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

May 11, 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 05000293/2015001 AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI) REPORT 07201044/2015001

Dear Mr. Dent:

On March 31, 2015, 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 April 16, 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 NRC identified violation of NRC requirements which was of very low safety significance (Green). However, because of the very low safety significance, and because it was entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV), consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the 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 addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at PNPS.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records component of 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 Nos. 50-293 and 72-1044
License No. DPR-35

Enclosure: Inspection Report 05000293/2015001 and 07201044/2015001
w/Attachment: Supplementary Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.	50-293 and 72-1044
License Nos.	DPR-35
Report Nos.	05000293/2015001 and 07201044/2015001
Licensee:	Entergy Nuclear Operations, Inc. (Entergy)
Facility:	Pilgrim Nuclear Power Station
Location:	600 Rocky Hill Road Plymouth, MA 02360
Dates:	January 1, 2015 through March 31, 2015
Inspectors:	E. Carfang, Senior Resident Inspector E. Miller, Acting Senior Resident Inspector B. Scrabeck, Resident Inspector N. Floyd, Reactor Inspector B. Dionne, Health Physicist E. Burket, Emergency Preparedness Inspector E. Love, Safety Inspection Engineer O. Masnyk Bailey, Health Physicist J. Schoppy, Senior Reactor Inspector S. Barr, Senior Emergency Preparedness Inspector
Approved By:	Raymond R. McKinley, Chief Reactor Projects Branch 5 Division of Reactor Projects

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SUMMARY

Inspection Report 05000293/2015001; 01/01/2015 – 03/31/2015; Pilgrim Nuclear Power Station (PNPS); Other Activities.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. Inspectors identified one non-cited violation (NCV) of very low safety significance (Green). The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)," dated June 19, 2012. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of Nuclear Regulatory Commission (NRC) requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Mitigating Systems

- Green. The inspectors identified an NCV of very low safety significance (Green) of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix B, Criterion XI, "Test Control," because Entergy did not establish requirements in accordance with their test program for safety-related 4160 volt (V) degraded voltage relays in accordance with Updated Final Safety Analysis Report (UFSAR) Section 8.4.7. Specifically, 4160V switchgear relays 127-509/1 & 2 undervoltage setpoints were not tested for the first time until March 2015, which identified the relays were out of calibration by 22 percent. This impacted operators' ability to perform alarm response procedure ARP-C3L, which directs operators to trip the X107A emergency diesel generator (EDG) when the alarm for relay 127-509/1 & 2 is received. Entergy entered condition report (CR)-PNP-2015-1614 and CR-PNP-2015-1623 into the corrective action program (CAP) to address the degraded condition. Corrective actions included an immediate operability determination and re-calibration of the relays to their required set points prior to restoration of the X107A EDG.

  This finding is more than minor because it impacted the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, the finding is similar to example 1.a in Appendix E of IMC 0612, because no record of testing had ever been recorded or performed; and that testing in 2015 determined that relays 127-509/1 & 2 were degraded and would have impacted the operators' ability to take alarm response procedure actions. In accordance with IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) because it did not represent a loss of a safety system, did not represent a loss of a safety function of a system or a single train greater than its allowed outage time, and did not screen as potentially risk significant due to external events. Specifically, although testing was not being performed to ensure proper relay response, inspectors confirmed relay protection was available to ensure that at a minimum emergency core cooling system (ECCS) injection valves would not have been impacted if the X107A EDG voltage regulator failed during a loss of offsite power (LOOP)/loss of coolant accident (LOCA). This finding had a cross-cutting aspect in the area of problem

identification and resolution related to identification because Entergy did not implement the CAP with a low threshold for identifying issues. Specifically, Entergy had multiple opportunities to identify that relays 127-509/1 & 2 undervoltage dropout settings were not being tested during establishment of the test setup or through periodic trending against similar relays in other systems [P.1]. (Section 1R15)

REPORT DETAILS

Summary of Plant Status

PNPS began the inspection period at 100 percent power. On January 27, 2015, during a severe winter storm, operators reduced reactor power to 52 percent due to degrading switchyard conditions when an automatic reactor scram occurred with the loss of 345 kilovolt (kV) offsite electrical power sources (line 355 and line 342). The operators took the unit to cold shutdown that same day and remained in that condition for restoration of the 345kV offsite electrical power sources, replacement of the 3A and 3C safety relief valves (SRVs), and repairs to the Y2 vital instrument bus. Operators commenced a reactor startup on February 6, 2015, and returned the unit to 100 percent power on February 8, 2015. Operators reduced reactor power to 55 percent on February 9, 2015, to perform a rod pattern exchange, and returned to 100 percent power that same day. On February 14, 2015, the operators performed a controlled shutdown and proceeded to cold shutdown based on procedural requirements during blizzard conditions. Operators performed a reactor startup on February 17, 2015. On February 18, 2015, after achieving 20 percent power, troubleshooting of the main condenser was performed due to condenser tube leaks. Following repair of the condenser tube leaks, operators proceeded with power ascension on February 19, 2015. Operators returned the unit to 100 percent power on February 20, 2015. On February 21, 2015, operators reduced reactor power to 60 percent to perform a rod pattern adjustment. Operators returned the unit to 100 percent the same day. On March 18, 2015, operators reduced power to 70 percent to perform a rod pattern adjustment. The unit was returned to 100 percent power the same day and remained 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 Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors reviewed Entergy's preparations for an impending winter storm on January 23, 2015. The inspectors reviewed the implementation of adverse weather preparation procedures before the onset of and during this adverse weather condition. The review focused on Entergy's preparations for the storm. The inspectors reviewed station procedures, including Entergy's coastal storm, high wind, and severe weather procedures. The inspectors performed walkdowns of the site to ensure that station personnel had identified issues that could challenge the operability of systems during high wind and winter storm conditions. The inspectors discussed readiness and staff availability for adverse weather response with operations and work control personnel. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

Partial System Walkdowns (71111.04 – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- The X-107A EDG during testing on the X-107B EDG on January 12, 2015
- Restoration of the B control rod drive pump after maintenance on January 14, 2015
- Station blackout EDG during X107A EDG A preventative maintenance on March 6, 2015
- Restoration of X-107B EDG following cylinder head replacement on March 23, 2015

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, technical specifications, 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 CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 6 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.

- A6 4.16kV switchgear and load center room on January 8, 2015
- X107A and X107B EDG rooms on January 28, 2015
- Reactor Building (RB) elevation 51 ft. inside secondary containment, west, on February 25, 2015

- Standby gas treatment system room on March 2, 2015
- Radioactive chemical laboratory on March 6, 2015
- High pressure coolant injection (HPCI) pump and turbine room on March 12, 2015

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11Q – 2 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on January 21, 2015, which included main steam isolation valve failure leading to a Failure-To-Scram requiring an alternate rod insertion. Operators also responded to the loss of the start-up transformer, loss of an emergency 4160V bus, and a steam leak. 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. 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 the main control room activities listed below. The inspectors observed control room briefings to verify that the briefings met the criteria specified in Entergy procedure EN-OP-116, “Infrequently Performed Tests and Evolutions,” Revision 6. Additionally, the inspectors observed test performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

- Initiation of shutdown cooling following a reactor scram due to the loss of 345kV offsite electrical power sources, line 355 and line 342, on January 27, 2015
- Transfer of the A5 4.16kV switchgear from the X-107A EDG to offsite power line 342 on January 29, 2015
- Control room testing of the 3A and 3C SRVs on February 7, 2015
- Reactor shutdown activities on February 14, 2015

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, or component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP 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. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Entergy staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- K-117 diesel powered air compressor on February 27, 2015
- HPCI system on March 9 – 13, 2015

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 6 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 technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Elevated risk with the X-107B EDG inoperable for logic system functional testing on January 12, 2015

- Elevated risk due to unavailability of offsite power lines 355 and 342 during the forced outage on January 29, 2015
- Elevated risk for emergent maintenance on K-117 diesel powered air compressor with K-111 electric air compressor out of service and low pressure coolant injection (LPCI) break logic functional testing on February 19, 2015
- Elevated risk for the K-111 electric air compressor out of service and performance of testing on the X-107A EDG on February 26, 2015
- Elevated risk with the K-111 electric air compressor and the X-107A EDG out of service for maintenance on March 2, 2015
- Normal risk for the K-111 electric air compressor out of service and performance of undervoltage and degraded voltage testing on emergency busses A5 and A6 on March 11, 2015

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 6 samples)

a. Inspection Scope

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

- HPCI pump after gland seal condenser overflow on February 4, 2015
- P-215B core spray (CS) motor multiple starts within seven hours on February 4, 2015
- P-215B CS injection system cycling impact on fatigue analysis on February 4, 2015
- 3B and 3D SRV continued use after 3C SRV did not fully open on February 6, 2015
- Undervoltage relay 127-509/2 for X107A EDG found out of tolerance on March 6, 2015
- C904 jet pump flow total loop 'A' indication failed high on March 23, 2015

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 technical specification 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 technical specifications 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

Introduction. The inspectors identified an NCV of very low safety significance (Green) of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," because Entergy did not establish requirements in accordance with their test program for safety-related 4160V

degraded voltage relays in accordance with UFSAR Section 8.4.7. Specifically, 4160V switchgear relays 127-509/1 & 2 undervoltage setpoints were not tested for the first time until March 2015, which identified the relays were out of calibration by 22 percent. This impacted operators ability to perform alarm response procedure ARP-C3L, which directs operators to trip the X107A EDG when the alarm for relay 127-509/1 & 2 is received.

