



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

February 4, 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 INTEGRATED INSPECTION
REPORT 05000293/2014005 and INDEPENDENT SPENT FUEL STORAGE
INSTALLATION (ISFSI) REPORT 07201044/2014003**

Dear Mr. Dent:

On December 31, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Pilgrim Nuclear Power Station (PNPS). The enclosed inspection report documents the inspection results, which were discussed on January 21, 2015, with you and other members of your staff.

The inspection 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.

This report documents one violation of a NRC requirement, which was of very low safety significance (Severity Level IV). However, because of the very low safety significance, and because it is entered into your corrective action program, the NRC is treating the finding as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the non-cited violation 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 PNPS.

In accordance with Title of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRCs "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

J. Dent

2

Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000293/2014005
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000293/2014005
 w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

Distribution w/encl: (via email)

D. Dorman, RA
 D. Lew, DRA
 H. Nieh, DRP
 M. Scott, DRP
 R. Lorson, DRS
 J. Trapp, DRS
 R. McKinley, DRP
 S. Shaffer, DRP

J. DeBoer, DRP
 E. Carfang, DRP, SRI
 B. Scrabeck, DRP, RI
 K. MorganButler, RI OEDO
 RidsNrrPMPilgrim Resource
 RidsNrrDorLPL1-1 Resource
 ROPReportsResource

DOCUMENT NAME: G:\DRP\BRANCH5\Reports\Final\2014\PIL2014005.docx
 ADAMS ACCESSION NUMBER: **ML15037A163**

<input checked="" type="checkbox"/> SUNSI Review		<input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive		<input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available	
OFFICE	RI/DRP	RI/DRP	RI/DRP		
NAME	ECarfang/EC via telecon	SShaffer/SWS	RMcKinley/RRM		
DATE	2/3/15	2/3/15	2/4/15		

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-293

License No. DPR-35

Report No. 05000293/2014005

Licensee: Entergy Nuclear Operations, Inc. (Entergy)

Facility: Pilgrim Nuclear Power Station

Location: 600 Rocky Hill Road
Plymouth, MA 02360

Dates: October 1, 2014 through December 31, 2014

Inspectors: E. Carfang, Senior Resident Inspector
B. Scrabeck, Resident Inspector
G. Bjorkman, Senior Level Advisor for Structural Mechanics
B. Dionne, Health Physicist
T. Dunn, Operator Licensing Examiner
E. Love, Safety Inspection Engineer
J. Nicholson, Health Physicist
S. Rutenkroger, Senior Resident Inspector
J. Schoppy, Senior Reactor Inspector
J. Tapp, Transportation and Storage Safety Inspector

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

TABLE OF CONTENTS

SUMMARY	3
1. REACTOR SAFETY	4
1R01 Adverse Weather Protection	4
1R04 Equipment Alignment	4
1R05 Fire Protection	5
1R06 Flood Protection Measures	6
1R07 Heat Sink Performance	6
1R11 Licensed Operator Requalification Program	7
1R12 Maintenance Effectiveness	8
1R13 Maintenance Risk Assessments and Emergent Work Control	9
1R15 Operability Determinations and Functionality Assessments	9
1R19 Post-Maintenance Testing	10
1R22 Surveillance Testing	10
1EP6 Drill Evaluation	11
2. RADIATION SAFETY	11
2RS1 Radiological Hazard Assessment and Exposure Controls	11
2RS6 Radioactive Gaseous and Liquid Effluent Treatment	12
4. OTHER ACTIVITIES	13
4OA1 Performance Indicator Verification	13
4OA2 Problem Identification and Resolution	14
4OA5 Other Activities	17
4OA6 Meetings, Including Exit	20
ATTACHMENT: SUPPLEMENTARY INFORMATION	20
SUPPLEMENTARY INFORMATION	A-1
KEY POINTS OF CONTACT	A-1
LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED	A-2
LIST OF DOCUMENTS REVIEWED	A-2
LIST OF ACRONYMS	A-11

SUMMARY

IR 05000293/2014005; 10/01/2014 – 12/31/2014; Pilgrim Nuclear Power Station (Pilgrim); Other Activities.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. The inspectors identified one Severity Level IV non-cited violation (NCV). 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 (SDP)," dated June 19, 2013. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Barrier Integrity

- Severity Level IV. The inspectors identified a Severity Level IV NCV of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.59 in that Entergy did not obtain a license amendment prior to implementing a change to the plant that required a change to technical specifications (TS). Specifically, Entergy removed the energy absorbing pad described in TS 4.3.4.b, "Design Features," and Updated Final Safety Analysis Report (UFSAR) section 10.3.6, "Consequences of a Dropped Fuel Cask," without receiving prior NRC approval. Entergy submitted a License Amendment Request (LAR) supplement to the NRC on September 11, 2014, to remove the energy absorbing pad language from TS, and performed an extent of condition review on previous engineering changes and prohibited placing a cask in the spent fuel pool (SFP) until receiving NRC approval for a change to TS 4.3.4.b.

The inspectors determined that Entergy did not perform an adequate 10 CFR 50.59 evaluation and obtain a license amendment prior to removing the SFP energy absorbing pad. The inspectors determined this was a performance deficiency that was within Entergy's ability to foresee and correct and should have been prevented. Because the issue had the potential to affect the NRC's ability to perform its regulatory function, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using the Enforcement Manual, the inspectors determined that the violation was a Severity Level IV (a 10 CFR 50.59 violation that resulted in conditions that required NRC approval before implementation) violation. Because this violation involves the traditional enforcement process and does not have an underlying technical violation that would be considered more-than-minor, inspectors did not assign a cross-cutting aspect to this violation in accordance with IMC 0612, Appendix B. (Section 4OA5)

REPORT DETAILS

Summary of Plant Status

Pilgrim began the inspection period at 100 percent power. On October 24, Pilgrim reduced power to 50 percent to perform a condenser thermal backwash and returned to 100 percent power the same day. On October 27, Pilgrim reduced power to 85 percent to perform a control rod pattern adjustment and returned to 100 percent power on the same day. On December 26, Pilgrim reduced power to 45 percent to perform a thermal backwash and returned to 100 percent power the following day. On December 28, Pilgrim reduced power to 85 percent to perform a control pod pattern adjustment and returned to 100 percent power the following day and continued to operate at 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of Entergy's readiness for the onset of seasonal cold temperatures. The review focused on the auxiliary boiler heating system. The inspectors reviewed the UFSAR, TS, control room logs, and the corrective action program to determine what temperatures or other seasonal weather could challenge these systems, and to ensure Entergy personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including Entergy's seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during cold weather conditions. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04 – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'B' residual heat removal train during maintenance on the 'A' residual heat removal train on October 7, 2014
- Emergency diesel generators (EDGs) X-107A and X-107B with 345 kilovolt (KV) Line 342 out of service to support line maintenance on November 12, 2014

- EDG X-107A with 345 KV Line 355 out of service to support line maintenance and with EDG X-107B out of service for testing on December 18, 2014

