



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I**
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

August 8, 2013

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 05000293/2013003**

Dear Mr. Dent:

On June 30, 2013, 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 July 18, 2013, with Steve Verrochi, General Manager Plant Operations, 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 self-revealing finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance, and because it is entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV), consistent with Section 2.3.2 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 the 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 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 Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access 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/

Fred L. Bower III, Acting Chief
Reactor Projects Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 05000293/2013003
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-293

License No: DPR-35

Report No.: 05000293/2013003

Licensee: Entergy Nuclear Operations, Inc.

Facility: Pilgrim Nuclear Power Station (PNPS)

Location: Plymouth, MA 02360

Dates: April 1, 2013 through June 30, 2013

Inspectors: M. Schneider, Senior Resident Inspector, Division of Reactor Projects (DRP)
B. Smith, Resident Inspector, DRP
J. Krafty, Resident Inspector, Millstone Nuclear Power Station, DRP
T. Moslak, Health Physicist, Division of Reactor Safety (DRS)
T. Burns, Reactor Inspector, DRS
J. Laughlin, Emergency Preparedness Inspector, Office of Nuclear Security and Incident Response (NSIR)

Approved By: Fred L. Bower III, Acting Chief
Reactor Projects Branch 5
Division of Reactor Projects

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SUMMARY

IR 05000293/2013003; 04/01/2013 - 06/30/2013; Pilgrim Nuclear Power Station; Refueling and Other Outage Activities.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. One finding of very low safety significance (Green) was identified, which was a non-cited violation (NCV). The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Components Within the Cross-Cutting Areas," dated October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated January 28, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4.

Cornerstone: Initiating Events

- Green. A self-revealing NCV of Technical Specification (TS) 5.4.1, "Procedures," was identified for operators not implementing procedures to supply safety-related alternate electrical power to shutdown cooling valves during shutdown cooling operation. Specifically, because operators did not perform all applicable steps in a procedure, a loss of shutdown cooling resulted when operators were shifting power supplies for the 'B' train shutdown cooling suction and discharge valves on May 2, 2013. Corrective actions included restoring shutdown cooling following a prompt investigation of the event. Entergy has captured this event in their corrective action program (CAP) as CR-PNP-2013-3457.

The performance deficiency is more than minor because it affects the objective of the Initiating Events cornerstone to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The unavailability of shutdown cooling for five hours challenged the safety function of decay heat removal (DHR) supplied by the residual heat removal (RHR) system. A review of IMC 0612, Appendix E, "Examples of Minor Issues," found no more than minor examples that applied. The inspectors evaluated the finding using IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The inspectors determined that the finding required further review using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," because the issue affected the safety of the reactor during a refueling outage. The inspectors determined that this finding was of very low safety significance (Green), using IMC 0609, Appendix G, Checklist 7, "BWR Refueling Operation with Reactor Coolant System (RCS) Level >23'." This determination did not require a further phase 2 or phase 3 analysis in that it did not increase the likelihood of a loss of RCS inventory; did not result in the loss of RCS level instrumentation; did not degrade Entergy's ability to terminate a leak path or add RCS inventory; and did not degrade Entergy's ability to recover DHR once it was lost. In addition, a loss of thermal margin did not occur since the change in RCS temperature resulted in less than 20 percent of the temperature margin to boil. The inspectors determined that this finding had a cross-cutting aspect in the Human Performance area, Work Practices component, because personnel did not follow procedures [H.4(b)]. (Section 1R20)

REPORT DETAILS

Summary of Plant Status

Pilgrim Nuclear Power Station began the inspection period operating at 86 percent reactor power due to safety relief valve pilot leakage. On April 14, operators reduced reactor power in preparation for Refueling Outage 19 and subsequently initiated a manual reactor scram from less than 1 percent power due to an uncontrolled lowering of reactor pressure. On May 23, a reactor startup was performed and the plant reached 5 percent reactor power before main condenser parameters were observed to be degrading. The plant was returned to a shutdown condition on May 24 and repairs were made to the main condenser. On May 27, a reactor startup was performed and the plant reached 100 percent reactor power on May 30. On June 27, operators reduced reactor power to 50 percent to perform a thermal backwash of the main condenser. On June 28, operators returned the plant to 100 percent reactor power. Pilgrim remained at or near 100 percent reactor power through the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 2 samples)

.1 Summer Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors performed a review of Entergy's plant features and procedures for the operation and continued availability of the offsite and alternate AC power system to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed Entergy's procedures affecting these areas and the communication protocols between the transmission system operator and Entergy. This review focused on changes to the established program and material condition of the offsite and alternate AC power equipment. The inspectors assessed whether Entergy established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system. The inspectors evaluated the material condition of the associated equipment by interviewing the responsible system manager, reviewing condition reports and open work orders, and walking down portions of the offsite and AC power systems including the switchyard. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

.2 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of Entergy's readiness for the onset of the hurricane season. The review focused on the intake structure, the emergency diesel generators (EDGs), and the station blackout diesel generator. The inspectors reviewed station procedures, including Entergy's adverse weather procedures and applicable operating procedures to determine what could challenge these systems, and to ensure Entergy personnel had adequately prepared for these challenges. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during adverse weather.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04 – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'A' reactor building closed cooling water (RBCCW) system during 'B' RBCCW heat-exchanger re-sleeving on April 23
- Standby liquid control system following maintenance and system realignment on May 14
- High pressure coolant injection system following overhaul on May 19
- Control rod drive system following the refueling outage on May 22

The inspectors selected 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 updated final safety analysis report (UFSAR), TS, work orders, condition reports, 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.

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

a. Inspection Scope

During the week of May 6, the inspectors performed a complete system walkdown of accessible portions of the core spray 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, hangar and support functionality, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the system 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 condition reports 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 – 5 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.