Description. 4160V undervoltage relays 127-509/1 & 2 are designed to provide an alarm to the control room operators in the event of an undervoltage and overvoltage condition on 4160V safety-related electrical bus A5. In 1989, problem report PR-1989-2244 was issued regarding a degraded voltage scenario that was identified from operating experience at other boiling water reactors (BWRs). The scenario specifically looked at the potential for a voltage regulator failure of the operating EDG during a simultaneous LOOP and LOCA. Given that the LPCI valves are powered from 480V electrical bus B6, which receives power from 4160V Bus A5 and A6, a failure of the EDG voltage regulator during a LOOP/LOCA would cause the LPCI valves to fail to open or fail in place and not fully open. This would prevent the ECCS from injecting at low pressures and potentially lead to core damage. The corrective action to this scenario included two parts that were implemented at different times. First, in 1989, to ensure this event did not impact the ECCS injection function, a step was added in alarm response procedure ARP-C3L to trip the operating EDG to protect the 4160V bus and other associated electrical equipment. Second, in 1997, relays were installed to protect respective electrical feeds to the B6 480V electrical bus; preventing potential damage to the LPCI injection valves if the EDG were to fail during a LOOP/LOCA.

On March 6, 2015, Entergy staff performed 4160V electrical bus A5 relay testing in accordance with work order 52425333 and procedure 3.M.3-1, “A5/A6 Buses 4kV Protective Relay Calibration/Functional Test and Annunciator Verification – Critical Maintenance,” Revision 140. In preparation for this testing, Entergy staff noted a change in the drawing which contains the acceptance criteria for the 127-509/1 and 127-509/2 relays. The Entergy staff appropriately updated their relay testing equipment with the proper acceptance criteria; however, did not recognize that the relays had not been tested for the undervoltage dropout setting prior to this date. Testing of the undervoltage dropout setting for relays 127-509/1 & 2 revealed the “as-found” set point to be at 82V compared to the requirement of 106V. Upon inspectors request for information regarding past performance of relays 127-509/1 & 2, Entergy staff discovered that no prior testing for the undervoltage dropout setting had ever been performed. Given that Entergy had not tested these relays over the life of the plant, there was no method to effectively track and trend relay drift from required setpoints which impacted operators’ ability to carry out actions in alarm response procedures. Entergy entered CR-PNP-2015-1614 and CR-PNP-2015-1623 into the CAP to address the degraded condition. An immediate operability determination was performed and the relays were re-calibrated to their required set points successfully prior to restoration of the X107A EDG.

UFSAR Section 8.4.7 for the auxiliary power distribution system establishes a testing frequency for non-technical specification, safety-related 4160V relays in Table 8.4-3 for every four years. These relays are typically tested in accordance with Entergy’s preventive maintenance program and implementation of procedure 3.M.1-1. However, Entergy did not establish testing requirements or a testing frequency to ensure that the undervoltage dropout relay was properly being maintained and functional. Entergy entered CR-2014-1898 into the CAP to address this issue. The immediate operability determination noted that the 480V electrical bus relays installed in 1997 would have

performed a similar function to protect the ECCS injection equipment; however, it would not have protected other safety-related equipment in the event of a voltage regulator failure during a LOOP/LOCA. The inspectors confirmed that the 480V electrical bus relays were properly tested and within acceptance criteria as of 2013 to ensure it could have prevented LPCI injection failure.

The inspectors also requested information regarding extent of condition for potential impact on other undervoltage relays. Extent of condition reviews revealed the overvoltage relay setting for relay 127-509/2 was found out of tolerance and not able to be re-calibrated within acceptance limits. Inspectors identified that an immediate operability determination was not performed. The inspectors also identified that by leaving the relay outside of its acceptance limit after declaring the system operable, a review for applicability to 10 CFR 50.59 should have been performed in accordance with EN-LI-100, "Process Applicability Determination," Revision 16. Entergy staff generated CR-2015-1899 to address this issue. The extent of condition review also revealed that Entergy staff failed to identify that the X107B EDG undervoltage and overvoltage relays 127-609/1 & 2 did not meet acceptance criteria in January 2014. Entergy staff generated CR-2015-2336 to evaluate the condition and address immediate operability. Entergy determined that the non-conforming conditions did not impact operability of the safety-related 4160V electrical buses with which they are associated.

Analysis. The inspectors determined that not ensuring requirements and testing were established for 4160V safety-related relays 127-509/1 & 2 in accordance with 10 CFR 50, Appendix B, Criterion XI was a performance deficiency that was reasonably within Entergy's ability to foresee and correct. This finding is more than minor because it impacted the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, the finding is similar to example 1.a in Appendix E of IMC 0612, because no record of testing had ever been recorded or performed; and that testing in 2015 determined that relays 127-509/1 & 2 were degraded and would have impacted the operators' ability to take alarm response procedure actions.

In accordance with IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) because it did not represent a loss of a safety system, did not represent a loss of a safety function of a system or a single train greater than its allowed outage time, and did not screen as potentially risk significant due to external events. Specifically, although testing was not being performed to ensure proper relay response, inspectors confirmed relay protection was available to ensure that at a minimum ECCS injection valves would not have been impacted if the X107A EDG voltage regulator failed during a LOOP/LOCA.

The inspectors determined this finding had a cross-cutting aspect in the area of problem identification and resolution related to identification because Entergy did not implement the CAP with a low threshold for identifying issues. Specifically, Entergy had multiple opportunities to identify that relays 127-509/1 & 2 undervoltage dropout settings were not being tested during establishment of the test setup or through periodic trending against similar relays in other systems [P.1].

Enforcement. 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," states, in part, that a test program shall be established to assure that all testing required to demonstrate that SSCs will perform satisfactorily in service is performed in accordance with written test procedures, and test results are documented and evaluated to assure that test requirements have been satisfied. Contrary to the above, test requirements for relays 127-509/1 & 2 were not incorporated into 3.M.3-1 to ensure that specified test program requirements were established and implemented. Specifically, by not testing the undervoltage setpoints for relays 127-509/1 & 2, the relays drifted 22 percent below their required setpoint and impacted operators' ability to implement established alarm response procedures during a degraded voltage event and a LOOP/LOCA. Entergy's immediate corrective actions included entering the issue into their CAP as CR-PNP-2015-1614 and CR-PNP-2015-1623, conducting an immediate operability determination, and re-calibrating the relay's to their required setpoints prior to restoration of the X107A EDG. Because this violation was of very low safety significance (Green) and was entered into Entergy's CAP as CR-2015-1614 and CR-2015-1623, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000293/2015001-01, Failure to Perform Testing of Safety Related Undervoltage Alarm Relays)**

1R18 Plant Modifications (71111.18 – 3 samples)

Temporary Modifications

a. Inspection Scope

The inspectors reviewed the temporary modifications listed below to determine whether the modifications affected the safety functions of systems that are important to safety. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results, and conducted field walkdowns of the modifications to verify that the temporary modifications did not degrade the design bases, licensing bases, and performance capability of the affected systems.

- Temporary power to the B22 motor control center during a LOOP
- Temporary air supply to the reactor water cleanup system reject flow control valve during loss of instrument air
- Temporary alternate connection point for the temporary instrument air compressor while the K-117 diesel air compressor is in service

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 7 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.