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, TS, work orders, condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Entergy staff had properly identified equipment issues and entered them into the corrective action program for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S – 1 sample)

a. Inspection Scope

On November 22 through December 5, 2014, the inspectors performed a complete system walkdown of accessible portions of the high pressure coolant injection (HPCI) system to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, surveillance tests, drawings, equipment line-up check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hanger and support functionality, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related CRs and work orders to ensure Entergy appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 4 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Entergy controlled combustible materials and ignition sources in accordance with

administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Hydrogen seal supply oil unit and truck lock area on October 10, 2014
- Battery rooms 'A' and 'B' on November 23, 2014
- Fuel pool cooling pumps and heat exchanger area on December 16, 2014
- Reactor building 23' level on December 29, 2014

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

Internal Flooding Review

a. Inspection Scope

The inspectors reviewed the internal flooding in A5 and A6 emergency 4160 volt switchgears to assess susceptibilities involving internal flooding. The inspectors also reviewed the corrective action program to determine if Entergy identified and corrected potential flooding problems and whether operator actions for coping with flooding were adequate. The inspectors also focused on the component cooling water pump room areas to verify the adequacy of equipment seals located below the flood line, floor and water penetration seals, watertight door seals, common drain lines and sumps, sump pumps, level alarms, control circuits, and temporary or removable flood barriers.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07A – 1 sample)

a. Inspection Scope

The inspectors reviewed the 'A' and 'B' reactor building component cooling water (RBCCW) heat exchangers to determine its readiness and availability to perform its safety functions on November 2, 2014. The inspectors reviewed the design basis for the component and verified Entergy's commitments to NRC Generic Letter 89-13. The inspectors discussed the results of the most recent inspection with engineering staff and reviewed pictures of the as-found and as-left conditions. The inspectors verified that Entergy initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the heat exchanger did not exceed the maximum amount allowed.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 – 3 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training during emergency planning drill on October 22, 2014, which included a loss of all offsite power followed by a loss of the one available EDG followed by a loss of the station blackout (SBO) diesel generator necessitating notice of unusual event, alert, and site area emergency declarations. After a planned shift turnover, a seal on the 'B' recirculation pump catastrophically failed causing a small break loss of coolant accident. The HPCI system failed, and the break size exceeded the capacity of the reactor core isolation cooling (RCIC) system causing reactor pressure vessel water level to lower and be unable to be restored and maintained above the top of active fuel necessitating a general emergency declaration. The operators performed an emergency depressurization of the reactor and lined up the diesel fire pump as a source of injection into the reactor vessel which restored reactor water level. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the TS action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed control rod scram time testing and portions of the power ascension on October 24, 2014. The inspectors observed infrequently performed test or evolution briefings and reactivity control briefings to verify that the briefings met the criteria specified in Entergy's administrative procedure EN-OP-116, "Infrequently Performed Tests or Evolutions," Revision 12. Additionally, the inspectors observed crew performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

.3 Annual Review of Licensed Operator Regualification Testing

a. Inspection Scope

On November 4, 2014, a region-based inspector conducted an in-office review of results of the licensee-administered comprehensive written examinations and annual operating tests. The inspection assessed whether pass rates were consistent with the guidance of IMC 0609, Appendix I, "Licensed Operator Regualification Significance Determination Process (SDP)." The inspector verified that:

- All licensed operators were administered a requalification examination.
- The individual pass rate on the dynamic simulator test was greater than 80 percent. (Pass rate was 100 percent.)
- The individual pass rate on the job performance measures of the operating examination was greater than 80 percent. (Pass rate was 100 percent.)
- The individual pass rate on the comprehensive written examinations was greater than 80 percent. (Pass rate was 94.9 percent.)
- More than 75 percent of the individuals passed all portions of the operating examination. (Pass rate was 94.9 percent.)
- The crew pass rate was greater than 80 percent. (Pass rate was 100 percent.)

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 1 sample)

a. Inspection Scope

The inspectors reviewed the August 16, 2014, E-103B feedwater heater failure to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, corrective action program documents, maintenance work orders, and maintenance rule basis documents to ensure that Entergy was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by Entergy staff was reasonable. Additionally, the inspectors ensured that Entergy staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 3 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Entergy performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Entergy personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When Entergy performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Emergent work controls and risk assessment due to unscheduled maintenance on the RCIC system on October 1, 2014
- Elevated risk due to heavy lift in the reactor building during the week of October 12, 2014
- Elevated risk due to 345 KV Line 342 out of service to support line maintenance and the 208B salt service water (SSW) pump out of service for maintenance on November 12, 2014

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 4 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- Failure of HPCI flow instrument on August 12, 2014, and subsequent retraction of 10 CFR 50.72 event notification No. 50356
- Minor steam leak from the packing of the 2301-5 HPCI pump steam inlet on September 26, 2014
- Impact of degraded voltage condition on X-107A EDG governor on September 26, 2014
- Rod block monitor alarm during weekly control rod exercise on December 2, 2014

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in

the appropriate sections of the TS and UFSAR to Entergy's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Entergy. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 3 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- RCIC Agastat relay installation testing on September 18, 2014
- Replacement of scram discharge instrument volume (SDIV) level switch 83A and 83E circuit cards on October 3, 2014
- SSW pump P-208B impeller adjustment on November 14, 2014

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 4 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TS, the UFSAR, and Entergy procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- Functional test of SDIV high water level instrumentation on October 3, 2014
- Control rod scram insertion time evaluation on October 24, 2014

- EDG X-107B monthly surveillance testing on December 18, 2014
- RBCCW pump P-202F biennial comprehensive test on December 19, 2014 (in-service test)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 1 sample)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine Entergy emergency drill simulating a SBO on October 22, 2014, to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. Entergy effectively performed a turnover of the emergency response organization between the red and green teams. The inspectors observed emergency response operations in the simulator and the technical support center to determine whether the event classification and notifications were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by Entergy staff in order to evaluate Entergy's critique and to verify whether Entergy staff was properly identifying weaknesses and entering them into the corrective action program.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety and Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

Inspection Scope

During November 3 – 6, 2014, the inspectors reviewed Entergy's performance in assessing the radiological hazards and exposure control in the workplace. The inspectors used the requirements in 10 CFR 20 and guidance in Regulatory Guide (RG) 8.38, TS, and the Pilgrim procedures required by TS as criteria for determining compliance.

Radiological Hazard Assessment

The inspectors reviewed two radiological surveys from the Reactor Water Cleanup Rooms, the Transverse In-core Probe Room, and the Spent Resin Tank Cubicle.

There were no samples available to review work in potential airborne radioactivity areas during the inspection period.

Instructions to Workers

The inspectors reviewed electronic personal dosimeter alarm events.

Contamination and Radioactive Material Control

The inspectors reviewed the following:

- Performance of personnel surveying and releasing material for unrestricted use and evaluated whether the work was performed in accordance with plant procedures
- Sensitivity and alarm set-points of radiation monitoring instrumentation used for equipment release and personnel contamination surveys
- Accountability and testing of five sealed sources from the Entergy inventory records
- Recent transactions involving nationally tracked sources

Radiological Hazards Control and Work Coverage

The inspectors conducted independent radiation measurements during walk-downs of the facility and reviewed associated radiological postings, surveys, radiation work permits (RWPs), and worker briefings.

Risk-Significant High Radiation Area and Very High Radiation Area Controls

The inspectors reviewed the controls and procedures for high-risk high radiation areas and very high radiation areas and transient areas with the potential to become very high radiation areas.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

a. Inspection Scope

During November 3 – 6, 2014, the inspectors reviewed the gaseous and liquid effluent processing systems and radiological discharges including calculations of effluent releases and public doses.

