators (PIs) and the initial corrective actions that were not sufficient to address the White PIs at that time. Consistent with Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," Section 11.01(e), this follow-up supplemental inspection specifically focused on the areas of significant weaknesses as documented in NRC Supplemental Inspection Report 05000293/2014008.

The inspectors did not identify any new significant weaknesses in regard to Entergy's actions to address the White PIs. The inspectors concluded that Entergy implemented adequate corrective actions and made sufficient progress in applicable areas to address the significant weaknesses previously documented in IP 95002 Supplemental IR 05000293/2014008.

The inspection objectives of IP 95002 have been satisfied and the two parallel White findings issued as part of Supplemental IR 05000293/2014008 will be considered closed at the end of the second quarter 2015.

Other Findings

None

REPORT DETAILS

4. OTHER ACTIVITIES

4OA4 Follow-Up Supplemental Inspection (95002)

.01 Inspection Scope

The NRC staff performed this follow-up supplemental inspection in accordance with IP 95002, "Supplemental Inspection for One Degraded Cornerstone of Any Three White Inputs in a Strategic Performance Area." This inspection follows up on a supplemental inspection completed and documented in Supplemental IR 05000293/2014008 that issued two parallel White findings associated with Entergy's extent of condition reviews and corrective actions related to the four root causes performed for the events that resulted in two PIs in the Initiating Events cornerstone crossing the threshold from Green to White.

The NRC follow-up supplemental inspection team has concluded that Entergy has successfully addressed the five significant deficiencies documented in Supplemental IR 05000293/2014008.

The inspectors have verified that Entergy's completed and planned corrective actions have addressed the previously identified significant deficiencies by performing the following:

1) Assessed the independent failure analysis of the faulted 345 kilovolt (kV) electrical switchyard insulators for potential impact to the root cause evaluation (RCE) and revised as appropriate;

2) Assessed the revised RCE for the February 8, 2013 winter storm station impact and associated reactor scram, to include additional actions for the incomplete initial effectiveness review;

3) Evaluated that Entergy has demonstrated the effectiveness of additional maintenance department human performance related corrective actions implemented during the inspection through in-progress and completed work;

4) Verified that Entergy has completed the evaluation of the cause(s) for the failed electrical cable splice that resulted in a loss of all three reactor feedwater pumps; and has revised the RCE to include additional corrective actions; and

5) Evaluated the Entergy revisions to the RCEs for the overall common cause evaluation, which included taking action to understand why corrective actions intended to address the identified corrective action program (CAP) implementation weakness were not effective at ensuring the inspection objectives were satisfied.

.02 Evaluation of the Inspection Requirements

02.01 Root Cause, Extent of Condition, and Extent of Cause Evaluation

Failed Electrical Cable Splice/Loss of all Reactor Feed Pumps Missed Opportunity/Missing Post-Maintenance Tests not Captured in Corrective Action Program

During the initial supplemental inspection, the NRC reviewed RCE CR-PNP-2013-5949 and concluded that Entergy did not identify a root or contributing cause for the failed reactor feed pump (RFP) electrical cable splice. In March 2015, Entergy completed a revision to the RCE, in which the direct cause, root cause, and contributing causes were revised. The revised RCE identified a contributing cause for the failed splice. Specifically, station maintenance procedures and work processes were not followed by the maintenance personnel when performing a non-safety-related splice for solenoid valve (SV)-3067. Entergy determined that the splice had most likely been fabricated in 1999 during implementation of a plant design change (PDC) of multiple valves (PDC 98-38). In their investigation, Entergy found multiple deficient work practice issues with the splice, which included that it was fabricated with the wrong crimp tool, and that it was not staggered to ensure room and flexibility in the conduit. This resulted in an inadequate splice that ultimately failed and led to the loss of all three RFPs on August 22, 2013.

The inspectors determined that Entergy performed a thorough evaluation of the failed splice and revised the RCE to include extent of condition and extent of cause actions that were reasonable with supported conclusions. However, the inspectors identified the following observations regarding the extent of condition and extent of cause:

- As part of the extent of condition, Entergy created work orders (WOs) to inspect the wiring associated with four additional SVs (SV-3001, SV-3004, SV-3066, and SV-3351) that were rewired in 1999 as part of PDC 98-38. The inspections were performed during a plant shutdown in February 2015. The WO instructions (375493, 375489, 375495, and 375497) did not contain adequate guidance on how to perform the inspections. Specifically, the instructions did not direct the technicians to completely remove the wires to determine if any splices were hidden in the conduit. The technicians only removed condulet covers and inspected the ends of the wiring. As a result, the inspections had to be performed again during the refueling outage of May 2015 (RFO20). The inspectors determined that the lack of work instructions and missed opportunity to perform the inspections properly was not captured in the CAP. Additionally, three WOs for the inspections in RFO20 did not include post-maintenance test activities. Entergy entered the missed inspection opportunity and post-maintenance tests as items in the CAP (CR-PNP-2015-04455 and CR-PNP-2015-04403, respectively).