- The X-107B EDG turbo assisting air receiver T-150D inlet check valve failure to close on January 13, 2015
- HPCI gland seal blower and gland seal condensate pump motor following inspections on January 30, 2015
- K-117 diesel powered air compressor following corrective maintenance on February 1, 2015
- P-215B CS inspection and testing following operation during plant cooldown on February 3, 2014
- Vital motor generator set following troubleshooting and repair on February 6, 2015
- Source range monitor 'B' following troubleshooting and repair on February 5, 2015
- 3A and 3C SRV following replacement on February 7, 2014

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 2 samples)

.1 Forced Outage 20-06

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the PNPS forced outage (20-06), which was conducted January 27 through February 5, 2015. The outage was performed following a scram due to a loss of both 345 kV lines. In addition to plant cooldown and startup, inspectors observed the following activities:

- Monitoring of decay heat removal operations
- Shutdown risk assessment and risk management implementation
- Cold and hot shutdown temperature control
- Plant restart readiness meetings
- Identification and resolution of problems related to forced outage activities

b. Findings

No findings were identified.

.2 Forced Outage 20-07

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the PNPS forced outage (20-07), which was conducted February 14 through February 17, 2015. The outage was performed due to an approaching blizzard in accordance with procedure

2.1.42, “Severe Weather Conditions,” Revision 23. In addition to plant cooldown and startup, inspectors observed the following activities:

- Monitoring of decay heat removal operations
- Shutdown risk assessment and risk management implementation
- Cold and hot shutdown temperature control
- Identification and resolution of problems related to forced outage activities

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 8 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 technical specifications, 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:

- Quarterly operability test and stroke timing of the drywell equipment and floor drains isolation valves on January 23, 2015 (containment isolation valves)
- HPCI pump quarterly surveillance test on February 7, 2015 (in-service test)
- Undervoltage testing on the A5 and A6 emergency switchgear on February 9, 2015
- LPCI break detection logic functional test for division ‘B’ on February 19, 2015
- X107A EDG Initiation by LOOP logic system functional test on February 26, 2015
- Salt service water pump ‘A’ surveillance test on March 3, 2015 (in-service test)
- Reactor Coolant System (RCS) sample and analysis on March 6, 2015
- RCS leakage surveillance on March 12, 2015

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Evaluation (71114.02 - 1 sample)

a. Inspection Scope

An onsite review was conducted to assess the maintenance and testing of the alert and notification system (ANS). During this inspection, the inspectors conducted a review of the PNPS siren and tone alert radio testing and maintenance programs. The inspectors

reviewed the associated ANS procedures and the Federal Emergency Management Agency (FEMA) approved ANS Design Report to ensure compliance with design report commitments for system maintenance and testing. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 2. 10 CFR 50.47(b)(5) and the related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03 – 1 sample)

a. Inspection Scope

The inspectors conducted a review of the PNPS Emergency Response Organization (ERO) augmentation staffing requirements and the process for notifying and augmenting the ERO. The review was performed to verify the readiness of key Entergy staff to respond to an emergency event and to verify Entergy's ability to activate their emergency response facilities (ERFs) in a timely manner. The inspectors reviewed the PNPS Emergency Plan for ERF activation and ERO staffing requirements, the ERO duty roster, applicable station procedures, augmentation test reports, the most recent drive-in drill reports, and corrective action reports related to this inspection area. The inspectors also reviewed a sample of ERO responder training records to verify training and qualifications were up to date. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 3. 10 CFR 50.47(b)(2) and related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)

a. Inspection Scope

Entergy implemented various changes to the PNPS Emergency Action Levels (EALs), Emergency Plan, and Implementing Procedures. Entergy had determined that, in accordance with 10 CFR 50.54(q)(3), any change made to the EALs, Emergency Plan, and its lower-tier implementing procedures, had not resulted in any reduction in effectiveness of the Plan, and that the revised Plan continued to meet the standards in 50.47(b) and the requirements of 10 CFR 50 Appendix E.

The inspectors performed an in-office review of all EAL and Emergency Plan changes submitted by Entergy as required by 10 CFR 50.54(q)(5), including the changes to lower-tier emergency plan implementing procedures, to evaluate for any potential reductions in effectiveness of the Emergency Plan. This review by the inspectors was not documented in an NRC Safety Evaluation Report and does not constitute formal

NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety. The requirements in 10 CFR 50.54(q) were used as reference criteria.

b. Findings

No findings were identified.

1EP5 Maintaining Emergency Preparedness (71114.05 – 1 sample)

a. Inspection Scope

The inspectors reviewed a number of activities to evaluate the efficacy of Entergy's efforts to maintain the PNPS emergency preparedness program. The inspectors reviewed: memorandums of agreement with offsite agencies; the 10 CFR 50.54(q) Emergency Plan change process and practice; PNPS's maintenance of equipment important to emergency preparedness; records of evacuation time estimate population evaluation; and provisions for, and implementation of, primary, backup, and alternative ERF maintenance. The inspectors also verified Entergy's compliance at PNPS with NRC emergency preparedness regulations regarding: EALs for hostile action events; protective actions for on-site personnel during events; emergency declaration timeliness; ERO augmentation and alternate facility capability; evacuation time estimate updates; on-shift ERO staffing analysis; and ANS back-up means.

The inspectors further evaluated Entergy's ability to maintain PNPS's emergency preparedness program through their identification and correction of emergency preparedness weaknesses, by reviewing a sample of drill reports, self-assessments, and 10 CFR 50.54(t) reviews. Also, the inspectors reviewed a sample of emergency preparedness-related CRs initiated at PNPS from October 2013 through March 2015. The inspection was conducted in accordance with NRC Inspection Procedure 71114.05. 10 CFR 50.47(b) and the related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

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 on January 21, 2015, to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator, technical support center, operational support center, and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by Entergy's

staff in order to evaluate Entergy's critique and to verify whether the Entergy staff was properly identifying weaknesses and entering them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

The inspectors reviewed Entergy's performance in assessing and controlling radiological hazards in the workplace. The inspectors used the requirements contained in 10 CFR 20, technical specifications, applicable Regulatory Guides (RGs), and the procedures required by technical specifications as criteria for determining compliance.

Inspection Planning

The inspectors reviewed the performance indicators for the occupational exposure cornerstone, radiation protection program audits, and reports of operational occurrences in occupational radiation safety since the last inspection.

Radiological Hazard Assessment

The inspectors reviewed recent plant radiation surveys and any changes to plant operations since the last inspection to identify any new radiological hazards for onsite workers or members of the public.

Instructions to Workers

The inspectors observed several containers of radioactive materials and assessed whether the containers were labeled and controlled in accordance with requirements.

The inspectors reviewed several occurrences where a worker's electronic personal dosimeter alarmed. The inspectors reviewed Entergy's evaluation of the incidents, documentation in the CAP, and whether compensatory dose evaluations were conducted when appropriate.

Contamination and Radioactive Material Control

The inspectors observed the monitoring of potentially contaminated material leaving the radiological control area and inspected the methods and radiation monitoring instrumentation used for control, survey, and release of that material. The inspectors selected several sealed sources from inventory records and assessed whether the sources were accounted for and were tested for loose surface contamination. The inspectors evaluated whether any recent transactions involving nationally tracked sources were reported in accordance with requirements.

b. Findings

No findings were identified.

2RS2 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

The inspectors assessed Entergy's performance with respect to maintaining occupational individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspectors used the requirements contained in 10 CFR 20, applicable RGs, technical specifications, and procedures required by technical specifications as criteria for determining compliance.

Inspection Planning

The inspectors conducted a review of PNPS's collective dose history and trends; ongoing and planned radiological work activities; radiological source term history and trends; and ALARA dose estimating and tracking procedures.

Verification of Dose Estimates and Exposure Tracking Systems

The inspectors reviewed the current annual collective dose estimate, basis methodology, and measures to track, trend, and reduce occupational doses for ongoing work activities.

Source Term Reduction and Control

The inspectors reviewed the current plant radiological source term and historical trend, plans for plant source term reduction, and contingency plans for changes in the source term as the result of changes in plant fuel performance or changes in plant primary chemistry.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures (1 sample)

a. Inspection Scope

The inspectors sampled Entergy's submittals for the Safety System Functional Failures performance indicator for the period of January 1, 2014, through December 31, 2014. To determine the accuracy of the performance indicator data reported during those periods, inspectors used definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and

10 CFR 50.73." The inspectors reviewed Entergy's operator narrative logs, CRs, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 RCS Specific Activity and RCS Leak Rate (2 samples)

a. Inspection Scope

The inspectors reviewed Entergy's submittal for the RCS specific activity and RCS leak rate performance indicators for the period of January 1, 2014, through December 31, 2014. To determine the accuracy of the performance indicator 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 RCS sample analysis and control room logs of daily measurements of RCS leakage and compared that information to the data reported by the performance indicator. Additionally, the inspectors observed surveillance activities that determined the RCS identified leakage rate, and chemistry personnel taking and analyzing an RCS sample.

b. Findings

No findings were identified.