The inspectors used the requirements in 10 CFR 20; 10 CFR 50.35(a); 10 CFR 50, Appendix A, Criterion 60; 10 CFR 50, Appendix I; 10 CFR 50.75(g); 40 CFR 141; 40 CFR 190; RG 1.109; RG 1.21; NUREG-1302; applicable Industry standards; and Entergy procedures required by TS/Offsite Dose Calculation Manual (ODCM) as criteria for determining compliance.

Groundwater Protection Initiative

The inspectors reviewed reported groundwater monitoring results and changes to Entergy's written program for identifying and controlling contaminated spills/leaks to groundwater.

b. Findings and Observations

No findings were identified.

One non-conformance was observed with implementation of the Nuclear Energy Institute (NEI) 07-07 Groundwater Protection Initiative (GPI), specifically, acceptance criteria 1.4.c, evaluate and document the decommissioning impact from residual byproduct material left in the ground (see Section 4OA5).

Currently, no further discharges are being made from the leaking neutralizer sump discharge line. Entergy's investigation is continuing to determine if there are any other piping system leaks associated with the neutralizer sump discharge piping and catch basins.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index (2 samples)

a. Inspection Scope

The inspectors reviewed Entergy's submittal of the Mitigating Systems Performance Index for the following systems for the period of October 1, 2013, through September 30, 2014:

- Emergency alternating current Power System
- Cooling Water Systems

To determine the accuracy of the performance indicator (PI) data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7. The inspectors also reviewed Entergy's operator narrative logs, CRs, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled Entergy submittals for the occupational exposure control effectiveness PI for the period from October 1, 2013 through September 30, 2014. The inspectors used PI definitions and guidance contained in NEI 99-02, Revision 7, to determine the accuracy of the reported PI data. The inspectors reviewed electronic personal dosimetry accumulated dose alarms, dose reports, and dose assignments for any intakes; and discussed with radiation protection staff potential PI events that occurred during the time period. The inspectors also conducted walk-downs of numerous locked high and very high radiation area entrances.

b. Findings

No findings were identified.

.3 Radiological Effluent TS/ODCM Radiological Effluent Occurrences

a. Inspection Scope

The inspectors sampled Entergy submittals for the radiological effluent TS/ODCM radiological effluent occurrences PI for the period from October 1, 2013 through September 30, 2014. The inspectors used PI definitions and guidance contained in the NEI 99-02, Revision 7, to determine if the PI data was reported properly during this period.

The inspectors reviewed Entergy's corrective action report database to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous and liquid effluent summary data and the results of associated public dose calculations for selected dates during the review period.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 2 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Entergy's entered issues into the corrective action program at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the corrective action program and periodically attended CR screening meetings.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, "Problem Identification and Resolution," to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by Entergy outside of the corrective action program, such as trend reports, PIs, major equipment problem lists, system health reports, maintenance rule assessments, and maintenance or corrective action program backlogs. The inspectors also reviewed Entergy's corrective action program database for the third and fourth quarters of 2014 to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRCs daily CR review (Section 40A2.1). The inspectors reviewed Entergy quarterly trend report for the second and third quarters of 2014, conducted under EN-LI-121, "Trending and Performance Review Process," Revision 15, to verify that Entergy personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

The inspectors evaluated a sample of departments that are required to provide input into the quarterly trend reports, which included operations, maintenance, engineering, and performance improvement. This review included a sample of issues and events that occurred over the course of the past two quarters to objectively determine whether issues were appropriately considered or ruled as emerging or adverse trends, and in some cases, verified the appropriate disposition of resolved trends. The inspectors verified that these issues were addressed within the scope of the corrective action program, or through department review and documentation in the quarterly trend report for overall assessment.

The inspectors noted that CR quality closure continues to be an adverse trend identified by Entergy. In the second quarter report, 20 CRs identified quality closure issues associated with corrective actions. Eleven of the 20 CRs were associated with corrective actions associated with root causes that impacted NRC PIs (Unplanned Scrams per 7000 Critical Hours and Unplanned Scrams with Complications). In the third quarter of 2014, closure quality issues were identified with 32 corrective actions associated with 16 CRs. The inspectors reviewed 55 CRs in the fourth quarter of 2014 that identified corrective action quality closure issues, which resulted from an Entergy focus on quality closure of corrective actions by an internal screening committee. Entergy instituted a cross-functional closure review board for corrective action quality, resulting in a higher number of closure quality issues being identified and new CRs being entered into the corrective action program. Entergy continues to implement the corrective action plan recovery plan outlined in CR-PNP-2014-2740.

.3 Annual Sample: Follow-Up for Untimely Corrective Actions for SBO Diesel Fuel Oil Transfer System Design Control

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's apparent cause analysis associated with CR-PNP-2013-6906, untimely corrective actions for resolving the design aspects of the fuel transfer strategy of the design basis for the seven day fuel supply for the EDGs. This CR was also referenced in NCV 05000293/2013004-01, Failure to Complete a Design Control Review for the SBO Fuel Oil Transfer System in a Timely Manner, and was selected for review as a follow-up to this NCV.

The inspectors assessed Entergy's problem identification threshold, cause analysis, extent of condition review, compensatory actions, and the prioritization and timelines of Entergy's corrective actions to determine whether Entergy was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of Entergy's corrective action program and 10 CFR 50, Appendix B. In addition, the inspectors performed field walkdowns and interviewed Entergy personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified

The inspectors found that Entergy took adequate action to identify the apparent causes of the failure to implement timely corrective actions. Entergy identified apparent causes were periodic and interim reviews and corrective action due date extensions did not adequately address risk, based on timeliness. Additionally, a second apparent cause was identified in which there existed no mechanism to make safety and regulatory risk prioritization decisions visible to the site groups that could provide risk inputs and challenges to those decisions. Corrective actions included the revision of specific guidance given to Entergy personnel performing corrective action interim and periodic reviews, as well as additional training on such reviews. Moreover, Entergy implemented a regulatory assurance status report as a mechanism of regularly informing station management of key issues requiring timely resolution.

Entergy performed an extent of condition review of interim and periodic reviews to ensure that risk was considered during original performance. This extent of condition review did reveal weaknesses in the performance of interim and periodic reviews, and new corrective actions were assigned under the applicable CRs to ensure new risk informed reviews were performed.

The inspectors determined that Entergy's overall response to the issue was commensurate with the safety significant, was timely, and the actions taken and planned are reasonable to resolve the failure to take timely corrective actions for the design and implementation of the SBO Fuel Oil Transfer System. The original condition, referenced in NCV 05000293/2012005-01, Failure to Verify the Adequacy of the Design of the SBO Fuel Oil Transfer System, has since been corrected.

4OA5 Other Activities

.1 Preoperational Testing of Independent Spent Fuel Storage Installations at Operating Plants (60854, 60854.1, 60856, and 60856.1)

a. Inspection Scope

The inspectors evaluated Entergy and contractor performance during NRC-observed pre-operational dry run activities associated with Entergy's planned operation of an independent spent fuel storage installation (ISFSI) at Pilgrim. The inspectors observed dry fuel storage (DFS) activities at Pilgrim on December 2 - 5, 2014 (Dry Run No. 3), and DFS activities on December 29 - 30, 2014 (Dry Run No. 4). During the dry runs, the inspectors observed pre-job briefs, field activities, and reviewed RWPs and Entergy DFS procedures to independently verify that Entergy and Holtec personnel used adequate radiological controls, incorporated relevant industry operating experience, and developed and implemented adequate procedures. The inspectors verified that work instructions and procedures appropriately captured the commitments and requirements contained in the Holtec Final Safety Analysis Report, Revision 9; Certificate of Compliance (CoC) No. 1014, Amendment 7 (issued to Holtec International); and 10 CFR Part 72. The inspectors also reviewed DFS-related corrective action CRs and Entergy's associated follow-up actions to ensure that Entergy prioritized, evaluated, and corrected issues commensurate with their safety significance.