- Regarding the extent of cause, Entergy determined the inadequate work practices associated with the maintenance personnel that performed the splice in 1999 indicated that similar modified valves may have inadequate splices. In 1999 there was no specific training on crimping or electrical terminations using butt splices. Training on these topics was not provided until 2006. Entergy performed a review of modifications from 1995–2000 that replaced, relocated, or reoriented non-safety-related components that could have splices. The inspectors determined the timeframe of 1995–2000 was of limited benefit to fully explore the work practice

issues in plant modifications, since technicians were not trained until 2006. Entergy entered this observation into the CAP (CR-PNP-2015-04443).

The above observations were determined not to be violations of NRC regulatory requirements and as stated earlier have been entered into Entergy's CAP for further evaluation.

b. Findings

No findings were identified.

02.03 Corrective Actions

a. CAP Evaluation for CR-PNP-2014-05735 - Assess the Independent Failure Analysis of the Faulted 345kV Electrical Switchyard Insulators for Potential Impact to the RCE and Revise as Appropriate

During the initial supplemental inspection, the inspectors determined that Entergy had improperly closed a corrective action to conduct failure analysis on failed insulators from a previous loss of offsite power event. Entergy generated CR-PNP-2014-05735 and sent the insulator off site for failure analysis.

The inspectors reviewed CR-PNP-2014-05735 to determine whether Entergy had completed or planned corrective actions to address the significant deficiencies. Entergy created new corrective actions in CR-PNP-2013-00798 to track the testing and review of test results. Entergy sent two insulators, one insulator that had experienced flashover and an insulator that was not installed in the electrical switchyard, to a third-party testing facility, Doble Engineering. Doble Engineering performed current leakage testing and partial discharge testing on the insulators. Doble Engineering determined that both insulators were still within the original equipment manufacturer's (OEMs) specifications. Doble Engineering recommended testing additional insulators to determine remaining service life. Entergy reviewed the results of the testing and provided the test report to the OEM, LAPP, for review. The OEM informed Entergy that the results were normal and that the insulators have a service life of 30 years. Entergy generated CR-2014-PNP-6799 to track the creation of preventive maintenance (PM) to replace insulators before the end of their service life.

The inspectors questioned how Entergy addressed Doble Engineering's recommendation to test other installed insulators. Entergy informed the inspectors that the recommendation would be considered as part of the PM corrective action due in 2016. Entergy created CR-2015-PNP-04473 to capture their planned actions in response to the vendor recommendation.

Entergy determined that the results of the testing did not impact the RCE performed for CR-PNP-2013-0798 since the testing results did not show substantial insulator degradation; therefore, a revision was not necessary. In general, the inspectors determined that the proposed corrective actions were appropriate and addressed each identified root and contributing cause. Entergy has taken actions to address the deficiencies identified in evaluation or correction of the individual performance issues discussed above. Specifically, the inspection verified that Entergy has taken action to: (1) address the specific deficiencies in execution of corrective actions; (2) address the

deficient cause evaluation; and (3) understand why corrective actions intended to address the identified CAP implementation weakness were not effective at ensuring the inspection objectives were satisfied.

b. 2013 Winter Storm Scram - Verify that Entergy has Revised the RCE for the Winter Storm Scram to Include Additional Action for the Incomplete Effectiveness Review

During the initial supplemental inspection, the NRC reviewed RCE CR-PNP-2013-0798 and concluded that Entergy did not complete a second effectiveness review in accordance with CAP requirements. Specifically, the initial effectiveness review for the de-icing PM was concluded to be indeterminate, but a follow-up (second) effectiveness review was never assigned to ensure the action would be completed properly. In January 2015, the second effectiveness review was completed following the January 27, 2015 winter storm known as Juno. This review determined that actions taken during winter storm Juno were ineffective, as both 345kV electrical lines were de-energized due to extensive icing of the switchyard insulators. Portable salamander heaters used during the storm were unable to prevent icing of the insulators as water would quickly refreeze once the heaters were removed. As a result, Entergy hired an outside contractor to perform pressure washing of the switchyard to remove ice from the insulators. This method was found to be effective and the plant was able to restart without any flashover events. In March 2015, a third effectiveness review was completed which concluded that the effectiveness of pressure washing the switchyard was validated, and that this method should be added to existing PM tasks to de-ice the switchyard in the future. Entergy modified PM task 16789 to include salamander heaters, manual brushing, and the use of an offsite contractor for pressure washing.