.3 Drill/Exercise Performance, ERO Drill Participation, and ANS Reliability (3 samples)

a. Inspection Scope

The inspectors reviewed data for the following three Emergency Preparedness performance indicators: (1) drill and exercise performance; (2) ERO drill participation; and, (3) ANS reliability. The last NRC emergency preparedness inspection at PNPS was conducted in the second calendar quarter of 2014. Therefore, the inspectors reviewed supporting documentation from emergency preparedness drills and equipment tests from the second calendar quarter of 2014 through the fourth calendar quarter of 2014 to verify the accuracy of the reported performance indicator data. The review of the performance indicators was conducted in accordance with NRC Inspection Procedure 71151. The acceptance criteria documented in NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 7, was used as reference criteria.

b. Findings

No findings were identified

4OA2 Problem Identification and Resolution (71152 – 1 sample)

.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 entered issues into the CAP 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 CAP and periodically attended CR screening meetings.

b. Findings

No findings were identified.

.2 Annual Sample: Inservice Testing (IST) Trending

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's apparent cause evaluation and corrective actions associated with CR-PNP-2014-1851, "A Negative Trend of Valves Trended to Satisfy IST Requirements Has Been Identified." Specifically, the monitoring of valve stroke times for multiple safety-related valves was not identifying adverse trends in an effective and timely manner, which resulted in equipment operability issues and emergent repairs.

The inspectors assessed Entergy's problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of Entergy's corrective actions to determine whether Entergy's staff were 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 Entergy's CAP and the requirements of 10 CFR 50, Appendix B. In addition, the inspectors independently reviewed a sample of IST trend data for several pumps and valves and interviewed engineering personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified.

Entergy staff determined there were two apparent causes: 1) component and system engineers and supervisors were generally unaware of their responsibilities to review and trend IST component data as required by Entergy fleet procedures, and 2) the IST engineer did not take timely action to initiate CRs in accordance with program requirements. Entergy staff also determined that system monitoring challenge board meetings were not conducted on a regular basis during this period as required by procedure EN-DC-159, "System Monitoring Program."

The inspectors concluded that Entergy staff conducted an appropriate review to identify the likely causes of the IST trending issue. The inspectors also concluded that Entergy staff identified the extent of condition which was mostly the trending of IST program data for the in scope systems; however, the review included an evaluation of the other programs where trending is performed as part of condition monitoring. Corrective actions included a review of the procedure requirements conducted between the system engineers and their supervisors, establishment of a reoccurring schedule for system monitoring challenge board meetings, training for system engineers on monitoring and trending expectations, and revisions of system monitoring plans to include IST data parameters.

The inspectors observed a system monitoring challenge board meeting for the primary containment system and confirmed the critical parameters were being tracked and included appropriate alert and action levels. The inspectors also reviewed a selection of system monitoring plans and interviewed engineering staff to verify that monitoring and trending of IST data was being conducted accordingly. The inspectors noted that the roles and responsibilities of the IST program engineer and the system engineer were reviewed by the staff and trending expectations were being communicated by the supervisors. The inspectors reviewed a selection of IST data for various components and did not identify any additional issues. The inspectors determined Entergy's overall response to the issue was commensurate with the safety significance, was timely, and included appropriate compensatory actions. The inspectors concluded that actions completed were reasonable to correct the problem and prevent reoccurrence.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 1 sample)

Plant Events

a. Inspection Scope

For the plant event listed below, the inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in IMC 0309, "Reactive Inspection Decision Basis for Reactors," for consideration of potential reactive inspection activities. As applicable, the inspectors verified that Entergy made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR Parts 50.72 and 50.73. The inspectors reviewed Entergy's follow-up actions related to the events to assure that Entergy implemented appropriate corrective actions commensurate with their safety significance.

- Automatic reactor scram following a generator load reject and LOOP during plant power reduction on January 27, 2015

b. Findings

No findings were identified.

4OA5 Other Activities

Initial Loading of the ISFSI (60855, 60855.1)

a. Inspection Scope

The inspectors observed and evaluated Entergy's loading of the first of three multipurpose canisters (MPCs) associated with their initial Independent Spent Fuel Storage Installation (ISFSI) dry cask campaign on January 5–15, 2015. The inspectors reviewed Entergy's activities related to initial operation and monitoring of the ISFSI. The inspectors also performed in-office reviews of documentation associated with Entergy's activities during loading of the second and third MPC. The inspectors verified compliance with the Certificate of Compliance (CoC), technical specifications, regulations, and station procedures.

The inspectors observed the heavy load movement of the transfer cask and loaded MPC from the spent fuel pool to the cask decontamination and processing area. The inspectors also observed MPC processing operations including: decontamination and surveying, welding, non-destructive weld examinations, MPC draining, vacuum drying, helium backfilling, HI-TRAC/HI-STORM stack-up, installation of rail system for moving the HI-STORM from the RB, and transport of the HI-STORM to the ISFSI pad. The inspectors performed an independent verification of Entergy's time-to-boil calculation for the loaded MPC to ensure that Entergy adequately calculated and tracked the time-to-boil and properly planned for contingent alternate cooling. During performance of these activities, the inspectors verified that procedure use, communication, and coordination of ISFSI activities was performed in accordance with Entergy's procedures.

The inspectors attended Entergy briefings to assess their ability to identify critical steps of the evolution, potential failure scenarios, and human performance tools to prevent errors. The inspectors also reviewed training records of personnel assigned to ISFSI activities and verified all required training was completed prior to performing ISFSI operations.

The inspectors reviewed Entergy's program associated with fuel characterization and selection for storage. The inspectors reviewed the first cask fuel selection package to verify that Entergy was loading fuel in accordance with the CoC, technical specifications, and procedures. The inspectors confirmed that Entergy did not plan to load any damaged fuel assemblies during this campaign. The inspectors reviewed radiation protection procedures and radiation work permits (RWPs) associated with the ISFSI loading campaign. The inspectors also reviewed the ALARA goal for the cask loading to determine the adequacy of Entergy's radiological controls and to ensure that radiation worker doses were ALARA, and that project dose goals could be achieved. The inspectors reviewed radiological survey records from the current loading campaign to confirm that contact dose rates on the HI-TRAC surface were as expected. The inspectors assessed whether workers were aware of the radiological conditions in their work area and the RWP controls/limits.

The inspectors performed a walk-down of the heavy haul path to verify that no hazardous condition exists that could impact the HI-STORM. The inspectors also verified that transient combustibles greater than allowed were not being stored on the

ISFSI pad. The inspectors also confirmed that vehicle entry onto the ISFSI pad was controlled in accordance with procedures.

The inspectors reviewed the actions taken by Entergy during severe winter storms on January 28 and February 14, 2015, to ensure technical specification requirements were being maintained. The inspectors also reviewed changes Entergy made to Procedure 2.1.42, "Operation During Severe Weather," associated with ensuring clearing vents around the HI-STORM during winter storms was a priority of station personnel during their response, as well as the addition of sandbags around the ISFSI in cases where severe weather could lead to possible flooding conditions. The inspectors verified that the changes to the procedure were properly evaluated and made in accordance with Entergy's process.

The inspectors reviewed corrective action reports and the associated follow-up actions that were generated since Entergy started planning for their initial ISFSI campaign to ensure that issues were entered into the CAP, prioritized, and evaluated commensurate with their safety significance.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On April 16, 2015, the inspectors presented the inspection results to Mr. John Dent, Site Vice President, and other members of the PNPS 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
D. Berkland	Senior Design Engineer
G. Blankenbiller	Chemistry Manager
T. Bordelon	Performance & Improvement Manager
D. Brugman	Supervisor ALARA/Technical Support
P. Beabout	Security Manager
R. Byrne	Senior Licensing Engineer
D. Calabrese	Emergency Preparedness Manager
B. Chenard	Engineering Director
F. Clifford	Operations Support Manager
S. Brewer	Radiation Protection Supervisor
S. Burke	Senior Design Engineer
S. Cook	Chemistry Supervisor
J. Cotter	Operations Training Supervisor
J. Cox	Radiation Protection Operations Supervisor
B. Deevy	Senior Engineering Training Instructor
T. Glenn	KoneCranes, Senior Service Technician
J. Governale	Dry Fuel Storage Supervisor, Holtec
W. Grieves	Quality Assurance
P. Harizi	Senior Design Engineer
J. House	Operations Training Supervisor
M. Jacobs	Manager of Nuclear Oversight
G. James	Reactor Engineering Supervisor
L. Johnson	Supervisor, Holtec
K. Kampschneider	Senior System and Components Engineer
J. Keene	System Engineer
L. Kinney	Holtec, Project Manager
P. Kristian	Project Manager, Dry Fuel Storage
J. Macdonald	Senior Operations Manager
V. Magnetta	Senior Operations Instructor
W. Mauro	Supervisor Radiation Protection Support
E. McCaffrey	System and Components Engineering Supervisor
C. McDonald	Training Manager
F. McGinnis	Licensing Specialist
C. McMorrow	Fire Marshall
P. Miner	Licensing Specialist
C. Minott	Project Manager
R. Morris	Senior System and Components Engineer
J. Moylan	Manager, Project & Maintenance Services
J. Norris	Radiation Protection Supervisor
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. Prowse	Nuclear Oversight, Supervisor
B. Rancourt	Senior Lead Engineer, Design Engineering
N. Reece	System and Components Engineer
J. Sabina	IST Program Engineer
K. Sejkora	Senior Chemist
R. Sheridan	Operations, Control Room Supervisor
D. Sitkowski	Senior Design Engineer
M. Thornhill	Radiation Protection Supervisor
G. Vazquez	Quality Assurance Supervisor
S. Velez	Senior Lead Reactor Engineer
S. Verrochi	General Manager Plant Operations
T. F. 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