During Dry Run No. 3, the inspectors observed placement of the mating device onto the top of the HI-STORM in the reactor building. The inspectors observed Entergy's use of the reactor building crane to lift and transport the mating device, HI-TRAC, and simulated multi-purpose canister (MPC). The inspectors verified that Entergy installed and adequately shimmed the calibrated support pedestals alongside the low profile transporter (LPT) during the stack up of the HI-STORM and HI-TRAC. The inspectors observed operation of the inner and outer reactor building doors and verified that the doors functioned properly and opened to the appropriate height to allow for passage of the loaded HI-STORM. The inspectors observed the operation of the winch to transport the HI-STORM on the LPT from inside the reactor building truck bay to outside the reactor building via the rail system. The inspectors observed Entergy's movement of rail sections with a mobile crane to facilitate placement of the vertical cask transporter (VCT) next to the HI-STORM. In addition, the inspectors observed Entergy's placement of the HI-STORM lid on the HI-STORM with the VCT and the VCT lift and transport of the HI-STORM to its designated spot on the ISFSI pad.

During in-office reviews, the inspectors reviewed the methodology, assumptions, acceptance criteria, analysis, and results of Holtec Report No. HI-2146087, "Calculation Package on the Seismic Stability Analysis of Pilgrim HI-STORM/HI-TRAC Stack Using NRC Concurred Methodology," Revision 5, to assess the response of the HI-TRAC and HI-STORM when in a freestanding stack up configuration during a design basis seismic event.

During Dry Run No. 4, the inspectors observed Entergy's "Wet Operations." The inspectors observed heavy load handling of the HI-TRAC/MPC from the cask decontamination area (CDA) to the SFP and placement on the leveling pad. The inspectors observed the simulated loading/unloading of dummy fuel assemblies into designated MPC cells within the SFP, placement of the drain line on the MPC lid,

placement of the lid on the MPC, and transfer of the HI-TRAC/MPC from the SFP back to the CDA. During the HI-TRAC transfers into and out of the SFP, the inspectors verified that operators properly monitored and controlled the SFP water level. The inspectors also reviewed the MPC slings and lift yolk CoC and inspection documentation. The inspectors performed a visual inspection of the slings and lift yolk to verify that the lifting equipment was adequately rated, inspected, and maintained. In addition, the inspectors reviewed a sample of reactor building crane operator and rigger qualification records to verify that DFS workers were qualified for the tasks that they performed and that their required training was current.

During in-office reviews and an onsite review on December 29 - 30, 2014, the inspectors evaluated Entergy's compliance with the requirements of 10 CFR 72.212. The inspectors verified that Entergy's written evaluations were in accordance with 10 CFR 72.212(b)(5) and confirmed that the conditions set forth in the CoC had been met prior to initial use by Entergy and that the radiological requirements of 10 CFR 72.104 were properly considered. The inspectors verified that applicable reactor site parameters, such as fire and explosions, tornadoes, wind-generated missile impacts, seismic qualifications, lightning, flooding, and temperature had been evaluated for acceptability against the bounding values specified in the storage cask final safety analysis report and the NRC Safety Evaluation Report. The inspectors reviewed Entergy's 10 CFR 50.59 evaluations related to the construction and operation of the ISFSI. In addition, the inspectors performed an ISFSI storage pad and haul path walk down to verify that those areas did not contain fire or explosion hazards beyond those analyzed in the storage cask final safety analysis report.

b. Findings

Introduction. The inspectors identified a Severity Level IV NCV of 10 CFR 50.59, "Changes, Tests and Experiments", when Entergy did not obtain a license amendment prior to implementing a change to the plant that required a change to TS. Specifically, Entergy removed the energy absorbing pad described in TS 4.3.4.b, "Design Features," and UFSAR section 10.3.6, "Consequences of a Dropped Fuel Cask," without receiving prior NRC approval.

Description. During the NRC review of Entergy's LAR for a TS change to support moving the dry fuel storage cask lid over the spent fuel in the cask on August 18, 2014, the NRC identified that Entergy had removed the energy absorbing pad from the SFP without submitting a TS revision to remove or modify TS 4.3.4.b. TS 4.3.4.b states, "No fuel which has decayed for less than 200 days shall be stored in racks within an arc described by the height of the cask around the periphery of the energy absorbing pad." UFSAR section 10.3.6 states that analysis has demonstrated that with the spent fuel pool energy absorber in place, damage to the SFP floor will not result in a SFP leakage rate greater than the pool makeup capacity due to a dropped cask. By removing the energy absorbing pad, Entergy altered the plant configuration from the condition stated in TS 4.3.4.b without prior NRC approval.

EN-LI-100, "Process Applicability Determination," Revision 15, requires, in part, that activities be screened to determine any impact on licensing basis documents, which include the TSs and UFSAR. During Entergy's engineering change review, the SFP

energy absorbing pad was not listed as a topic for review in the TSs and UFSAR, despite being designated for replacement with a cask leveling pad. The energy absorbing pad was not identified as requiring inclusion in the LAR submitted on November 26, 2013, to the NRC for review.

The energy pad itself is not a TS requirement; however, its position is used to define the position of a cask relative to the fuel racks in TSs. Prior to removing the energy absorbing pad, the site installed a single failure-proof crane on December 11, 2013, which removed the necessity of the energy absorbing pad. Also, Entergy had installed the cask leveling pad, which was designed to provide protection for the SFP floor liner during cask handling with a single failure-proof crane, prior to beginning dry storage cask handling activities. However, the site did not request approval prior to taking actions that altered the plant from the stated TS condition. When the pad was removed on June 25, 2014, all spent fuel within the area of concern was greater than 200 days old and no cask was inserted into the SFP from June 25, 2014 to October 31, 2014. Entergy entered this issue into the corrective action program as CR-PNP-2014-04109. Entergy submitted a LAR supplement to the NRC on September 11, 2014, to remove the energy absorbing pad language from TS, and performed an extent of condition review on previous engineering changes. Entergy also prohibited placing a cask in the SFP until receiving NRC approval for a change to TS 4.3.4.b, which occurred on October 31, 2014.

Analysis. The inspectors determined that Entergy did not perform an adequate 10 CFR 50.59 evaluation and obtain a license amendment prior to removing the SFP energy absorbing pad. The inspectors determined this was a performance deficiency that was within Entergy's ability to foresee and correct and should have been prevented. Because the issue had the potential to affect the NRC's ability to perform its regulatory function, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using the Enforcement Manual, the inspectors determined that the violation was a Severity Level IV (a 10 CFR 50.59 violation that resulted in conditions that required NRC approval before implementation) violation. The inspectors evaluated the performance deficiency under the Reactor Oversight Process and determined that the associated Reactor Oversight Process finding was minor because Entergy had installed a single failure-proof crane prior to removing the energy absorbing pad and installed the cask leveling pad prior to beginning dry storage cask handling activities. As such, no cross-cutting aspect was assigned to this finding.