Entergy determined that the RCE did not need revision as a result of the effectiveness reviews. Activities to perform the effectiveness reviews were already assigned in CR-PNP-2013-0798 but were not completed. The inspectors determined that the incomplete effectiveness review was completed with supportable conclusions. Additionally, the inspectors verified that the original RCE contained actions to complete the effectiveness review so a revision was not warranted.

c. Effectiveness of Maintenance Department Human Performance Related Corrective Actions

During the initial supplemental inspection, the inspectors determined that observations of maintenance execution did not support closure or cancellation of corrective actions identified in the RCE. The inspectors identified the following deficiencies:

- Entergy's actions in September 2014 directed interim actions for enhanced supervisor oversight and procedure review in preparation for maintenance. This was an interim action until a long-term procedure upgrade project for maintenance was complete. The inspectors identified that the maintenance standing order was not being implemented at the time of the on-site inspection.
- Several procedures did not have critical steps annotated properly.
- A technician identified a critical step during a pre-job brief, but did not generate a condition report or a procedure feedback form to ensure permanent correction of the deficiency.

- One procedure contained steps that directed calibration of an instrument after fuses and alarms had been verified restored, an action that if performed without re-performing steps in the body of the procedure would result in an adverse consequence.
- Technicians continued with testing activities after encountering challenges, contrary to the station expectation to stop and evaluate the unexpected conditions.

In response to the inspectors concerns, Entergy created multiple condition reports and revised the RCE to include additional corrective actions for procedural reviews prior to performance of work and enhanced oversight. At the time of the follow-up inspection, the previous maintenance standing order was augmented and formalized into a permanent procedure, 1.3.144, "Maintenance Performance of Trip Sensitive Activities." The procedure provides guidance to reinforce human performance attributes for maintenance work that could cause a plant automatic shutdown or inadvertent safeguard system actuation. The procedure is an interim measure until the procedure upgrade program is complete.
The inspectors observed a pre-job briefing and performance of trip-sensitive activities. Additionally, the inspectors reviewed a sample of completed WOs for trip sensitive activities and WO instructions for scheduled activities to verify the interim measures were implemented. Specifically, the inspectors verified that work was classified appropriately as a trip sensitive activity and that the additional requirements of procedure 1.3.144 were implemented, for example:

- Discussion of the consequences of performance errors;
- Identification and validation of critical procedure steps;
- Discussion of work after logic restoration;
- Preparations to stop work if unexpected results are obtained;
- Discussion of procedure adherence requirements; and
- Review of procedure changes since last performed.

The inspectors observed technicians stop work when the procedure did not address restoration of robust barriers when leaving the area to perform another step in a separate area. The inspectors also observed successful performance of a critical step verifying that contacts associated with backup scram valves are open prior to initiating a half-scram signal.

With respect to the procedure upgrade project in the maintenance department, the current due date for this corrective action is March 3, 2016. Based on documentation review and interviews with station personnel, the inspectors noted that the procedure upgrade project is on schedule to be completed by the March 2016 date.

d. <u>CAP Overall Common Cause Evaluation for CR-PNP-2015-00375</u>

Entergy has taken actions to address the deficiencies identified in the evaluation or correction of the individual performance issues discussed above. Specifically, the follow-up inspection verified that Entergy has taken action to: (1) address the specific deficiencies in execution of corrective actions; (2) address the deficient cause evaluation; and (3) understand why corrective actions intended to address the identified CAP implementation weakness were not effective at ensuring the inspection objectives were satisfied.

Entergy made changes to ensure station management and supervision were effective at driving accountability at all levels of the organization to improve performance in all areas of the CAP. Specific areas included: corrective action implementation, corrective action timeliness, corrective action closure documentation, CAP procedure compliance, and resolution of early indications of poor CAP implementation. In addition, Entergy identified that an inadequate procedure used to prepare for the initial supplemental inspection, EN-LI-123-01, "Preparation for 95001(2)," did not provide structured preparation guidance to perform and support a performance based inspection that assumed the CAP program was robust and effective.