05000293/2015001-01	NCV	Failure to Perform Testing of Safety Related Undervoltage Alarm Relays (Section 1R15)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
2.1.42, Operation During Severe Weather, Revision 21

Miscellaneous
ESOMS Narrative Log
On Line Risk Assessment for the Week of 1/18/15

Section 1R04: Equipment Alignment

Procedures
2.2.8, Standby AC Power System (Diesel Generators), Revision 107
2.2.87, Control Rod Drive System, Revision 134
2.2.146, Station Blackout Diesel Generator, Revision 44
2.1.12.1, Emergency Diesel Generator Surveillance, Revision 81

Drawings
M219, P&ID Diesel Generator Air Start System, Revision 24
M259, P&ID Diesel Generator Turbo Air Assist System, Revision E10
M250 SH1, Control Rod Drive Hydraulic System, Revision 76

M250 SH2, Control Rod Drive Hydraulic System, Revision 17
M264 SH1, P&ID Station Blackout Diesel Generator Set, Revision 18

Condition Reports
CR-2015-1692

Miscellaneous
FSAR Section 8.5, Standby AC Power Source
Pilgrim Technical Specifications
ESOMS Narrative Log

Section 1R05: Fire Protection

Procedures
5.5.2, Special Fire Procedure, Revision 52

Drawings
A317 Sh 1, Reactor & Turbine Building Floor Plan at El. 23'-0" Fire Barrier System, Revision E9
A317 Sh 2, Reactor & Turbine Building Floor Plan at El. 23'-0" Fire Barrier Numbering System, Revision E3
A318 Sh 1, Reactor & Turbine Building Floor Plan at El. 37'-0" Fire Barrier System, Revision 6
A319 Sh 1, Reactor & Turbine Building Floor Plan El. 51'-0" & 74'-3" Fire Barrier System, Revision E7

Miscellaneous
Fire Hazards Analysis – Fire Area 1.10, Fire Zone 2.1, 'B' Switchgear and Load Center Room
Fire Hazards Analysis – Fire Area 1.10, Fire Zone 1.12, Reactor Building Open Area West Half of Elevation 51'-0"
Fire Hazards Analysis – Fire Area 1.10, Fire Zone 1.23, Standby Gas Treatment Systems Room
Fire Hazards Analysis – Fire Area 1.10, Fire Zone 3.12, Radioactive Chemical Lab
Fire Hazards Analysis – Fire Area 1.10, Fire Zone 1.3, HPCI Pump/Turbine Room

Section 1R11: Licensed Operator Requalification Program

Procedures
EN-EP-308, Emergency Planning Critiques, Revision 2
EP-IP-100, Emergency Classification and Notification, Revision 40
EP-IP-100.1, Emergency Action Levels, Revision 10

Miscellaneous
Combined Functional Drill 15-01 Timeline

Section 1R12: Maintenance Effectiveness

Procedures
EN-DC-205, Maintenance Rule Monitoring, Revision 5
EN-LI-118, Cause Evaluation Process, Revision 21

Condition Reports

CR-2013-4286	CR-2014-0676	CR-2014-3973
CR-2014-0354	CR-2014-0967	CR-2015-0563

CR-2015-0706	CR-2015-0848	CR-2015-1670
CR-2015-0841	CR-2015-0934	CR-2015-0156

Maintenance Orders/Work Orders
00403590

Miscellaneous
System Health Reports
HPCI Maintenance Rule Basis Document
Instrument and Service Air Maintenance Rule Basis Document
FSAR Section 10.11 Instrument and Service Air Systems

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures
1.5.22, Risk Assessment Process, Revision 24
3.M.1-45, Outage Shutdown Risk Assessment, Revision 16
8.M.2-2.10.8.6, Diesel Generator 'B' Initiation by Loss of Offsite Power Logic – Critical Maintenance, Revision 48
8.M.2-2.1.10, 4160 Volt Emergency Busses A5 and A6 Loss of Voltage and Degraded Voltage Relays – Critical Maintenance, Revision 40
EN-OP-119, Protected Equipment Postings, Revision 6
EN-WM-104, Online Risk Assessment, Revisions 9 and 10
EN-DC-151, PSA Maintenance and Update, Revision 5

Condition Reports
CR-2015-1085
CR-2015-1768

Miscellaneous
ESOMS Narrative Log
ESOMS Clearance Module
Online Risk Assessment for the Week of 1/11/15
Online Risk Assessment for the Week of 2/15/15
Online Risk Assessment for the Week of 2/22/15
Online Risk Assessment for the Week of 3/1/15
Online Risk Assessment for the Week of 3/8/15
Forced Outage OCC Updates
Outage Risk Assessment Review Checklists
Forced Outage Schedule
Protected Equipment Lists
Equipment Out Of Service (EOOS) Risk Assessment Module
PSA-PNPS-06-04, Pilgrim Nuclear Power Station (PNPS) EOOS Model Update, Revision 0

Section 1R15: Operability Determinations and Functionality Assessments

Procedures
2.2.21, High Pressure Coolant Injection System (HPCI), Revision 84
2.2.23, Automatic Depressurization System, Revision 36
2.1.15, Daily Surveillance Log (Technical Specification, FSAR, Regulatory Agencies), Revision 222

2.4.23, Jet Pump Flow Failure, Revision 16
8.6.5.1, Jet Pump Operability Check, Revision 33
ENN-MS-S-009-PNP, Classification Matrix, Revision 2
ARP-C3L, Alarm Response Procedure, Revision 41
2.4.144, Degraded Voltage, Revision 42
ARP-C3LC, Alarm Response Procedure, Revision 12
EN-LI-108, Event and Notification Reporting, Revision 11
3.M.3-1, A5/A6 Buses 4kV Protective Relay Calibration/Functional Test and Annunciator Verification – Critical Maintenance, Revision 140
EN-LI-100, Process Applicability Determination, Revision 16

Drawings
M1C20-9 Sh 2, Elementary Diagram Jet Pump Instrumentation, Revision 11
E5-200 Sh 2, 4160 Volt Switchgear Relay Settings, Revision 15
E7-133 Sh 1, 480V Load Center Bus B1, B2, & B6 Breaker & Relay Settings, Revision 16
E9, Single Line Meter & Relay Diagram 480V System-Load Centers & Motor Control Centers B10 & B20, Revision 66

Condition Reports

CR-2015-0563	CR-2015-0841	CR-2015-0706
CR-2015-0681	CR-2015-0090	CR-2015-0561
CR-2015-0720	CR-2015-0908	CR-2015-0810
CR-2015-0877	CR-2015-1614	CR-2015-1899
CR-2015-2232	CR-1989-2244	CR-2015-2336
CR-2014-0244	CR-2015-1623	CR-2015-1736
CR-2010-2054		

Maintenance Orders/Work Orders

00409570	52373684	50078864	52366152
52245574	52241972	51674165	

Miscellaneous
Pilgrim FSAR
Pilgrim Technical Specifications
NTS Wyle Target Rock Testing and Inspection report, dated February 4, 2015
95-05, Degraded Voltage Protection Upgrades, Revision 0

Section 1R18: Plant Modifications

Procedures
EN-DC-136, Temporary Modifications, Revision 11

Drawings
E11, Single Line Diagram 480 Volt System Motor Control Centers B13, B22, B23, B25 & B26, Revision 50
E9, Single Line Meter & Relay Diagram 480V System & Motor Control Centers B10 & B20, Revision 66
E1001, Wiring & Setting Diagram Switchboard B45, Revision E2
E1 Sh2, Single Line Diagram 23KV Supply Station Service E19, Revision 28
M278A13, Single Line Diagram Electrolytic HWCS MCC B37, Revision 5