Enforcement. 10 CFR 50.59, "Changes, Tests, and Experiments," states, partially, in subsection (c)(1) that "A licensee may make changes in the facility as described in the FSAR (as updated), make changes in the facility as described in the FSAR (as updated) without obtaining a license amendment pursuant to Sec 50.90 only if: (i) A change to the TSs incorporated in the license is not required." Contrary to this, from June 25, 2014 to October 31, 2014, Entergy made changes to the plant that impacted TS 4.3.4.b without obtaining a license amendment pursuant to 10 CFR 50.90. In accordance with the NRC Enforcement Manual 2.1.3, "Enforcement of 10 CFR 50.59 and Related FSAR," the violation was characterized as Severity Level IV because the underlying technical issue required NRC approval prior to implementation. Since this violation was of minor significance, was not repetitive or willful, and was entered into Entergy's corrective action program as CR-PNP-2014-04109, this violation is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV 05000293/2014-001, Modification to the Spent Fuel Pool Cask Area without Prior NRC Approval)**

.2 Groundwater Protection Initiative

a. Inspection Scope

During November 3 – 6, 2014, the inspectors reviewed implementation of the GPI and changes to Entergy's written program for identifying and controlling contaminated spills/leaks to groundwater. The objective of the review was to determine if Entergy has effectively implemented the GPI in light of the recent groundwater contamination from the leak in the neutralizer sump discharge line and catch basins.

b. Findings and Observations

No findings were identified.

One non-conformance was observed with implementation of the NEI 07-07 GPI, specifically, acceptance criteria 1.4.c, to evaluate and document the decommissioning impact from residual byproduct material left in the ground surrounding the neutralizer sump discharge line.

CR-PNP-2014-01321 has been written to document the need to perform a cost-benefit analysis for the various remediation options including the natural attenuation option.

4OA6 Meetings, Including Exit

On January 21, 2015, the inspectors presented the quarterly baseline 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
G. Blankenbiller	Chemistry Manager
T. Bordelon	Performance & Improvement Manager
D. Brugman	Supervisor ALARA/Technical Support
D. Burke	Security Manager
R. Byrne	Licensing Engineer
D. Calabrese	EP Manager
B. Chenard	Engineering Director
F. Clifford	Operations Support Manager
S. Brewer	Radiation Protection Supervisor
S. Burke	Senior Staff Engineer
S. Cook	Chemistry Supervisor
J. Cotter	Operations Training Supervisor
J. Cox	Radiation Protection Operations Supervisor
B. Deevy	System Engineer
W. Grieves	Quality Assurance
P. Harizi	Design Engineer
J. House	Operations Training Supervisor
K. Kampschneider	Senior System and Components Engineer
J. Keene	System Engineer
L. Kinney	Project Manager, Holtec
P. Kristian	Project Manager, Dry Fuel Storage
J. Macdonald	Senior Operations Manager
V. Magnosta	Senior Operations Instructor
W. Mauro	Supervisor Radiation Protection Support
C. McDonald	Training Manager
F. McGinnis	Licensing Engineer
C. Minott	Project Manager
R. Morris	Senior System and Components Engineer
J. Moylan	Manager, Project & Maintenance Services
D. Noyes	Director of Regulatory & Performance Improvement
J. O'Donnell	Senior System and Components Engineer
J. Ohrenberger	Senior Maintenance Manager
E. Perkins	Regulatory Assurance Manager
J. Priest	Emergency Preparedness Manager
B. Rancourt	Senior Lead Engineer, Design Engineering
N. Reece	System and Components Engineer
J. Shumate	Manager, PS&O
D. Sitkowski	Design Engineer
M. Thornhill	Radiation Protection Supervisor
G. Vazquez	Quality Assurance Supervisor
S. Verrochi	General Manager Plant Operations
T. White	Design & Program Engineering Manager
M. Williams	Nuclear Safety Licensing Specialist
A. Zelie	Radiation Protection Manager

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

05000293/2014005-01	NCV	Modification to the Spent Fuel Pool Cask Area without Prior NRC Approval (Section 40A5)
---------------------	-----	--

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

8.C.40, Seasonal Weather Surveillance, Revision 29
 1.3.34, Surveillance Test Review, Revision 129
 2.2.38, Plant Heating System, Revision 50
 EN-WM-102, Work Implementation and Closeout, Revision 9

Condition Reports

CR-PNP-2014-05642	CR-PNP-2014-05603	CR-PNP-2014-05500
CR-PNP-2014-04947	CR-PNP-2014-05920	CR-PNP-2014-05546

Work Orders

52525175	52519941	398363	52505417
----------	----------	--------	----------

Section 1R04: Equipment Alignment

Procedures

2.2.19, Residual Heat Removal, Revision 10
 2.2.8, Standby AC Power System (Diesel Generators), Revision 107
 2.2.108, Diesel Generator Cooling and Ventilation System, Revision 45
 2.2.21, High Pressure Coolant Injection System (HPCI), Revision 83

Condition Reports (*NRC Identified)

CR-PNP-2014-2250	CR-PNP-2014-4355	CR-PNP-2014-6168*
CR-PNP-2014-6539	CR-PNP-2014-6477	

Drawings

M241 Sh 1, P&ID Residual Heat Removal System, Revision 87
 M241 Sh 2, P&ID Residual Heat Removal System, Revision 49
 M219, P&ID Diesel Generator Air Start System, Revision 24
 M259, P&ID Diesel Generator Turbo Air Assist System, Revision E10
 M243, P&ID HPCI System, Revision 54
 M244 Sh 1, P&ID HPCI System, Revision 31
 M244 Sh 2, HPCI System Turbine Lube and Control Oil Subsystem, Revision 10

Miscellaneous

FSAR Section 4.8, Residual Heat Removal System

FSAR Section 8.5, Standby AC Power Source
FSAR Section 6.4.1, High Pressure Coolant Injection System (HPCIS)
ESOMS Narrative Log
ESOMS Equipment Database
HPCI System Health Report for the 4th quarter of 2014

Section 1R05: Fire Protection (*NRC Identified)

Procedures

5.5.2, Special Fire Procedure, Revision 52
2.2.27, Carbon Dioxide Systems, Revision 28
89XM-1-ER-Q-E5, Fire Hazard Analysis, dated February 2000
Fire Hazard Analysis - Fire Area 1.9, Fire Zone 2.3, Battery Room 'A'
Fire Hazard Analysis – Fire Area 1.10, Fire Zone 2.4, Battery Room 'B'
Fire Hazard Analysis – Fire Area 1.10, Fire Zone 2.6 Hydrogen Seal Supply Oil Unit and Truck Lock Area
Fire Hazard Analysis – Fire Area 1.9, Fire Zone 1.13 Fuel Pool Cooling Pumps/ Hx. Area
Fire Hazard Analysis – Fire Area 1.9, Fire Zone 1.9 CRD Hydraulic Control Units – East Side Area
Fire Hazard Analysis – Fire Area 1.10, Fire Zone 1.10 CRD Hydraulic Control Units – West Side Area