The CAP routine initial data entry input and classification by the Department Performance Improvement Coordinators (DPICs) and subsequent review by the management Condition Review Group (CRG) to assign responsible actions have improved substantially in the past four months. The improvements were accomplished with the DPIC's review of every corrective action closure package. Prior to the change, numerous corrective actions were closed to unapproved processes, closure dates were extended or transferred to other condition reports, several significant CAP related condition reports were closed to a single condition report and some remained open through May 2015. The follow-up team reviewed the satisfactory closure of three RCE closure items related to CR-PNP-2015-00375. Fifteen corrective action closure items were partially complete and will be available for inspection during the August 2015 biennial problem identification and resolution inspection team.

Pilgrim implemented a station performance improvement process in June 2014 to improve the station's personnel accountability at all levels of the organization in an effort to improve performance in all areas of the CAP. The improvement process included the following three key processes: 1) 200 Percent Accountability model that emphasized individual accountability and holding others accountable to station core values and processes; 2) a Culpability model that ensures consistent coaching and discipline when human errors result in plant events, consequential errors, non-consequential errors, and issues that require management attention to resolve; and 3) Pilgrim Excellence in Behaviors model that includes seven fundamental behaviors that are exhibited by successful and high performing organizations. After an initial learning curve, the station implementation of the three models has contributed to improved CAP performance.

DPICs' routine weekly training was a very effective knowledge transfer method to improve individual and group experience and ensure consistent understanding and application of the CAP process. The inspectors noted that DPICs were not required to observe CRG or corrective action review board meetings as part of their qualification. These meetings, in addition to their own pre-screening meeting, are integral parts of the CAP and would give the DPICs better perspective of their role in the CAP. Additionally, the inspectors noted that there was no formal continuing training for the DPICs. The inspectors note that DPICs meet weekly to perform training and periodically meet with the Site Vice President.

Additionally, the NRC will continue to assess the effectiveness and sustainability of the efforts to address challenges in CAP implementation during the next biennial problem identification and resolution inspection, scheduled for August 2015.

e. Findings

No findings were identified.

4OA6 Exit Meeting

On May 8, 2015, the inspectors presented the inspection results to Mr. J. Dent, Site Vice President, and other members of his staff. The inspectors verified that no proprietary information was retained by the inspection team.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

N. Berg	Contractor
T. Bordelon	Performance Improvement Manager
A. Brouchard	Engineering DPIC
S. Burke	Senior Staff Engineer
B. Chenard	Engineering Director
K. Connerton	Operations
E. Cota	Maintenance DPIC
P. Couture	Licensing Engineer
S. Das	Senior Lead Engineer
B. Deacon	Senior Maintenance Specialist
M. Farrell	Nuclear Control Technician
M. Fichera	I&C Technician
J. Freeman	Lead Nuclear Control Technician
J. Gerety	System Engineering Manager
B. Hannigan	Equipment Reliability Coordinator
E. Herbert	I&C Superintendent
C. Holstrom	I&C Working Foreman
S. Hudson	System Engineer
K. Kee	Engineering Design Programs Supervisor
N. Levesque	I&C Technician
J. Macdonald	Operations Department Manager
A. Madeiras	Design Engineering, Mechanical and Civil
D. Mannai	Senior Manager Fleet Regulatory Affairs
E. McCaffrey	System Engineer
M. McDonald	Shift Supervisor
F. McGinnis	Licensing Engineer
D. Miller	Maintenance Coordinator
D. Noyes	Director, Regulatory and Performance Improvement
J. O'Donnell	NSSS Supervisor
J. Ohrenberger	Senior Maintenance Manager
P. O'Neil	Contractor
C. Perkins	Manager, Regulatory Assurance
B. Rancourt	Senior Lead Engineer
F. Russell	Preventive Maintenance Engineer
J. Shumate	Senior Manager, Production
R. Swanson	Balance of Plant Systems Manager
S. Verrochi	General Manager Plant Operations
J. Vertossa	Chief Operating Officer Entergy Northeast
T. Wheble	I&C Supervisor
T. White	Design and Program Engineering Manager
M. Williams	Nuclear Safety Licensing Specialist
K. Woods	Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

05000293/2014008-03	FIN	Parallel White Unplanned Scrams per 7000 Critical Hours PI
05000293/2014008-04	FIN	Parallel White Unplanned Scrams with Complications PI Finding