- Fire Area 1.9, Fire Zone 1.15, standby liquid control pumps and equipment on April 30
- Fire Area 1.30, Fire Zone 1.30, drywell on May 10
- Fire Area 1.20, Fire Zone 3.6, radwaste truck lock on May 20
- Fire Area 1.9, Fire Zone 1.8, control rod drive pump quadrant-mezzanine level on May 22
- Fire Area 1.10, Fire Zones 4.1 and 4.2, 'B' EDG building and day tank room on June 12

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)Internal Flooding Reviewa. Inspection Scope

The inspectors reviewed the UFSAR, the site flooding analysis, and plant procedures to assess susceptibilities involving internal flooding. The inspectors also reviewed the CAP to determine if Entergy identified and corrected flooding problems and whether operator actions for coping with flooding were adequate. The inspectors also focused on the EDG enclosures to verify the adequacy of scuppers, curbing, and check valves for common drain lines.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (711111.07A – 1 sample)a. Inspection Scope

The inspectors reviewed the 'B' RBCCW heat exchanger to determine its readiness and availability to perform its safety functions. The inspectors reviewed the design basis for the component and verified Entergy's commitments to NRC Generic Letter 89-13. The inspectors reviewed the results of inspections of the RBCCW heat exchanger. The inspectors discussed the results of the most recent inspection with engineering staff and reviewed pictures of 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.

Findings

No findings were identified.

1R08 In-Service Inspection (711111.08 – 1 sample)a. Inspection Scope

From April 22 through 26, the inspectors conducted an inspection and review of Entergy's implementation of in-service inspection (ISI) program activities for monitoring degradation of the reactor coolant system (RCS) boundary, risk significant piping and components, and containment systems during the Pilgrim refuel outage (RFO-19). The sample selection was based on the inspection procedure objectives and risk priority of those pressure retaining components in systems where degradation would result in a significant increase in risk. The inspectors observed in-process non-destructive examinations (NDE), reviewed documentation, and interviewed Entergy personnel to verify that the NDE activities performed as part of the fourth interval, third period, of the Pilgrim ISI program were conducted in accordance with the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 2001 Edition with Addenda thru 2003.

Nondestructive Examination and Welding Activities (IMC Section 02.01)

The inspectors performed direct observation of NDE activities in process and reviewed documentation of nondestructive examinations listed below. Activities included observation of ultrasonic testing (UT) in the field and review of documentation of liquid penetrant testing (PT), magnetic particle testing (MT) and visual testing (VT-1 and VT-3).

ASME Code Required Examinations

- The inspectors observed the manual ultrasonic examination of one 20-inch diameter pipe to pipe butt weld in the RHR system. This observation was performed in the field to verify process compliance with ASME Section XI. The UT procedure used for this examination and acceptance was GEH-PDI-UT-1, Revision 8. No recordable indications were identified as a result of the examination, and 100 percent Code coverage of the inspectable area was achieved. The inspectors verified the UT procedure and the examiner were appropriately qualified in accordance with the requirements of ASME Section XI.
- A documentation review was performed of the volumetric examination of the safe end to nozzle weld 2R-N2E-1, using Performance Demonstration Initiative (PDI) qualified manual phased array UT procedure EPRI-DMW-PA-1, Revision 4. The weld was a dissimilar metal butt weld of the recirculation system safe end to nozzle, 16-inch diameter and 1.32-inch wall thickness. The inspectors reviewed the test procedure, calibration reports, weld volume coverage, analysis of test results and noted that 100 percent Code coverage was achieved and no relevant indications were identified. The qualifications of the test examiner were verified for compliance with ASME Section XI and PDI requirements.
- The inspectors performed a documentation review of the magnetic particle examination of the weld of the bottom mounted skirt (integral attachment) to the reactor pressure vessel (RPV). The inspectors reviewed the documentation to verify the MT procedure CEP-NDE-0731, Revision 3 and the examiner were appropriately qualified to the requirements of ASME Section XI. The inspectors also reviewed the contents of the MT examination report to determine the test variables were applied in accordance with the procedure and the results were recorded and evaluated for acceptance as specified by the procedure. The inspectors noted that no recordable indications were identified.
- The reactor pressure vessel UT documentation review included the upper head meridional (closure) head weld, RPV-TH-M8, being examined from the outside surface in accordance with ASME Section XI. The inspectors reviewed the examination report produced by Entergy of the UT inspection. The examination achieved 100 percent of the Code required volume and, no recordable indications were detected.

Repair/Replacement with Welding Activities

The inspectors performed a record review of the restoration of the degraded wall thickness of the turbine building closed cooling water 'B' heat exchanger to verify that welding and applicable NDE activities were performed in accordance with the ASME

Code requirements. The inspectors reviewed weld procedure and welder qualifications to verify those qualifications were in accordance with the requirements of the Code of construction and the repair was performed in accordance with the Entergy ASME Section XI repair program. This repair was governed by Work Order WO-00293345-A and acceptance criteria was specified as visual examination of the welding supplemented by a PT with a pressure test of the completed repair in accordance with ASME Section XI.

Industry Initiative Examination

The inspectors selected a sample of RPV internals for observation and evaluation of the in-vessel visual inspection activity. The activity inspected was the remote under water examination of reactor vessel internals using procedure TP12-014 and TP12-015 for in-vessel visual inspection of internals. The inspection scope included portions of the core shroud, steam dryer, core spray piping inside the vessel, top guide bars and other structural members. The inspectors observed the examination of portions of the core spray piping, spargers, both access hole cover plate welds, and various structural components within the vessel. The inspector also reviewed a sample of digital video records of prior component examinations that were used for comparison to the current inspection observations. The inspectors observed that there was no change in the characteristics, orientation and size of previous identified indications.

Containment Visual Examination

The inspectors visually examined the condition of the primary containment liner surfaces on the nine and 19-foot elevations and limited portions of the 41-foot elevation. The inspector was able to access the liner surfaces at the lower elevations. Containment surfaces above and below the listed elevations were accessible for visual examination. The inspectors noted that the condition of the liner coating reflected evidence that the liner was being maintained in serviceable condition with some areas having been locally re-coated to provide the base metal with protection from degradation.

b. Findings

No findings were identified.