M220 Sh1, P&ID Compressed Air System, Revision 77
M220 Sh3, P&ID Compressed Air System Essential instrument Air, Revision 76

Condition Reports

CR-2015-0623	CR-2015-0592	CR-2015-0624
CR-2015-0938		

Maintenance Orders/Work Orders

00403881	00334297	00383131

Miscellaneous
Engineering Change 55186, Provide Temp Power from B45 to MCC B22
Engineering Change 55697, Add Alternate Connection Point
Standing Order 15-03, Degraded Instrument Air System, Revision 3
ESOMS Narrative Logs
ESOMS Clearance Module

Section 1R19: Post-Maintenance Testing

Procedures
EN-WM-107, Post Maintenance Testing, Revision 4
EN-WM-101, Online Work Management Process, Revision 11
EN-MA-125, Troubleshooting Control of Maintenance Activities, Revision 17
2.1.19, Suppression Chamber Temperatures, Revision 19
3.M.4-53, Check Valve Disassembly and Inspection, Revision 8
3.M.4.6, Removal, Installation, Test, Disassembly, Inspection and Reassembly of Main Steam Safety/Relief Valves – Critical Maintenance, Revision 65
3.M.4-14, Rotating Equipment Inspection Assembly and Disassembly – Critical Maintenance, Revision 48
3.M.2-21, Electrolytic Capacitor Leakage Current Test, Revision 12,
3.M.3-51, Electrical Termination Procedure, Revision 31
3.M.2-5.1, Source Range Monitor Calibration Instruction, Revision 32
8.9.1.2, Diesel Air Start and Turbo Assist System Leak Test, Revision 14
8.Q.3-2, RHR/Core Spray Pump Motor Preventive Maintenance, Revision 23
8.5.4.10, Supplemental HPCI GSC Hotwell Pump and Discharge Check Valve Test of Post Maintenance Activities, Revision 3
8.5.4.1, High Pressure Coolant Injection System Pump and Valve Quarterly and Biennial Comprehensive Operability, Revision 116
8.5.6.2, Special Test for ADS System Manual Opening of Relief Valves, Revision 38
8.M.2-3.3, Source Range Monitor, Revision 51
8.C.35, Diesel Powered Air Compressor Operability Test, Revision 29

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CR-2015-0221	CR-2015-0229	CR-2015-0917
CR-2015-0810	CR-2015-0705	CR-2015-0682

Maintenance Orders/Work Orders

52552985	52591122	52557900	00403895
00403649	00403652	00403856	00404063
00404054	52559171	00403590	

Miscellaneous
ESOMS LCO Tracking Module
Pilgrim Technical Specifications
FSAR Section 6, Core Standby Cooling Systems
FSAR Section 7.5, Neutron Monitoring System
FSAR Section 10.11 Instrument and Service Air Systems
ESOMS Narrative Logs

Section 1R20: Refueling and Other Outage Activities

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2.1.1, Startup from Shutdown, Revision 189
2.1.4, Approach to Critical and Plant Heatup, Revision 36
2.1.5, Controlled Shutdown from Power, Revision 125
2.1.7, Vessel Heatup and Cooldown, Revision 54
2.1.42, Severe Weather Conditions, Revision 23
2.2.19, Residual Heat Removal, Revision 110
2.2.19.1, Residual Heat Removal System Shutdown Cooling Mode of Operation, Revision 39
3.M.1-45, Outage Shutdown Risk Assessment, Revision 16

Condition Reports

CR-2015-0708	CR-2015-0949	CR-2015-0948
CR-2015-0938	CR-2015-0934	CR-2015-0931
CR-2015-0918	CR-2015-0906	CR-2015-0888
CR-2015-0886	CR-2015-0786	CR-2015-0784
CR-2015-0809	CR-2015-0810	CR-2015-0566
CR-2015-0621	CR-2015-0600	

Miscellaneous
Forced Outage Schedules
Outage OCC Meeting Updates
Outage Meeting and Communication Schedule
ESOMS Narrative Logs
Emergent Issues Open Items Lists
Forced Outage Shift Turnover Sheets
NEI-99-02, Regulatory Performance Indicator Guideline, Revision 7
Pilgrim Technical Specifications
Reactivity Maneuver Plans

Section 1R22: Surveillance Testing

Procedures
SEP-PNPS-IST-001, PNPS Inservice Pump and Valve Testing Program, Revision 4
SEP-PNPS-IST-009, Inservice Code Testing (IST) and Appendix B Testing (ABT) Programs, Revision 1
1.3.34.7, Operations Performance Indicators, Revision 20
2.1.15, Daily Surveillance Log (Technical Specifications, FSAR, and Regulatory Agencies), Revision 222
2.5.2.71, Radwaste Collection System, Revision 36
7.3.1, Reactor and Hotwell Water Analysis Preparation, Revision 37
7.1.132, Obtaining Samples for Analysis, Revision 20

8.7.4.3, Miscellaneous Containment Isolation Valve Quarterly Operability, Revision 45
8.M.2-2.1.11, Emergency Buses A5 and A6 4.16 kV Startup Transformer Undervoltage and Degraded Voltage Relays, Revision 23
8.M.2-2.1.10, 4160 Volt Emergency Buses A5 and A6 Loss of Voltage and Degraded Voltage Relays – Critical Maintenance, Revision 39
8.I.1, Administrative Guidance for Inservice Pump and Valve Testing, Revision 20
8.5.4.1, High Pressure Coolant Injection System Pump and Valve Quarterly and Biennial Comprehensive Operability, Revision 116
8.M-2-2.10.2-17, LPCI Break Detection Logic Functional Test, Injection Valves Interlock Test Division B, Revision 38
8.M.2-2.10.8.5, Diesel generator "A" Initiation by Loss of Offsite Power Logic-Critical Maintenance, Revision 52
8.5.3.2.1, Salt Service Water Pump Quarterly and Biennial (Comprehensive) Operability and Valve Operability Tests, Revision 31

Drawings
E506, Wiring Diagram Undervoltage Relays Panel AA504, Revision E6

Condition Reports

CR-2015-1059	CR-2015-1080	CR-2014-4334

Maintenance Orders/Work Orders

52602244	52575303	52603439	52603442
52444609	52598258		

Miscellaneous
ESOMS Clearance Module
ESOMS Narrative Logs
Technical Specifications
Chemistry Sample Database
FSAR Section 8, Electrical Power System
FSAR Section 10.7, Salt Service Water System

Section 1EP2: Alert and Notification System Evaluation

Miscellaneous
Pilgrim Nuclear Power Station Prompt Alert Notification System Design Evaluation, Final Report, July 2004
FEMA Memorandum dated September 7, 2011, re Evaluation of Response to FEMA Memo Regarding Entergy Nuclear Operations Pilgrim Nuclear Power Station

Procedures
EP-AD-417, Annual Siren Test Program, Revision 4
EP-AD-418, Monthly Testing of the Prompt Alert Notification System (PANS), Revision 12
EP-AD-418, Attachment 9.3, Siren Control Point Test Sheet, 2014 data
EP-AD-418, Attachment 9.4, Siren Test Sheet, 2014 data
EP-AD-419, Annual Maintenance of the Prompt Alert Notification System (PANS), Revision 11
EP-AD-419, Attachment 3, Siren Maintenance Sheet, 2013-2014 data

Section 1EP3: Emergency Response Organization Staffing and Augmentation System

Miscellaneous
Pilgrim Nuclear Power Station Emergency Plan, Revision 44
Pilgrim Nuclear Power Station On-Shift Staffing Analysis Report, Revision 1
Pilgrim Nuclear Power Station Nuclear Training Manual, Section 5.5, Emergency Plan Training, Revision 36
PNPS ERO Colored Team Roster (dated March 20, 2015)
PNPS Quarterly ERO Call-In Drill Reports, January 2014 – March 2015

Procedures
EN-EP-310, Emergency Response Organization Notification System, Revision 3
EN-EP-801, Emergency Response Organization, Revision 11
EN-TQ-110, Emergency Response Organization Training, Revision 12
EN-TQ-110-01, Fleet EPlan training Course Summary, Revision 2

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Procedures
EP-AD-601, EAL Technical Bases Document, Revision 4
EP-IP-100, Emergency Classification and Notification, Revision 39
EP-IP-100, Emergency Classification and Notification, Revision 40
EP-IP-100.1, Emergency Action Levels (EALs), Revision 10
EP-IP-260, Emergency Operations Facility Operations, Revision 5
EP-PP-01, Pilgrim Nuclear Power Station Emergency Plan, Revision 43
EP-PP-01, Pilgrim Nuclear Power Station Emergency Plan, Revision 44