Procedures

1.3.142, PNPS Risk Review and Disposition, Revision 0
1.3.142, PNPS Risk Review and Disposition, Revision 1
1.3.143, PNPS Accountability Model, Revision 1
1.3.144, Maintenance Performance of Trip Sensitive Activities, Revision 0
1.3.144, Maintenance Performance of Trip Sensitive Activities, Revision 1
1.3.144, Maintenance Performance of Trip Sensitive Activities, Revision 2
1.4.4, New England Power Grid Operations/Interfaces, Revision 26
1.5.22, Risk Assessment Process, Revision 24
2.1.14, Station Power Changes, Revision 112
2.1.37, Coastal Storm – Preparation and Actions, Revision 35
2.1.42, Operations during Severe Weather, Revision 20
2.2.1, 345 kV System, Revision 41
2.2.7, 480V AC System, Revision 32
2.2.31.1, Att. 8, Temporary Modification to Disable RFP Flow Switches while Performing Maintenance on TBCCW Heat Exchangers, Revision 15
2.4.150, Loss of Feedwater Heating, Revision 22
3.M.3-17.1, Raychem or Taping of 1000 Volt and Under Cables and/or Wires, Revision 17
3.M.3-33, 345kV Startup Transformer Calibration and Functional Relay Testing, Revision 33
3.M.3-51, Electrical Termination Procedure, Revision 20EN-DC-336, Plant Health Committee, Revision 8
3.M.3-71, Inspection and Maintenance of 345 kV Disconnects, Insulators, and Miscellaneous Switchyard Components, Revision 7
5.2.2, High Winds (Hurricane), Revision 35
5.2.3, Tornado, Revision 21
8.M.1-20, High Water Level Scram Discharge Tank Instrumentation Calibration/Functional Test Without Half Scrams – Critical Maintenance, Revision 73
8.M.2-1.5.3.1, Primary Containment Isolation Logic Channel Test – Channel A1 – Critical Maintenance, Revision 23
EN-FAP-EP-010, Severe Weather Response, Revision 1
EN-FAP-EP-012, Severe Weather Recovery, Revision 0
EN-FAP-OM-020, Comprehensive Recovery Plans, Revision 0
EN-FAP-OU-104, Refueling Outage Scope Identification and Control, Revision 3
EN-FAP-OU-105, Refueling Outage Execution, Revision 3
EN-FAP-WM-002, Critical Evolutions, Revision 1
EN-HU-102, Human Performance Traps and Tools, Revision 13
EN-HU-104, Engineering Task Risk and Rigor, Revision 5
EN-HU-106, Procedure and Work Instruction Use and Adherence, Revision 3

EN-LI-102, Corrective Action Program, Revision 24
EN-LI-118, Cause Evaluation Process, Revision 20 and 21
EN-LI-118-01, Event and Causal Factor Charting, Revision 2
EN-LI-118-03, Barrier Analysis, Revision 1
EN-LI-118-06, Common Cause Analysis (CCA), Revision 4
EN-LI-118-08, Failure Modes Analysis, Revision 2
EN-LI-118-11, Why Staircase, Revision 0
EN-LI-121-, Trending and Performance Review Process, Revision 17
EN-MA-118, Foreign Material Exclusion, Revision 10
EN-NS-221, Security Organization, Standards, and Expectations, Revision 6
EN-OE-100, Operating Experience Program, Revision 21
EN-OE-100-02, Operating Experience Evaluations, Revision 1
EN-OP-111, Operational Decision-Making Issue (ODMI) Process, Revision 11
EN-OP-116, Infrequently Performed Tests or Evolutions, Revision 12
EN-OP-122, Operational Decision-Making Issue Precursor Process, Revision 0
EN-OU-103, Long Range Outage Planning, Revision 3
EN-PL-187, Safety Conscious Work Environment (SCWE) Policy, Revision 1
EN-PL-190, Maintaining a Strong Safety Culture, Revision 2
EN-TQ-104, Engineering Support Personnel Training Program, Revision 18
EN-TQ-127, Supervisor Training Program, Revision 14
EN-TQ-212, Conduct of Training and Qualification, Revision 13
EN-WM-101, On-Line Work Management Process, Revision 11
EN-WM-104, On-Line Risk Assessment, Revision 9
EN-WM-105, Planning, Revision 13
EN-WM-109, Scheduling, Revision 7
NOP98A1, Procedure Process, Revision 36
FFAM-CAA-DPIC, Job Familiarization Guide, Department Performance Improvement Coordinator (DPIC), Revision 4
W10112, Pilgrim Line Outage Risk Mitigation Procedure, Revision 0