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

.1 Quarterly Review of Licensed Operator Regualification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on June 13, which included an electric pressure regulator malfunction, a seismic event, a loss of coolant accident, and a station blackout. 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 and reviewed main control room activities during loss of offsite power (LOOP) testing on May 8. The inspectors reviewed procedural guidance for the LOOP test, attended the Infrequently Performed Test or Evolution brief, and observed control room and test personnel performance during the test. Additionally, the inspectors observed main control room activities during a reactor start-up to criticality and to the point of adding heat on May 22. The inspectors also observed main control room activities during power maneuvers to support a condenser thermal backwash on June 27. The inspectors reviewed procedural guidance for station power changes, power maneuver plans, and observed control room conduct and control of these evolutions.

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, and 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 was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- 10 tubes of the 'B' RBCCW system failed 50 percent of their wall loss acceptance criterion functional failure evaluation review on June 14
- Secondary containment functional failure evaluation review for a damaged reactor building inner truck lock door on June 19

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 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.

- Planned Orange risk due to maintenance on the A8 vital bus resulting in unavailability of the station blackout diesel generator and the shutdown transformer on April 16
- Planned and emergent risk assessments during operations with the potential to drain the reactor vessel (control rod blade moves and hydraulic control unit freeze seal) on April 26
- Emergent Yellow risk due to the loss of B-17, 480 volt safety-related bus on May 23
- Planned Yellow risk due to the LOOP test on May 8
- Emergent Yellow risk due to containment declared out of service on May 23
- Planned Yellow risk due to high pressure coolant injection system testing on June 19

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 5 samples)a. Inspection Scope

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

- 23 kV system cannot support operability of the shutdown transformer when the Manomont substation exceeds 22.2 megawatts on April 1
- 'B' 125 Vdc back-up battery for use in RFO-19 stored in a trailer with no ventilation on April 9
- Oil leak on lube oil cooler of 'A' EDG on May 18
- Reactor water clean-up valve exceeds local leak rate test limit on May 20
- Containment leakage due to leak on high pressure coolant injection valve 23-HO-321 on May 23

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.

1R18 Plant Modifications (71111.18 – 3 samples)

.1 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.

- Installation of instrumentation on, and adjacent to, safety relief valves
- Removal of the high crank case vacuum shutdown on the 'A' EDG during surveillance testing

b. Findings

No findings were identified.

.2 Permanent Modifications

a. Inspection Scope

The inspectors evaluated a modification to the standby liquid control system implemented by engineering change package, Engineering Change (EC) 34037, "Replace HO-1101-22 Test Valve with Globe Valve." The inspectors verified that the design bases, licensing bases, and performance capability of the affected systems were not degraded by the modification. In addition, the inspectors reviewed modification documents associated with the upgrade and design change. The inspectors also reviewed revisions to the system test procedure and interviewed operations personnel to ensure the procedure could be reasonably performed.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 9 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.

- 'A' 125 Vdc battery replacement on May 3
- Main steam isolation valve '2C' outboard replacement of valve internals on May 18
- Replacement of standby liquid control valve 1101-22 on May 22
- High pressure coolant injection flow controller repair on May 24
- Repair of lube oil leak on 'A' EDG lube oil piping on May 30
- Replacement of the 'B' recirculation pump seal cartridge on May 30
- Troubleshooting of the C9 annunciator system on May 31
- 250 VDC D3 battery replacement on June 11
- X-56 transformer replacement on June 20

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 1 sample)a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the maintenance and refueling outage (RFO-19), which was conducted April 14 through May 30. The inspectors reviewed Entergy's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions of the shutdown and cooldown processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable technical specifications when taking equipment out of service
- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing

- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication and instrument error accounting
- Status and configuration of electrical systems and switchyard activities to ensure that TS were met
- Monitoring of DHR operations
- Impact of outage work on the ability of the operators to operate the spent fuel pool cooling system
- Reactor water inventory controls, including flow paths, configurations, alternative means for inventory additions, operations with the potential to drain the reactor vessel, and controls to prevent inventory loss
- Activities that could affect reactivity
- Maintenance of secondary containment as required by TS
- Refueling activities
- Fatigue management
- Tracking of startup prerequisites, walkdown of the drywell to verify that debris had not been left which could block the emergency core cooling system suction strainers, and startup and ascension to full power operation
- Identification and resolution of problems related to refueling outage activities.

b. Findings

Introduction. A self-revealing NCV of very low safety significance (Green) of TS 5.4.1, "Procedures," was identified for operators not implementing procedures to supply safety-related alternate electrical power to shutdown cooling valves during shutdown cooling operation. Specifically, because operators did not perform all applicable steps in a procedure, a loss of shutdown cooling resulted when operators were shifting power supplies for the 'B' train shutdown cooling suction and discharge valves on May 2, 2013.

Description. On May 2, RFO-19 was in progress, the 'B' train of shutdown cooling was in-service supplying DHR, and the 'A' train of shutdown cooling was removed from service for planned maintenance. At 12:20 p.m., operators were swapping electrical loads from safety-related 480 Vac bus B-20 to its alternate safety-related 480 Vac bus B-17 in preparation for maintenance activities on bus B-20. While transitioning loads to bus B-17, specifically power to the 'B' train shutdown cooling suction and discharge valves, supply breaker B17116 tripped, closing both the suction and discharge valves resulting in a loss of shutdown cooling. Operators restored shutdown cooling to service approximately five hours later at which point reactor coolant system temperature had increased approximately 8 degrees as a result of the loss of shutdown cooling.

Entergy initiated a prompt investigation and error review and identified that the breaker trip functioned as designed but that a human error had established the conditions that resulted in the breaker trip. Specifically operators had inappropriately marked procedural steps of Procedure 2.4.143, Appendix F, Section 3.5, Revision 50, "Alternate Power to RHR Valves," as not to be performed, when in accordance with the procedure applicability statements and the prerequisites based on plant conditions the steps should have been performed. The steps that were not performed would have de-energized B-20 first in order to automatically shift the affected loads over to B-17. This would have maintained power to the B RHR train suction and discharge valves and prevented the loss of shutdown cooling. By not de-energizing B-20 first, the B-17 supply breaker

automatically opened resulting in the trip of the RHR valves supply breaker and the resultant loss of shutdown cooling.