Section 1EP5: Maintenance of Emergency Preparedness

Audits & Self Assessments
QA-07-2014-PNPS-01, Emergency Preparedness Program Audit
QS-2014-PNPS-003, ERO Qualification Corrective Action Audit
LO-PNPLO-2015-041, PNPS Pre-NRC Inspection/INPO Evaluation Snapshot Assessment
Emergency Preparedness Drill Reports 14-01, 14-02, 14-03, 14-04, 14-05, 15-01

Condition Reports

CR-PNP-2013-6829	CR-PNP-2013-4252	CR-PNP-2013-5000
CR-PNP-2013-6177	CR-PNP-2014-1933	CR-PNP-2014-1934
CR-PNP-2014-1936	CR-PNP-2014-1937	CR-PNP-2014-1938
CR-PNP-2014-1939	CR-PNP-2014-2114	CR-PNP-2014-3728
CR-PNP-2014-2160	CR-PNP-2015-0948	

Procedures
EP-IP-100.1, Emergency Action Levels, Revision 10
EP-IP-270, Equipment Important to Emergency Response (EITER), Revision 0
EN-EP-305, Emergency Planning 10CFR50.54(q) Review Program, Revision 3
EPOP-EQUIP-3506, Emergency Equipment Readiness Check, Revision 1

Miscellaneous
Pilgrim Nuclear Power Station Emergency Plan, Revision 44
KLD TR-567, Pilgrim Nuclear Power Station 2013 Population Update Analysis

KLD TR-659, Pilgrim Nuclear Power Station 2014 Population Update Analysis
NUREG-0654/FEMA REP-1 Supplement 3 Technical Basis for Public Action Strategies and Public Information Materials for Pilgrim Nuclear Power Station, dtd November 2014

Section 1EP6: Drill Evaluation

Procedures
EN-EP-308, Emergency Planning Critiques, Revision 2
EP-IP-100, Emergency Classification and Notification, Revision 40
EP-IP-100.1, Emergency Action Levels, Revision 10

Condition Reports

CR-2015-0477	CR-2015-0475	CR-2015-0474
CR-2015-0472	CR-2015-0473	CR-2015-0472
CR-2015-0456	CR-2015-0462	

Miscellaneous
Critique Performance Objectives and Evaluation Criteria
Initial and Follow-up Notification Forms
Combined Functional Drill 15-01 Timeline

Section 2RS1: Access Control to Radiologically Significant Areas

Procedures
EN-RP-109, Audit Process, Revision 28
EN-RP-100, Radiation Worker Expectations, Revision 9
EN-RP-101, Access Controls for Radiologically Controlled Areas, Revision 10
EN-RP-102, Radiological Control, Revision 4
EN-RP-106, Radiological Survey Documentation, Revision 5
EN-RP-108, Radiation Protection Posting, Revision 16
EN-RP-122, Alpha Monitoring, Revision 8
EN-RP-204, Special Monitoring Requirements, Revision 6
6.1-220, Radiological Controls for High Risk Evolutions, Revision 15

Condition Reports

CR-2013-4463	CR-2015-0062	CR-2014-5192
CR-2015-0782	CR-2014-1277	CR-2013-6975
CR-2015-2603	CR-2014-2151	CR-2015-0853
CR-2015-1561	CR-2014-3927	CR-2014-3804

Self-assessments and Audit Reports
S. Brewer to A. Zelie, PNPS Radiological Support Group 4th Quarter 2014 Self-Assessment Report, March 3, 2015
Nuclear Oversight Monthly Functional Area Summary Report, January 12, 2015
O2C-PNPS-2015-0008, Observation of the First Day ISFSI Cask Loading Campaign, January 6, 2015
O2C-PNPS-2015-0027, Walkdown of ISFI Cask Loading Campaign for Housekeeping and Radiological Posting Controls, January 18, 2015
O2C-PNPS-2014-0273, Radiological Worker practice/ALARA Practices: Contamination Control, December 10, 2014

Miscellaneous Documents
PNPS List of High Radiation Areas and Locked High Radiation Areas, March 3, 2015
EN-RP-203 Attachment 9.3 Dosimetry Investigation Report 15-0010 DLR vs ED >25%, February 5, 2015
EN-RP-203 Attachment 9.3 Dosimetry Investigation Report 15-0011 DLR vs ED >25% , February 5, 2015
EN-RP-203 Attachment 9.3 Dosimetry Investigation Report 15-0012 DLR vs ED >25%, February 5, 2015
EN-RP-203 Attachment 9.3 Dosimetry Investigation Report 15-0008 DLR vs ED >25%, February 4, 2015
RWP No. 2015098 Recovery of Rad Waste – Decon and Pumping Activities, February 12, 2015
Rad Survey PNP-1503-0014, Radwaste -13 El Corridor (Post Decon survey 500K dpm/ 100cm2 max smearable), March 2, 2015
Rad Survey PNP-1502-0132, Radwaste -13 El Corridor (Post Spill survey w 15" water), February 12, 2015, 2015
Rad Survey PNP-1501-0228, B RHR and HPCI Quad (Post Spill survey w 2" water), January 28, 2015
Rad Survey PNP-1501-0252, HPCI Turbine Pump Room (Floor Drained of Spill Water 250K dpm/100cm2 max smearable), January 30, 2015
Air Sample Log 2015-084, RW -13 El Foyer after draining spill during initial decon w squeegee (0.03 DAC), February 27, 2015

Section 2RS2: Occupational ALARA Planning and Controls

Procedures
EN-RP-110-05, ALARA Planning and Controls, Revision 2
EN-RP-110-04, Radiation Protection Risk Assessment Process, Revision 4
6.1-220, Radiological Controls for High Risk Evolutions, Revision 15
MCSB03.101 Criteria for Evaluation, Review and Approval of Radiation Shielding, Revision 6

Condition Reports

CR-2015-0776	CR-2015-0920	CR-2015-0939
CR-2015-0788	CR-2015-0922	CR-2015-0695

Self-assessments and Audit Reports
O2C-PNPS-2015-0008, Observation of the First Day ISFSI Cask Loading Campaign, January 6, 2015

Miscellaneous Documents
Post Outage Critique: ALARA and Station Dose Performance,
Pilgrim Nuclear Plant 5-Year ALARA Plan 2014-2019
PNPS Temporary Sheilding Log for OR 20, March 2015
ALARA Manager's Committee Meeting Agenda, Torus Desluge and Torus Vent Header Inspection, March 5, 2015
ALARA Manager's Committee Meeting Agenda, In-Service Inspection, Janaury 22, 2015
ALARA Manager's Committee Meeting Agenda, Safety Releif Valves, Janaury 8, 2015
ALARA Manager's Committee Meeting Agenda, Valve inspection and Repair, December 30, 2015

ALARA Manager's Committee Meeting Agenda, Reactor Disassembly and Re Assembly, December 15, 2015
ALARA Plan # 2015 485, Dissassemble/ Reassesmble RPV Include Inspection and Cavity Decon, Revison 0
ALARA Plan # 2015 509, Exchange Control Rod Drive and Support Work, Revison 0
ALARA Plan # 2015 481, RFO 20 Scaffolding, Revision 0
ALARA Plan # 2015 542, Torus Desludge, Revision 1
ALARA Plan # 2015 483 RFO 20 Valve Work, Revision 1
ALARA Plan # 2015 539, RFO 20 Remove and Reinstall Insulation, Revision 1

Section 4OA1: Performance Indicator Verification

Procedures
EN-LI-114, Performance Indicator Process, Revision 6
1.3.34.7, Operations Performance Indicators, Revision 20
2.1.15, Daily Surveillance Log (Technical Specifications, FSAR, and Regulatory Agencies), Revision 222
7.3.1, Reactor and Hotwell Water Analysis Preparation, Revision 37
7.1.132, Obtaining Samples for Analysis, Revision 20

Condition Reports
CR-2014-4207

Miscellaneous
NEI 99-02, Regulatory Assessment Performance Indicator Guidance, Revision 7
NRC Performance Indicators
Performance Indicator Technical Data Sheets
NRC Inspection Reports for 1st Quarter 2014 through 4th Quarter 2014
ESOMS Narrative Logs
Pilgrim Technical Specifications
RCS Leakage Rate Data Sheets
Chemistry Sample Database
EPA equipment run time sheets
LER 2013-002-01, SRV 3B Safety Relief Valve Declared Inoperable Due to Leakage and Setpoint Drift
LER 2014-001-00, Condition Prohibited by Technical Specifications
EN-LI-114, Performance Indicator Process, Revision 7
EN-FAP-EP-005, Emergency Preparedness Performance Indicators, Revision 4
ANS Reliability PI data, April 2014 – December 2014
DEP PI data, April 2014 – December 2014
ERO Drill Participation PI data, April 2014 – December 2014