Condition Reports (*denotes NRC identified during this inspection)

CR-HQN-2014-0291	CR-PNP-2013-0798	CR-PNP-2013-5949
CR-PNP-2013-6298	CR-PNP-2014-6799	CR-PNP-2014-7830
CR-PNP-2015-0070	CR-PNP-2015-0558	CR-PNP-2015-0896
CR-PNP-2015-0897	CR-PNP-2015-1059	CR-PNP-2015-1148
CR-PNP-2015-0375	CR-PNP-2015-0715	CR-PNP-2015-3823
CR-PNP-2015-3613	CR-PNP-2015-4313*	CR-PNP-2015-4319*
CR-PNP-2015-4370*	CR-PNP-2015-4461*	CR-PNP-2015-4468*
CR-PNP-2015-4403*	CR-PNP-2015-4405*	CR-PNP-2015-4406*
CR-PNP-2015-4407*	CR-PNP-2015-4409*	CR-PNP-2015-4443*
CR-PNP-2015-4453*	CR-PNP-2015-4455*	CR-PNP-2015-4461*
CR-PNP-2015-4473*		

Work Orders

367142	381541	375495	375489
375497	375493	52499608	

Learning Organization Documents
LO-PNPLO-2014-0122
LO-PNPLO-2014-0135
LO-PNPLO-2015-0100
LO-PNPLO-2013-0026

Miscellaneous
FQC-EMT1-EMMTE, Maintenance and Test Equipment, training material
FLP-EMT1-EMMTE, Maintenance and Test Equipment, training lesson plan
DPIC Meeting Agenda, dated February 24, 2015
PM Request PMRQ 16789 (AR187396)
Condition Review Group Meeting Agenda, dated 05/06-7/2015
Corrective Action Program Recovery Performance Indicators
Entergy Operating Experience Point of Contact List – Pilgrim
Performance Overview, Pilgrim Nuclear Power Station
Pilgrim CAP Recovery Plan
Schedule for Plant Health Committee Review of Single Point Vulnerability Mitigating Strategies, as of 11/18/2014
Schedule for presentation of mitigating strategies related to single point vulnerabilities to Plant Health Committee
Maintenance Excellence Plan Procedure Review Checklist
Maintenance Procedure Review Requirements
PMQR 50076985-01 / 00029164-01
PNPS-FSAR, Section 8, Electrical Power System
PNPS Technical Specification 3.9, Auxiliary System

Drawings
M1H20-4, Elementary Diagram Residual Heat Removal (RHR) System, Revision 9, Sheet 16
M1H10-10, Elementary Diagram RHR System, Revision 16, Sheet 6
M1H8-10, Elementary Diagram RHR System, Revision 20, Sheet 4
E415, Schematic Diagram Recirculation System, Revision 16
M1H9-12, Elementary Diagram RHR System, Revision 21, Sheet 5
M1H7-12, Elementary Diagram RHR System, Revision 21, Sheet 3
M1H5-1-15, Elementary Diagram RHR System, Revision 18, Sheet 1
M1H6-9, Elementary Diagram RHR System, Revision 19, Sheet 2
E112, Schematic Diagram RFP System, Revision 14
E115, Schematic Diagram RFP System, Revision 12, Sheet 1
E115, Schematic Diagram RFP System, Revision 4, Sheet 2
E1, Single Line Diagram Station, Revision 24, Sheet 1
SE155, Station Electrical Single Line Composite Diagram 4.16 kV & 480V AC, Revision 73, Sheet 2
SE155, Station Electrical Single Line Composite Diagram 4.16 kV & 480V AC, Revision 33, Sheet 3
SE155, Station Electrical Single Line Composite Diagram 4.16 kV & 480V AC, Revision 26, Sheet 4

LIST OF ACRONYMS

CAP	corrective action program
CRG	condition review group
DPIC	Departmental Performance Improvement Coordinator
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
kV	kilovolt
NRC	U.S. Nuclear Regulatory Commission
OEM	original equipment manufacturer
PDC	plant design change
PI	performance indicator
PM	preventive maintenance
RCE	root cause evaluation
RFP	reactor feed pump
SV	solenoid valve
WO	work order