Analysis. The inspectors determined that operators not following procedures as written resulted in the loss of shutdown cooling and was a performance deficiency that was reasonably within Entergy's ability to foresee and correct. Traditional enforcement does not apply because there were no actual safety consequences, no impacts on the NRC's ability to perform its regulatory function, and no willful aspects associated with the issue. The finding is more than minor because it affects the objective of the Initiating Events cornerstone to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The unavailability of shutdown cooling for five hours challenged the safety function of DHR. A review of IMC 0612, Appendix E, "Examples of Minor Issues," found no more than minor examples that applied.

The inspectors evaluated the finding using IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings." The inspectors determined that the finding required further review using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," because the issue affected the safety of the reactor during a refueling outage. The inspectors determined that this finding was of very low safety significance (Green) using IMC 0609, Appendix G, Checklist 7, "BWR Refueling Operation with Reactor Coolant System Level >23'." This determination did not require a further phase 2 or phase 3 analysis in that it did not increase the likelihood of a loss of RCS inventory; did not result in the loss of RCS level instrumentation; did not degrade Entergy's ability to terminate a leak path or add RCS inventory; and did not degrade Entergy's ability to recover DHR once it was lost. In addition, a loss of thermal margin did not occur because the change in RCS temperature resulted in less than 20 percent of the temperature margin to boil.

The inspectors determined that this finding had a cross-cutting aspect in the Human Performance area, Work Practices component, because personnel did not follow procedures [H.4(b)].

Enforcement. TS 5.4.1.a, "Procedures," requires that written procedures be implemented as recommended in NRC Regulatory Guide (RG) 1.33, Revision 2, Appendix A, February 1978. RG 1.33, Appendix A, Section 4.e includes procedures for shutdown cooling. Contrary to the above, on May 2, 2013, Pilgrim operators did not implement required procedures for shutdown cooling. Specifically, on May 2, 2013, while shifting power supplies for the suction and discharge valves for the 'B' train of shutdown cooling in preparation for maintenance, Procedure 2.4.143, Appendix F, Section 3.5, Revision 50, "Alternate Power to RHR Valves," was not implemented in that certain steps were inappropriately marked as "not applicable" and therefore were not performed. This led to the tripping of RHR valve breakers and the loss of shutdown cooling for five hours. Corrective actions included restoring shutdown cooling following a prompt investigation of the event. Proposed corrective actions include developing a standard checklist that will ensure future bus de-energize plans to include all procedural direction and impacts. Because this finding is of very low safety significance and Entergy has entered it into their CAP (CR-PNP-2013-3457), this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000293/2013003-01, Failure to Follow Procedures Results in Loss of Shutdown Cooling)**

1R22 Surveillance Testing (71111.22 – 7 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:

- Core spray flow differential pressure in-service test (IST) on April 15
- Station blackout diesel generator load test onto the A6 safety-related bus on April 17
- 'A' 125 Vdc battery discharge test on May 3
- Main steam isolation valve '2C' containment isolation valve (CIV) outboard stroke time on May 18
- Special test for automatic emergency core cooling system load sequencing and shutdown transformer with simulated LOOP and special shutdown transformer load test on May 23
- 'A' EDG and associated emergency bus surveillance on May 29
- Turbine generator overspeed testing on May 30

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures and the Emergency Plan located under ADAMS accession number ML13098A104 as listed in the Attachment.

Entergy determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of Entergy-generated changes; therefore, this revision is subject to future inspection.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06 – 1 sample)Simulator Training Evaluationa. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on June 13, 2013 which required emergency plan implementation by an operations crew. Entergy planned for this evolution to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weakness and deficiencies in the crew's performance and ensure that Entergy evaluators noted the same issues and entered them into their CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY**Cornerstone: Occupational Radiation Safety**2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)a. Inspection Scope

During the period of May 6 – 9, the inspectors conducted the following activities to verify that Entergy was properly implementing physical, administrative, and engineering controls for access to locked high radiation areas (LHRAs), and other radiological controlled areas (RCAs) during the RFO-19 refueling outage. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, relevant TS, and Entergy's procedures.

Plant Walkdown and Radiation Work Permits (RWP) Reviews

The inspectors toured accessible RCAs in the reactor building, turbine deck, condenser bay, radwaste building, re-tube building, and advance off-gas treatment building. Radiation survey maps were reviewed and independent measurements were made to confirm the accuracy of survey data and the adequacy of postings.

The inspector identified radiological significant jobs scheduled to be performed in the drywell and other RCAs. The inspectors reviewed the applicable RWPs, as low as is reasonably achievable (ALARA) Plans, survey maps, and the electronic dosimeter dose/dose rate alarm set points, for the associated tasks, to determine if the radiological controls were acceptable and if the set points were consistent with plant policy. Drywell jobs reviewed included removal of shield blocks from the N1B nozzle (RWP 2013-536), mounting accelerometers on a safety relief valve (RWP 2013-506), and removing shielding from under the reactor vessel (RWP 2013-501). Jobs reviewed in other RCAs included reactor cavity decontamination (RWP 2013-490) in the refueling area and condenser bay scaffolding demobilization (RWP 2013-481).

For the drywell jobs reviewed, the inspectors observed use of the remote monitoring room to provide radiological safety oversight of work in progress. The inspectors observed job site dose rates, worker doses, and air monitoring readings to evaluate actual site radiological conditions, and the coordination of workers by the senior radiation protection technician in charge.

The inspectors attended the pre-job RWP briefings for removing shield blocks from the N1B nozzle and for decontaminating the reactor cavity, to determine if workers were properly informed, including discussions of past operating experiences, identification of the radiological conditions associated with their tasks, location of low dose waiting areas, industrial safety considerations, electronic dosimetry dose/dose rate set points, and dose mitigation measures.