Condition Reports

CR-PNP-2013-0308 CR-PNP-2013-1973 CR-PNP-2014-5456*

Drawings

A317 Sh 1, Reactor and Turbine Building Floor Plan at EL 23'-0", Fire barrier System, Revision E9
M474 Sh 1, Fire Protection System Fire Damper Schedule, Revision E6
M474 Sh 2, Fire Protection System Fire Damper Details, Revision E5
A320 Sh 1, Reactor building Plans – El. 117'-0", 101'-0", 91'-3", 74'-3" & Intake Building Plan – Fire Barrier System, Revision E4
A320 Sh 2, Reactor building Plans – El. 117'-0", 101'-0", 91'-3", 74'-3" & Intake Building Plan – Fire Barrier Numbering Sys., Revision E1
A322, Reactor & Turbine Building Section B-B Fire barrier System, Revision E2

Maintenance Orders/Work Orders

52292021-01 52314595-01 52407880-01

Miscellaneous

Fire Protection Engineering Evaluation 100.87, Unfilled Block Walls/Joints – Generator Auxiliary Area, Revision 0
License Amendment No. 123, Reduced Fire Barrier Requirements for Selected Areas

Section 1R06: Flood Protection Measures

Drawings

M100-726-3, Firewater, Revision E2
M4537, Fire Protection System, Revision E1

Miscellaneous

PNPS – NE-07-00006, Pilgrim Probabilistic Safety Assessment, Appendix C, Revision 3

Section 1R07: Heat Sink Performance

Procedures

2.2.32, RBCWW/TBCCW Heat Exchanger Differential Pressure Evaluation, Revision 89

Maintenance Orders/Work Orders

52592105

Section 1R11: Licensed Operator Requalification Program

Procedures

2.2.146, Station Blackout Diesel Generator, Revision 44

5.3.31, Station Blackout, Revision 17

9.9, Control Rod Scram Insertion Time Evaluation, Revision 76

Miscellaneous

NEI 99-01, Development of Emergency Actin Levels for Non-Passive Reactors, Revision 6

TDBD-115, Design Basis Document for Station Blackout, Revision 1

Section 1R12: Maintenance Effectiveness

Procedures

EN-DC-315, Flow Accelerated Corrosion Program, Revision 12

Condition Reports

CR-PNP-2014-4502

CR-PNP-2013-2911

CR-PNP-2014-5838

CR-PNP-2013-2898

Miscellaneous

Maintenance Rule Basis Document, Feedwater Heater Drains and Vents System, Revision 1

M1027, Feedwater Heaters E103A and E103B Vessel Patch Analysis, Revision 0

M959, Feedwater Heater E-103B Shell Min Wall Thickness Evaluation, Revision 1

EN-LI-100, Process Applicability Determination for EC5000072330, Revision 7

EC 5000072330, Contingency Weld Repairs for the E-103B Feedwater Heater Shell, dated
December 11, 2008

NRC Generic Letter 89-08

2Q14 Feed Heating and Extraction Steam System Health Report, dated November 2014

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

EN-WM-104, Online Risk Assessment, Revision 9

1.5.22, Risk Assessment Process, Revision 24

2.2.22, Reactor Core Isolation Cooling System, Revision 79

3.M.1-14, General Maintenance Procedure for Heavy Load Handling Operations – Critical
Maintenance, Revision 30

Condition Reports (*NRC Identified)

CR-PNP-2014-4589 CR-PNP-2014-5196*

Drawings

M246 Sh 1, P&ID RCIC System, Revision 32

Miscellaneous

ESOMS Clearance Module

ESOMS Narrative Log

FSAR 10.3.6, Consequences of a Dropped Fuel Cask

Narrative Logs

Online Risk Assessment for the Week of 9/28/14

Online Risk Assessment for the Week of 10/12/14

Online Risk Assessment for the Week of 11/9/14

Protected Equipment List

Section 1R15: Operability Determinations and Functionality AssessmentsProcedures

EN-OP-104, Operability Determination Process, Revision 7

2.2.21, High Pressure Coolant Injection System (HPCI), Revision 83

8.E.23, HPCI System Instrumentation Calibration, Revision 75

8.E.23.1, HPCI Turbine Speed Control System Calibration – Critical Maintenance, Revision 12

Condition Reports

CR-PNP-2010-2935

CR-PNP-2013-4070

CR-PNP-2013-6613

CR-PNP-2014-2280

CR-PNP-2014-3973

CR-PNP-2014-4580

CR-PNP-2014-4750

CR-PNP-2014-6270

CR-PNP-2014-2662

CR-PNP-2014-2901

CR-PNP-2014-3113

CR-PNP-2014-3341

CR-PNP-2014-4507

CR-PNP-2014-6270

CR-PNP-2014-6284

Maintenance Orders/Work Orders

52314006 52417077

Drawings

M1J18-11, Elementary Diagram High Pressure Coolant Injection System, Revision E21

M243, P&ID HPCI System, Revision 54

M597-1, Valve Assembly Drawing MO-2301-3 and MO-2301-5, Revision E0

Work Order C020080307

Miscellaneous

1000366-TR-1, Degraded Voltage Test Report Woodward 2301A and DRU, dated 9/26/14

Calculation M895, RCIC and HPCI NPSH and Suction Line Pressure Drop, Revision 0

Event Notification 50356 Retraction

FSAR Section 5.2, Primary Containment System

FSAR Section 6.4.1, High Pressure Coolant Injection System

FSAR Section 7.4.3.2, High Pressure Coolant Injection System Control and Instrument

Section 1R19: Post-Maintenance TestingProcedures

- 2.1.19, Suppression Chamber Temperatures, Revision 19
 8.M.1-20, High Water Level Scram Discharge Tank Instrumentation Calibration/Functional Test Without Half Scrams – Critical Maintenance, Revision 71
 8.M.2-2.6.7, RCIC Simulated Automatic Actuation, Revision 21
 8.5.5.4, RCIC Motor Operated Valve Quarterly Operating Test, Revision 41
 8.5.5.11, Manual Start of the RCIC Turbine for Maintenance Activities, Revision 9
 8.5.3.2.1, Salt Service Water Pump Quarterly and Biennial (Comprehensive Operability and Valve Operability Tests, Revision 30
 3.M.4-14.2, Salt Service Water Pumps: Routine Maintenance, Revision 62

Condition Reports

CR-PNP-2014-4568	CR-PNP-2014-4571	CR-PNP-2014-4575
CR-PNP-2014-4588	CR-PNP-2014-4589	CR-PNP-2014-4590
CR-PNP-2014-4593	CR-PNP-2014-4951	CR-PNP-2014-5825
CR-PNP-2014-6147	CR-PNP-2014-5925	CR-PNP-2014-5894
CR-PNP-2014-5875	CR-PNP-2014-5877	CR-PNP-2014-5880
CR-PNP-2014-5948		

Maintenance Orders

391529	391542	52381623	5242330	397726
--------	--------	----------	---------	--------

Drawings

- E698, Elementary Diagram Reactor Protection System Analog Trip Cabinet C2228-A1, Revision E13
 E699, Elementary Diagram Reactor Protection System Analog Trip Cabinet C2228-A2, Revision E13
 M1N15-9, Elementary Diagram Reactor Protection System, Revision 17
 M1N17-8, Elementary Diagram Reactor Protection System, Revision E13
 M1N22-8, Elementary Diagram Reactor Protection System, Revision 7