Section 4OA2: Problem Identification and Resolution

Procedures
8.I.1, Administrative Guidance for Inservice Pump and Valve Testing, Revision 20
EN-DC-159, System Monitoring Program, Revision 7
EN-DC-325, Component Performance Monitoring, Revision 9
EN-DC-332, Inservice Testing Duties and Responsibilities, Revision 2
EN-LI-102, Corrective Action Process, Revision 24

SEP-PNPS-IST-001, Inservice Pump and Valves Testing Program, Revision 4
SEP-PNPS-IST-009, Administrative Guidelines for the Inservice Code Testing and Appendix B Testing Programs, Revision 1

Condition Reports

CR-2014-1300	CR-2014-2737	CR-2014-6742
CR-2014-1851	CR-2014-4020	CR-2015-1364
CR-2014-1929	CR-2014-4334	

Miscellaneous
Apparent Cause Evaluation for CR-PNP-2014-1300, MSIV AO-203-1B Closure Stroke Time Adverse Trend, dated August 21, 2014
Apparent Cause Evaluation for CR-PNP-2014-1851, IST Trending, dated September 1, 2014
IST Program Health Report for 3QTR-2014
IST Program Health Report for 4QTR-2014
IST Trend Data for Containment Isolation Valves AO-7011A/B and 7017A/B
IST Trend Data for Containment Isolation Valves MO-220-1/2/44/45
IST Trend Data for Primary Containment Atmospheric Control Valves AO-5033A/B/C
IST Trend Data for RBCCW Pump P-202B
IST Trend Data for SDIV Vent and Drain Valves CV-302-21A/B, -22A/B, -23A/B, -24A/B
IST Trend Data for SSW Pump P-208A/B/E
Snap Shot Self-Assessment of Inservice Testing Pump Surveillance Test Procedures, dated December 5, 2014
System Performance Monitoring Plan for Primary Containment, dated October 2, 2014
System Performance Monitoring Plan for RBCCW, dated November 25, 2015
System Performance Monitoring Plan for Screenwash, dated October 2014
System Performance Monitoring Plan for SSW, dated February 2015

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

Procedures
2.1.6, Reactor Scram, Revision 66
EOP-01, RPV Control, Revision 13
EOP-03, Primary Containment Control, Revision 10
EOP-04, Secondary Containment Control, Revision 10

Condition Reports (*NRC Identified)

CR-2015-0691	CR-2015-0885	CR-2015-0948*
CR-2015-0693	CR-2015-0906	CR-2015-0949*
CR-2015-0730*	CR-2015-0912	CR-2015-1075
CR-2015-0758	CR-2015-0931	

Miscellaneous
10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors
10 CFR 50.72 Reports Dated 1/27/15 and 2/5/15

Section 4OA5: Other Activities

Procedures
EN-MA-119, Material Handling Program, Revision 22
EN-OP-116, Infrequently Performed Tests or Evolutions, Revision 012

EN-DC-215, Fuel Selection for Holtec Dry Cask Storage, Revision 6
2.1.42, Operation During Severe Weather, Revision 21
3.M.1-14, General Maintenance Procedure for Heavy Load Handling Operations - Critical Maintenance, Revision 30
4.3, Fuel Handling, Revision 126
6.1-225, RP Controls for Dry Fuel Storage Activity, Revision 0
ARP-C39, Fuel Pool Cooling Panel Alarm Response Procedure, Revision 11
12.1, Multi-Purpose Canister Preparation for Loading, Revision 1
12.2, Multi-Purpose Canister Loading, Revision 0
12.3, Multi-Purpose Canister Backfill and Sealing, Revision 1
12.4, Multi-Purpose Canister Stack Up and Transfer, Revision 1
12.5, Multi-Purpose Canister Transport, Revision 1
12.6, Multi-Purpose Canister Transport and Unloading, Revision 0
12.7, Dry Fuel Storage Response to Abnormal Conditions, Revision
TP14-033, PI-CNSTR-OP-PIL-H-01, Closure Welding of Holtec Multi-Purpose Canisters - HI-STORM 100, Revision 0
TP14-038, GQP-9.2, High Temperature Liquid Penetrant Examination and Acceptance Standards for Welds, Base Materials and Cladding, Revision 0
TP14-039, GQP-9.6, Visual Examination of Welds, Revision 0

Condition Reports

CR-2014-2948	CR-2015-0072	CR-2015-0206
CR-2014-3108	CR-2015-0076	CR-2015-0215
CR-2014-3186	CR-2015-0081	CR-2015-0216
CR-2014-3198	CR-2015-0108	CR-2015-0273
CR-2014-4017	CR-2015-0113	CR-2015-0407
CR-2014-4018	CR-2015-0123	CR-2015-0487
CR-2014-4019	CR-2015-0125	CR-2015-0512
CR-2014-4206	CR-2015-0146	CR-2015-0552
CR-2014-4397	CR-2015-0188	CR-2015-0634
CR-2014-4600	CR-2015-0189	CR-2015-0872
CR-2015-0019	CR-2015-0190	
CR-2015-0071	CR-2015-0198	

Miscellaneous

Holtec Report No. HI-2104716, Cask Handling Weights and Cask Handling Dimensions at Pilgrim
Holtec Report No. HI-2084065, Conformed Spec for the Design and Fabrication of the Holtec Wheeled Vertical Cask Transporter
Information Paper: Neutron Survey and Dosimetry Measurement Capabilities at Pilgrim Station Throughout the Dry Fuel Storage Process
KONECRANES Letter dated January 12, 2015, Vertical Cask Transporter Cold Weather Operation
QUINTOLUBRIC 888-46 Fire Resistant HFD-U Hydraulic Fluid Application Sheet
Safety Evaluation Report (SER) Docket No. 72-1014, Hi-Storm 100 Cask System, Holtec International, Inc., Certificate of Compliance (COC) No. 1014, Amendment No. 7
VI-0150-2011-WA-2, KoneCranes Vertical Cask Transporter Operations and Maintenance Manual
3.M.1-14 Attachment 1, General Heavy Load Handling Procedure, performed 1/6/15
12.1, Multi-Purpose Canister Preparation for Loading (MPC 0422), performed 1/7/15
12.2, Multi-Purpose Canister Loading, performed 1/5/15 - 1/6/15

12.2 Attachment 9, Pilgrim Time to Boil Determination, performed 1/6/15
12.2 Attachment 13, Annulus Overpressure System Monitoring Sheet, dated 1/6/15
CLM-PNPS-001, Entergy Nuclear Caskloader Model, Revision 0
EN-DC-215, Fuel Selection for Holtec Dry Cask Storage, performed 1/3/15
EN-DC-215 Attachment 9.24, Visual Inspection Results for Fuel Assemblies Loaded into an MPC-68 (MPC #423), performed 12/19/14
EN-NF-200 Attachment 9.1, Special Nuclear Material Control Item Control Area (ICA) Transfer Form, dated 1/2/15
EN-RE-210, BWR Reactor Core and MPC Cask Fuel Verification, performed 1/6/15
ICA 2015-01 MPC #423 HI-STORM #704 ISFSI Campaign #1 MPC #423 BWR Standard Fuel Movement Form, performed 1/5/15 & 1/6/15
PNP-1501-0036, HI-TRAC Post-Decon Survey, dated 1/6/15
RWP 2014096, Dry Run Independent Spent Fuel Storage Installation Includes Loading, Processing, and Transport to Dry Fuel Storage Pad, Revision 1

LIST OF ACRONYMS

ALARA	as low as is reasonably achievable
ANS	Alert and Notification System
BWR	boiling water reactor
CAP	corrective action program
CFR	Code of Federal Regulations
CoC	Certificate of Compliance
CR	condition report
CS	core spray
EAL	Emergency Action Level
ECCS	emergency core cooling system
EDG	emergency diesel generator
Entergy	Entergy Nuclear Operations, Inc.
ERF	Emergency Response Facility
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
HPCI	high pressure coolant injection
IMC	inspection manual chapter
IST	inservice testing
ISFSI	Independent Spent Fuel Storage Installation
KV	kilovolt
LOCA	loss of coolant accident
LOOP	loss of offsite power
LPCI	low pressure coolant injection
MPC	multi-purpose canister
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PNPS	Pilgrim Nuclear Power Station
RB	reactor building
RCS	reactor coolant system
RG	Regulatory Guide
RWP	radiation work permit
SRV	safety relief valve
SSC	structure, system, or component
UFSAR	Updated Final Safety Analysis Report
V	volt