The inspectors evaluated the effectiveness of contamination controls for various outage projects by reviewing personnel contamination event reports, condition reports, and observing monitoring practices at various work locations at the main control point.

High Radiation Area and Very High Radiation Area Controls

The inspectors reviewed procedures related to the control of high radiation areas and very high radiation areas. The inspectors discussed these procedures with Radiation Protection Supervision to determine that any changes made to these procedures.

During plant tours, LHRAs located in various plant areas were verified to be properly secured and posted and the keys accounted for.

The inspectors reviewed the preparations made for various potentially high dose rate jobs including reactor cavity decontamination and under vessel shielding removal. This review included evaluating the effectiveness of contamination control measures, source term controls, the use of temporary shielding, and use of the remote monitoring system.

Radiation Worker and Radiation Protection Technician Performance

During tours of RCAs, the inspectors questioned radiation workers and radiation protection technicians regarding the radiological conditions at the work site and the radiological controls that applied to their task. Additionally, radiological-related condition reports, including dose/dose rate alarm reports, were reviewed to evaluate if the incidents were caused by repetitive radiation worker or technician errors and to determine if an observable pattern traceable to a similar cause was evident.

Problem Identification and Resolution

The inspectors evaluated Entergy's program for assuring that access controls to radiological significant areas were effective and properly implemented by reviewing various Nuclear Oversight audits and field observation reports, and relevant condition reports. The inspector evaluated whether problems were identified in a timely manner, that an extent of condition and cause evaluation were performed when appropriate, and corrective actions were appropriate to preclude repetitive problems

b. Findings

No findings were identified.

2RS2 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

During the period of May 6 – 9, the inspectors conducted the following activities to verify that Entergy was properly implementing operational, engineering, and administrative controls to maintain personnel exposure ALARA for activities performed during the refueling outage. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20 and Entergy's procedures.

Radiological Work Planning

The inspectors reviewed pertinent information regarding site cumulative exposure history, current exposure trends, and the ongoing exposure challenges for the outage. The inspectors reviewed the ALARA plans for various outage projects. The inspectors reviewed the specific ALARA Plans and associated RWPs for all outage projects that exceeded 5 person-rem estimated exposure. This review included: scaffolding installation/removal (RWP 2013-481), reactor disassembly/reassembly (RWP 2013-485), shielding installation/removal (RWP 2013-501), valve maintenance and modifications in the drywell (RWP 2013-506), insulation removal/installation (RWP2013-539) and control rod drive exchange (RWP 2013-509). In reviewing these projects, the inspectors evaluated the departmental interfaces between radiation protection, operations, maintenance crafts, and engineering to identify missing ALARA program elements and interface problems. The evaluation was accomplished by interviewing site staff, and reviewing outage Station ALARA Managers Committee (AMC) meeting minutes.

Verification of Dose Estimates

The inspectors reviewed the assumptions and basis for the RFO-19 outage ALARA dose estimates. The inspectors also reviewed the revisions made to various outage project dose estimates that resulted from exposure challenges presented to the AMC.

The inspectors reviewed Entergy's procedures associated with monitoring and re-evaluating dose estimates when the forecasted cumulative exposure for tasks was approached, and the implementation of these procedures during the outage. In particular, the inspectors evaluated the in-progress reviews for tasks that exceeded 40 percent and 80 percent of their estimated doses including scaffolding installation, control rod drive exchange, valve work in the drywell, reactor vessel disassembly, and shielding installation.

The inspectors reviewed the exposures for the ten (10) workers who received the highest doses for the refueling outage to confirm that no individual exceeded the regulatory annual limit or the performance indicator criteria. Included in this review were the dose extension authorizations for workers who would exceed Entergy's administrative dose limit.

Job Site Inspections

The inspectors reviewed the exposure controls specified in ALARA Plans and RWPs for reactor cavity decontamination and shield block removal from the N1B reactor nozzle. The inspectors attended pre-job ALARA briefings for these activities and observed aspects of these jobs using the remote monitoring system.

During plant tours, the inspectors observed workers remove scaffolding and demobilize equipment from various RCAs. Workers were questioned regarding their knowledge of job site radiological conditions, the ALARA measures applied to their tasks, and contamination control.

Source Term Reduction and Control

The inspectors reviewed the status and historical trends for the plant source term. Through a review of survey maps and interviews with the ALARA Supervisor, the inspectors evaluated recent source term measurements and control strategies. Specific strategies being employed included increasing reactor water cleanup flow, utilizing underwater demineralizers during cavity flood up, system flushes, and use of temporary shielding.

The inspectors assessed the effectiveness of temporary shielding by reviewing pre- and post-installation radiation survey data for shielding the under vessel drain line, the A and B feedwater check valves, the N1A reactor nozzle, and the recirculation system ring header.

Problem Identification and Resolution

The inspectors reviewed elements of Entergy's CAP, including field observations by the Nuclear Oversight Department, related to implementing the ALARA program to determine if problems were being entered into the program for timely resolution. Condition reports related to programmatic dose challenges, personnel contaminations, dose/dose rate alarms, and the effectiveness in predicting and controlling worker exposure were reviewed.

b. Findings

No findings were identified.

2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

a. Inspection Scope

During the period of May 6 – 9, the inspectors conducted the following activities to verify that in-plant radioactivity airborne concentrations were being controlled and monitored and that the use of respiratory protection devices was appropriately specified and used. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20 and Entergy's procedures.

Engineering Controls

The inspectors reviewed air sampling records and readings from portable air monitoring systems (AMS-4) for on-going jobs to confirm that airborne contamination was properly monitored and controlled. During plant walk downs, the inspectors evaluated the operability of air monitoring equipment and verified that air samples were representative of the work environment. Additionally, the inspectors evaluated the use of engineering controls, such as portable high efficiency particulate air filtration/ventilation systems, to assure the systems were tested, operable and properly located for tasks involving contaminated systems, such as reactor head staging and for dry well work activities.