Miscellaneous

- FSAR Section 7.2, Reactor Protection System
 Vendor Manual V-0533, Fluid Components Intl (FCI) Instruments, Revision 11

Section 1R22: Surveillance TestingProcedures

- 8.M.1-20, High Water Level Scram Discharge Tank Instrumentation Calibration/Functional Test Without Half Scrams – Critical Maintenance, Revision 71
 9.9, Control Rod Scram Insertion Time Evaluation, Revision 76
 8.5.3.1, Reactor Building Closed Cooling Water System Quarterly and Biennial Comprehensive Operability, Revision 61
 8.9.1, Emergency Diesel Generator and Associated Emergency Bus Surveillance, Revision 127
 2.2.8, Standby AC Power Source (Diesel Generators), Revision 107

Condition Reports

CR-PNP-2014-4951	CR-PNP-2014-4861	CR-PNP-2014-5760
------------------	------------------	------------------

CR-PNP-2014-6023

CR-PNP-2014-2551

Maintenance Orders/Work Orders

00391529-01

00391529-02

00391542-01

00391542-02

52595324-01

00366893-02

Drawings

E698, Elementary Diagram Reactor Protection System Analog Trip Cabinet C2228-A1, Revision E13

E699, Elementary Diagram Reactor Protection System Analog Trip Cabinet C2228-A2, Revision E13

M1N15-9, Elementary Diagram Reactor Protection System, Revision 17

M1N17-8, Elementary Diagram Reactor Protection System, Revision E13

M1N22-8, Elementary Diagram Reactor Protection System, Revision 7

Miscellaneous

FSAR Section 7.2, Reactor Protection System

FSAR Section 8.5, Standby AC Power Source

Scram Timing Data, Dated 10/24/14

Vendor Manual V-0533, Fluid Components Intl (FCI) Instruments, Revision 11

Section 1EP6: Drill Evaluation

Procedures

EP-PP-01, PNPS Emergency Plan, Revision 42

Condition Reports

CR-PNP-2014-5359

CR-PNP-2014-5365

CR-PNP-2014-5276

CR-PNP-2014-5360

CR-PNP-2014-5269

CR-PNP-2014-5377

CR-PNP-2014-5363

CR-PNP-2014-5373

CR-PNP-2014-5386

Miscellaneous

EP Combined Functional Drill (14-06), dated October 22, 2014

TDBD-115, Design Basis Document for Station Blackout, Revision 1

Section 2RSO1: Radiological Hazard Assessment and Exposure Controls

Procedures

Procedures

EN-RP-101, Access Controls for Radiologically Controlled Areas, Revision 10

EN-RP-106, Radiological Survey Documentation, Revision 5

EN-RP-108, Radiation Protection Posting, Revision 14

EN-RP-121, Radioactive Material Control, Revision 9

EN-RP-122, Alpha Monitoring, Revision 8

EN-RP-143, Source Control, Revision 9

Condition Reports

CR-PNP-2014-0965

CR-PNP-2014-2288

CR-PNP-2014-4291

CR-PNP-2014-0632

CR-PNP-2014-2429

CR-PNP-2014-2565

CR-PNP-2014-3869

Miscellaneous

PNP-1410-0029, Radiological Survey Spent Resin Tank Cubicle, October 4, 2014
PNP-1410-0197, Radiological Survey Spent Resin Tank Cubicle, October 27, 2014
PNP-1410-0102, Radwaste 13' Spent Resin Storage Tank : Pre Decon Survey,
October 7, 2014
PNP-1410-0124, Radwaste 13' Spent Resin Storage Tank : Post Decon Survey,
October 18, 2014
PNP-1408-0063, RB 51' RWCU Pump Rooms, August 8, 2014
PNP-1410-0159, RB 51' RWCU Pump Rooms, October 22, 2014
PNP-1409-0031, RB 23' TIP Room, September 8, 2014
PNP-1410-0021, RB 23' TIP Room, October 3, 2014
EN-RP-143, Attachment 9.4 Sealed Source Leak Test Worksheet June 30, 2014
PNPS Inventory of Radioactive Sources with Activities Exceeding 10CFR20.2207, Appendix E
Category 1 and 2 Thresholds, January 2, 2014

Section 2RSO6: Radioactive Gaseous and Liquid Effluent Treatment

Procedures

EN-RP-113, Response to Contaminated Spills and Leaks, Revision 8
EN-RP-108, IE 80-10 Monitoring of Non-Radioactive Systems, Revision 6
EN-RP-121, Radioactive material Control, Revision 9

Gas and Liquid Effluent Waste Permits

PNPS 7.9.12 Attachment 1, Liquid Radwaste Verification and Discharge, May 6, 2014
PNPS 7.9.12 Attachment 5, Liquid Discharge Flow Rate, May 7, 2014

Condition Reports

CR-PNP-2013-1784 CR-PNP-2014-1321

Miscellaneous

SIPD 1878 Waste Neutralizer Sump Discharge Line Repair

Section 4OA1: Performance Indicator Verification

Procedures

EN-LI-114, Performance Indicator Process, Revision 6
EN-WM-104, On Line Risk Management, Revision 10
2.2.32, Salt Service Water System (SSW), Revision 89

Condition Reports (*NRC Identified)

CR-PNP-2010-3682* CR-PNP-2014-3361 CR-PNP-2014-6621*

Miscellaneous

NRC Performance Indicators for Emergency AC Power Systems and Cooling Water Systems
NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 7
MSPI Derivation and Margin Reports
ESOMS Narrative Log
ESOMS LCO Tracking Module
NRC Performance Indicator Technique/Data Sheets for EDGs, RBCCW, and SSW Systems
PNPS-RPT-05-006, Pilgrim Nuclear Power Station Mitigating System Performance Index
(MSPI) Basis Document, Revision 4

Section 40A2: Problem Identification and Resolution

Procedures

2.1.26, Inventory of Alternate Shutdown and EOP Support Tools and Materials, Revision 46
2.2.8, Standby AC Power System (Diesel Generators), Revision 107
EN-LI-102, Corrective Action Program, Revision 24
EN-LI-118, Cause Evaluation Process, Revision 19
EN-LI-118-03, Barrier Analysis, Revision 1
EN-DC-117, Post Maintenance Testing and Special Instructions, Revision 6

Condition Reports (*NRC Identified)

CR-PNP-2013-6906* CR-PNP-2012-3428

Work Orders

00354018-01

Miscellaneous

System Health Report – Emergency Diesels and Fuel
FSAR Section 8.5 Standby AC Power Source
Engineering Change No. 42768
Regulatory Assurance Status Reports for October 3 and November 7, 2014

Section 40A5: Other Activities

Audits and Self-Assessments

O2C-PNPS-2014-0204, Observed Practice Operation of ISFSI Rail Winch System Nuclear Oversight Report, dated 9/24/14
O2C-PNPS-2014-0235, Observed Performance of Annual Inspection of ISFSI Vertical Cask Transporter (VCT) Nuclear Oversight Report, dated 10/29/14
O2C-PNPS-2014-0237, Reviewed Training and Qualification Documentation for Dry Fuel Storage (ISFSI) Project Activities Nuclear Oversight Report, dated 10/29/14
O2C-PNPS-2014-0254, Observed the Mobilization of the ISFSI HI-TRAC into the Reactor Building in Preparation for ISFSI Dry Run No. 3 Nuclear Oversight Report, dated 11/3/14
O2C-PNPS-2014-0251, Review Implementation of QA Program Requirements for ISFSI Pool to Pad (Cask Loading Campaign) Nuclear Oversight Report, dated 11/13/14
O2C-PNPS-2014-0254, Observed the Mobilization of the ISFSI HI-STORM into the Reactor Building in Preparation for ISFSI Dry Run No. 3 Nuclear Oversight Report, dated 11/11/14