Use of Respiratory Protection Devices

The inspectors evaluated the use of powered air purifying respirators as a contingency for specific tasks involving potential airborne contamination, including reactor cavity decontamination and that full body (delta) suits were appropriately used for high contamination work; e.g. control rod drive replacements. The inspectors evaluated ALARA analyses that were performed to justify that the respirators would not be beneficial in minimizing worker dose.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

a. Inspection Scope

During the period of May 6 – 9, the inspectors conducted the following activities to verify that the occupational dose was appropriately monitored and that the processes were effectively carried out in determining internal dose to assure that the total effective dose equivalent was accurately measured. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20 and Entergy's procedures.

External Dosimetry

The inspectors assessed the implementation of dosimetry procedures including: routine thermoluminescent dosimeter issuance, multi-badging, and extremity dosimeter use. The inspectors verified that procedural controls were in place for external effective dose equivalent determinations, that would be used for high dose gradient tasks; e.g. control rod drive mechanism replacement and reactor nozzle ISIs.

The inspectors reviewed authorizations for extending the dose limits for specific workers to verify that the worker's past dose history was evaluated and that the appropriate level of management approved the new limit. The inspectors reviewed dose records for the 10 highest exposures occurring during 2013 to determine if the dose was appropriately authorized and that regulatory limits were not exceeded.

The inspectors reviewed condition reports related to electronic dose and dose rate alarms received on electronic dosimetry to determine if the cause of the alarm was

properly determined. Additionally, the inspectors evaluated the resulting dose to determine if performance indicator criteria were met for unplanned exposures.

Internal Dosimetry

The inspectors evaluated the dose assessments for contaminated individuals who had the potential for inhaling radioactive material. The inspectors reviewed the whole body counting data, dose calculations, and independently estimated the resultant dose.

Declared Pregnant Workers

The inspectors assessed the program for controlling and restricting the dose to declared pregnant workers, who had access to performing outage related activities.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151) (3 samples)

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled Entergy's submittals for the Safety System Functional Failures performance indicators for the period of January 1, 2012, through December 31, 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73." The inspectors reviewed Entergy's plant logs, condition reports, licensee event reports (LERs), 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

a. Inspection Scope

The inspectors reviewed Entergy's submittal for the RCS specific activity and RCS leak rate performance indicators for the period of April 1, 2012, through March 31, 2013. 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 6. 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.

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 entered issues into their 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 their CAP and periodically attended condition report 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 CAP, such as trend reports, performance indicators, major equipment problem lists, system health reports, Quality Assurance Reports, maintenance rule assessments, and maintenance or CAP backlogs. The inspectors also reviewed Entergy’s CAP database to assess condition reports written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRCs daily condition report review (Section 4OA2.1). The inspectors reviewed Entergy’s quarterly trend reports to verify that Entergy’s personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

One new trend is discussed below.

Equipment Reliability

Equipment reliability issues resulting in plant transients have been identified as a trend by the inspectors and Entergy. Specifically, the Engineering Director initiated CR-PNP-2012-0239 to conduct a cause evaluation of equipment reliability issues from 2011 and into 2012.

.3 Annual Sample: Review of a Tagout Error Documented in CR-PNP-2012-1930

a. Inspection Scope

The inspectors selected condition report CR-PNP-2012-1930, which documented high pressure coolant injection system work that was performed without anyone signing on to the tagout. The inspectors assessed Entergy's extent of condition review and whether the planned or completed actions were appropriate. Additionally, the inspectors reviewed subsequent condition reports addressing tagout errors generated over the past year to determine if corrective actions were effective and whether an appropriate extent of condition of tagging errors was conducted.

b. Findings and Observations

No findings were identified.

The inspectors determined that the immediate actions taken in response to this error were appropriate.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 5 samples)

.1 Plant Events

a. Inspection Scope

For the plant events 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 the 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.

- Operator performance during a loss of all annunciator capability on May 3, 2013
- Operator response to a report of a fire on the 51' elevation of the turbine building on May 7, 2013
- Operator response to a fire in the turbine auxiliary lube oil pump room on May 20, 2013
- Operator performance during power movement to support a main condenser thermal backwash on June 27, 2013

.2 (Closed) LER 05000293/2013-001-00: Inadvertent Trip of Both Recirculation Pumps and Subsequent Manual Scram

On January 10, 2013, both reactor recirculation pumps tripped and a manual scram was inserted. Operators responded to the event and all plant systems responded as designed. A follow-up investigation determined that a plant relay was inadvertently energized during restoration from surveillance testing. Procedure changes and training have been implemented to prevent this event from recurring. The LER was reviewed. No findings or violations of NRC requirements were identified. This LER is closed.

4OA6 Meetings, Including Exit

On July 18, 2013, the inspectors presented the inspection results to Steve Verrochi, General Manager Plant Operations, and other members of 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
B. Ahern	Electrical System Engineer
G. Blankenbiller	Chemistry Manager
G. Bradley	Component Engineer
S. Brewer	Radiation Protection Manager
D. Brugman	Supervisor ALARA/Technical Support
D. Burke	Security Manager
B. Chenard	Engineering Director
J. Couto	Senior Reactor Operator
J. Cox	Radiation Protection Operations Supervisor
M. Dagnello	Superintendent FIN Team
K. Drown	Nuclear Oversight and Recovery Manager
J. Falconieri	Senior Lead Engineer
J. Fitzsimmons	Radiation Protection Supervisor
M. Gatslick	Security Compliance Supervisor
R. Hargat	Radiation Protection Technician
W. Lobo	Compliance Engineer
J. Lynch	Licensing Manager
J. Macdonald	Operations Manager
D. Mannai	Senior Manager Nuclear Safety and Licensing
W. Mauro	Supervisor Radiation Protection Support
T. McElhinney	Training Manager
A. Muse	Superintendent Operations Training
J. Norris	Radiological Engineer
D. Noyes	Nuclear Safety Assurance Director
J. Ohrenberger	Maintenance Manager
J. Priest	Emergency Preparedness Manager
J. Scheffer	Specialist, Effluent & Environmental Monitoring
W. Smith	Chemistry Supervisor
M. Thornhill	Radiation Protection Supervisor
S. Verrochi	General Manager Plant Operations
T. F. White	Design Engineering Manager

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATEDOpened/Closed

05000293/2013005-01	NCV	Failure to Follow Procedures Results in Loss of Shutdown Cooling (Section 1R20)
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Closed

005000293/2013-001-00 LER Inadvertent Trip of Both Recirculation
Pumps and Subsequent Manual Scram
(section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

1.4.4, New England Power Grid Operations/Interfaces, Revision 21
1.5.22, Risk Assessment Process, Revision 12
2.1.14, Station Power Changes, Revision 105
2.1.37, Coastal Storm – Preparations and Actions, Revision 31
2.1.42, Operation during Severe Weather, Revision 12
2.4.144, Degraded Voltage, Revision 41
5.3.31, Station Blackout, Revision 16
ENN-PL-158, Transmission Grid Interface and Compliance with NERC Standards, Revision 5

Condition Reports

CR-PNP-2013-1819, NSTAR studies reveal Manomet substation cannot sustain operability
of SDT above 22.2 MW
CR-PNP-2013-2581, Manomet station exceeded 22.2 MW on 4/19/13

Miscellaneous

Final Safety Analysis Report (FSAR), Section 8.5, Standby AC Power Source
FSAR, Section 8.10, Blackout AC Power Source
NRC GL-2006-02, Grid Reliability and the Impact on Plant Risk and the Operability of Offsite
Power
Regulatory Guide 1.155 Station Blackout

Section 1R04: Equipment Alignment

Procedures

2.2.21, High Pressure Coolant Injection System, Revision 82
2.2.24, Standby Liquid Control System, Revision 46
2.2.30, Reactor Building Closed Cooling Water (RBCCW) System, Revision 75
2.2.87, Control Rod Drive Systems, Revision 130
2.2.87.5, Control Rod Drive System Valve Lineup, Revision 5
8.7.1.5, Attachment 47, Lineup Sketch for Penetration X-223, Revision 61
8.C.13, Locked Component Lineup Surveillance, Revision 83

Condition Report

CR-PNP-2013-3491, Packing inspections in drywell identified leakage on 1400-6A

Miscellaneous

Core Spray System Health Reports
Final Safety Analysis Report, Section 6.4.3, Core Spray System
P&ID M242, Core Spray System, Revision 53

P&ID M252 Sh.2, Nuclear Boiler, Revision 68

Section 1R05: Fire Protection

Procedures

5.5.2, Special Fire Procedure, Revision 52
89XM-1-ER-Q, Updated Fire Hazards Analysis, Revision E5
EN-DC-161, Control of Combustibles, Revision 7

Condition Reports

CR-PNP-2011-2149, RFO-18 combustible loading issue in standby liquid control room
CR-PNP-2013-3000, Noted compressed bottle not secured per EN-DC-107

Miscellaneous

Fire Hazards Analysis

Section 1R06: Flood Protection Measures

Condition Report

CR-PNP-2002-13064, NRC questioned the function and testing history of the floor drain system in the EDG enclosures

Drawing

DM-402, Plumbing and Drainage Diesel Generator Building and Details, Revision E3

Calculation

FP51, Expected Maximum Water Flow from Sprinkler Systems in EDG rooms

Miscellaneous

Engineering Evaluation EE 02-039, Backflow Valves in Floor Drainage System
FSAR, Section 8.9, Flooding
PM Code P001482 and P001483 inspect check valves 39-CK-272A and B
PNPS Specification E536, Maximum Flood Heights in each EDG room

Section 1R07: Heat Sink Performance

Procedures

8.5.3.14, SSW Flow Rate Operability Test, Revision 33
8.5.3.14.1, RBCCW Heat Exchanger Thermal Performance Test, Revision 6

Condition Reports

CR-PNP-2013-2528, 'B' RBCCW HX coating delaminated
CR-PNP-2013-2564, Tube plug hit during tube cleaning
CR-PNP-2013-2601, 'B' RBCCW HX lining degradation
CR-PNP-2013-2660, 'B' RBCCW liner degradation
CR-PNP-2013-2681, 10 tubes failed eddy current inspections on 'B' RBCCW HX
CR-PNP-2013-2745, 'B' RBCCW HX liner degradation
CR-PNP-2013-2807, During 'B' RBCCW HX tube sleeving, could not resleeve 2 tubes to the required depth
CR-PNP-2013-2963, 1 inch drain line not installed on 'B' RBCCW HX
CR-PNP-2013-2950, 'B' RBCCW HX root valve has no ID

Work Orders

Work Order (WO) 00270021, Task 11, 3.M.4.98 E-209B RBCCW Heat Exchanger Inspection and Repair
 WO 52243965, Task 1, 8.5.3.14.1 (Sec 8.2) RBCCW HX Thermal Performance Test (Loop B) H/SD

Miscellaneous

EPRI NP-7552, Heat Exchangers Performance Monitoring Guidelines

Section 1R08: In-Service InspectionProcedures

CEP-NDE-0640, Liquid Penetrant Examination Heat Exchanger Repair, Revision 8
 CEP-NDE-0641, Liquid Penetrant Examination (PT) for ASME Section XI, Revision 7
 CEP-NDE-0730, Magnetic Particle Testing (MT), Revision 4
 CEP-NDE-0731, Magnetic Particle Examination for ASME Section XI, Revision 3
 CEP-NDE-0505, Ultrasonic Examination Corrosion/Erosion, Revision 4
 GEH-PDI-UT-1, Performance Demonstration Initiative Generic Procedure for the Ultrasonic Examination of Ferritic Pipe, Revision 8
 CEP-WP-GWS-1, General Welding Standard (ASME/ANSI), Revision 2
 TP12-014, Temporary Procedure for In Vessel Visual Inspection (IVVI) of BWR-3RPV Internals
 TP12-015 (GEH-VT-203), Reactor Vessel (RV) 20, Procedure for operation of "Stinger" IVVI Remote