O2C-PNPS-2014-0259, Observed Practice Multi-Purpose Canister (MPC) Stack Up and Transfer Operations in the Reactor Building Hoist Way in Preparation for ISFSI Dry Run No. 3 Nuclear Oversight Report, dated 11/20/14
O2C-PNPS-2014-0274, Observed ISFSI Dry Run No. 3 Nuclear Oversight Report, dated 12/5/14
O2C-PNPS-2014-0276, Observed Preparations and Practice for ISFSI Dry Run No. 4 Nuclear Oversight Report, dated 12/12/14
O2C-PNPS-2014-0277, Review Implementation of Program Requirements for ISFSI Pool to Pad (Cask Loading Campaign) Nuclear Oversight Report, dated 12/5/14

Calculations

Holtec Calculation HI-2053453, Evaluation of 8-Minute Engulfing Fire on HI-STORM 100S
Version B, Revision 0
 Holtec Calculation HI-2104743, Evaluation of Fire and Explosion Hazards at Pilgrim Power
Station, Revision 1
 Holtec Calculation HI-2115085, Tornado Generated Missiles Evaluation for HI-STORM 100 at
Pilgrim Nuclear Power Station, Revision 0
 Holtec Calculation HI-2125197, Evaluation of Effects of Wheeled VCT Fire on HI-STORM 100S
Version B, Revision 3
 Holtec Report No. HI-2146087, Calculation Package on the Seismic Stability Analysis of Pilgrim
HI-STORM/HI-TRAC Stack Using NRC Concurred Methodology, Revision 5

Condition Reports

CR-PNP-2014-06068	CR-PNP-2014-06355	CR-PNP-2014-06358
CR-PNP-2014-06359	CR-PNP-2014-06407	CR-PNP-2014-06408
CR-PNP 2014-06653	CR-PNP-2014-06796	CR-PNP-2014-06862

Drawings

7603 Sh. 1, Fuel Storage Layout for Spent Fuel Cask Travel, Revision 2

Miscellaneous

12.2 Attachment 13, Annulus Overpressure System Monitoring Sheet, dated 12/29/14
 ALARA Plan, 2014096 AP1, Revision 1
 CoC 13288-004, Pilgrim (Entergy) MPC Lift Sling Certificate of Conformance, dated 6/30/14
 DI-0331-009, HI-TRAC 100D Fabrication Documentation Package
 DP-0225-1736, 1739 and 1742, HI-STORM 100S Version B Body Fabrication Documentation
Packages
 DP-9925-446, 447 and 448, MPC-68 Fabrication Documentation Packages
 Dry Fuel Storage Job Safety Hazards Analysis Booklet, dated 12/30/14
 Dry Run 4 Brief, dated 12/29/14
 EN-OP-116 Attachment 9.3, DFS Heavy Load Lifts (3.M.1-14) and Dry Run HI-TRAC/MPC
Removal from SFP IPTe Supplemental Controls, dated 12/18/14
 HI-TRAC SN 0331-62888-1, Trunnion /Support Lug Load Test Date Record, dated 1/31/13
 Holtec FME Log HI-TRAC/MPC, dated 12/29
 Holtec FME Log Spent Fuel Pool, dated 12/29
 Holtec Report No. HI-2104715, Seismic Analysis of the Loaded HI-TRAC in the SFP and SFP
Slab Qualification, Revision 7
 Holtec Report No. HI-2135676, NRC-Concurred Seismic Analysis Methodology for the HI-
STORM/HI-TRACStack Using LS-DYNA, Revision 0
 Holtec Report No. HI-2104695, Structural Evaluation of the Truck Bay Slab at the 23 foot
Elevation, Revision 8
 Pilgrim Nuclear Power Station 10 CFR 72.212 Report, Revision 0
 PNPS Final Safety Analysis Report, Revision 29
 PWRP #0872-7941100-1, 100/125 Ton HI-TRAC Lift Yoke Load and Functional Test Procedure
Load Test Data Record, dated 1/27/14
 PWRP #0925-5873999-5, Lift Bracket Support Test Procedure Load Test Data Record, dated
6/27/14
 PWRP #2511999-5, MPC Lift Cleat Load Test Data Record, dated 2/21/14
 Qualification Check Report, dated 12/20/14
 RWP 2014096, Dry Run Independent Spent Fuel Storage Installation Includes Loading,
Processing, and Transport to Dry Fuel Storage Pad, Revision 1

SE-3406, Calculation HI-2115085, Rev. 0, Tornado Generated Missiles Evaluation for HI-STORM 100 at Pilgrim Nuclear Power Station 10 CFR 72.48 Evaluation, dated 10/6/14
Wire Rope Sling (SN 32056) Inspection Record, performed 12/13/14
Work Order 387406-39, Dry Run 3 Transport Operations, dated 11/26/14
Work Order 387406-44, Dry Run 4 Wet Operations, dated 12/16/14
Work Order 387406-48, Dry Run Work Investigate & Repair Rail System Winches, performed 12/4/14

Procedures

3.M.1-14, General Maintenance Procedure for Heavy Load Handling Operations - Critical Maintenance, Revision 30
6.1-225, RP Controls for Dry Fuel Storage Activity, Revision 0
12.2, Multi-Purpose Canister Loading, Revision 0
12.4, Multi-Purpose Canister Stack Up and Transfer, Revision 1
12.5, Multi-Purpose Canister Transport, Revision 1
12.7, Dry Fuel Storage Response to Abnormal Conditions, Revision 0
EN-DC-112 Engineering Change Request Process, Revision 8
EN-DC-115 Engineering Change Process, Revision 16
EN-LI-113, Licensing Basis Document Change Process, Revision 10
EN-MA-118, Foreign Material Exclusion, Revision 10
EN-OP-116, Infrequently Performed Tests or Evolutions, Revision 12

Condition Reports

CR-PNP-2010-5173

CR-PNP-2010-5191

CR-PNP-2010-5182

LIST OF ACRONYMS

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
CDA	cask decontamination area
CoC	Certificate of Compliance
CR	condition report
DFS	dry fuel storage
EDG	emergency diesel generator
Entergy	Entergy Nuclear Operations, Inc.
GPI	groundwater protection initiative
HPCI	high pressure coolant injection
IMC	Inspection Manual Chapter
ISFSI	independent spent fuel storage facility
KV	kilovolt
LAR	license amendment request
LPT	low profile transporter
MPC	multipurpose canister
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
PI	performance indicator
Pilgrim	Pilgrim Nuclear Power Station
RBCCW	reactor building closed cooling water
RCIC	reactor core isolation cooling
RG	regulatory guide
RWP	radiation work permit
SBO	station blackout
SDIV	scram discharge instrument volume
SFP	spent fuel pool
SSC	structure, system, or component
SSW	salt service water
TS	technical specifications
UFSAR	Updated Final Safety Analysis Report
VCT	vertical cask transporter