Condition Reports

PNPS-2013-2872 Linear indications identified on RPV closure head washers
 PNPS-2013-2886 Weld indications noted on top head welds M4 and M5

Drawings

ISI-1-11-1	ISI-IWE-AUG-1	M100-7257
M100-7246	M11-82SH5	

Examination Reports

BOP-MT-12-004	PT-13-006	PNPS-RFO-19-004
UT-11-071	UT-11-072	UT-11-07-UT-11-074

Miscellaneous

1016645, Manual Phased Array Ultrasonic Testing (UT) of Dissimilar Metal Welds (DMW)
 ASME XI Fourth Ten Year Interval Inservice Inspection Program Plan
 EPRI-WOL-PA-1, Manual Ultrasonic Phased Array examination
 PNPS-RF019-029, UT Examination Summary Sheet RPV-TH-M8 Meridional Head Weld
 Nondestructive Evaluation-Procedure for Manual Phased Array Ultrasonic Testing of Dissimilar Metal Welds (DMW)

Section 1R11: Licensed Operator Regualification ProgramProcedures

2.1.1, Startup from Shutdown, Revision 180
 2.1.4, Approach to Critical and Plant Heat-up, Revision 33
 8.M.3-1, Special Test for Automatic ECCS Load Sequencing and Shutdown Transformer with

Simulated Loss of Offsite Power and Special Shutdown Transformer Load Test,
Revision 56

Miscellaneous

Power Maneuver Plan

SES-1022-02, LORT/NRC Simulator Exam Scenario, Revision 1

Section 1R12: Maintenance Effectiveness

Procedures

EN-DC-205, Maintenance Rule Monitoring, Revision 4

EN-DC-206, Maintenance Rule (a)(1) Process, Revision 2

Condition Reports

CR-PNP-2013-0269, Tracking CR to consolidate maintenance rule functional failure determinations

CR-PNP-2013-1671, During transfer of empty fuel boxes off of the refuel floor, the inner door of the reactor building truck lock door was damaged

CR-PNP-2013-1837, Corrective Action 27, Maintenance Rule Failure Evaluation of CR-PNP-2013-2681

CR-PNP-2013-2202, NRC Resident Inspector raised question on operability performed on secondary containment

CR-PNP-2013-2681, Eddy current testing identified that 10 tubes of the 'B' RBCCW heat exchanger failed the 50% wall loss acceptance criteria

Miscellaneous

Drawing M11-26-2 SH3, RBCCW E209B Tube Layout, Revision 10

RBCCW Maintenance Rule Scoping Documents

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

1.5.22, Risk Assessment Process, Revision 17

3M.1-45, Outage Shutdown Risk Assessment, Revision 14

3M.1-45, Outage Shutdown Risk Assessment, Revision 15

3M.4-90, Pipe Freezing Procedure, Revision 22

EN-DC-214, Freeze Seal Evaluations, Revision 0

EN-OP-116, Infrequently Performed Tests or Evolutions, Revision 11

EN-OU-108, Shutdown Safety Management Program, Revision 5

EN-WM-104, On Line Risk Assessment, Revision 7

Temporary Procedure TP13-010, RFP 19 Compensatory Measures, Revision 0

Work Order

WO 52364802, Task 23, Replace MSIV AD-203-2C Actuator and Springs,
Secondary Containment Contingencies

Miscellaneous

Orange Defense in Depth Contingency Plan

Refueling Outage (RFO)-19 Shutdown Risk Assessment Book

Secondary Containment Contingency Plan

Shutdown Key Safety Function Risk Sheets

Work Week Schedules

Section 1R15: Operability Evaluations

Procedures

2.4.A.23, Attachment 4, 23KV Supply to PNPS, Revision 16
3.M.3-36.7, Temporary Power for 125V DC Bus 'A' or 'B', Revision 1
8.7.1.3, Local Leak Rate Test Program, Revision 24
8.7.1.5, Attachment 59, Local Leak Rate Testing Data Sheet, Revision 61
EN-OP-104, Operability Determination Process, Revision 6

Condition Reports

CR-PNP-2013-1819, NSTAR studies reveal Manomet substation cannot sustain operability of SDT above 22.2 MW
CR-PNP-2013-2125, Temporary 125V DC backup battery stored in trailer with no ventilation
CR-PNP-2013-2581, Manomet station exceeded 22.2 MW on 4/19/13
CR-PNP-2013-3603, Small oil leak on 'A' EDG lube oil cooler has worsened
CR-PNP-2013-3869, RWCU valve exceeded local leak rate test limit
CR-PNP-2013-4210, NRC resident identified CR-PNP-2013-3603 should have been classified as "operable-comp measure"
CR-PNP-2013-4262, During HPCI operability demonstration, operations noted water dripping down from the exhaust line overhead

Miscellaneous

10 CFR 50, Appendix J, Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors
Compensatory Measure 908, Call NSTAR to determine loading on Manomet station
Containment Leakage Tabulated Data
Control Room Logs
FSAR, Chapter 5.2, Primary Containment System
TR-100248, Stationary Battery Guide: Design, Application, and Maintenance, Revision 2
Technical Specification 3.9, Auxiliary Electrical Shutdown

Section 1R18: Plant Modifications

Procedures

2.2.8, Standby AC Power System (Diesel Generators), Revision 102
8.4.1, Standby Liquid Control Pump Quarterly and Biennial Capacity and Flow Rate Test, Revision 76
8.9.1, Emergency Diesel Generator and Associated Emergency Bus Surveillance, Revision 126
EN-DC-115, Equivalent Change, Revision 12
EN-DC-136, Temporary Modification, Revision 8
EN-DC-148, Vendor Manual Change Form, Revision 2
EN-LI-101, 10 CFR 50.59 Evaluations, Revision 9
EN-NS-210, 10 CFR 50.54(P) Review Program, Revision 3
Temporary Procedure TP13-023, In-Plant Monitoring of Safety Relief Valves' Instrumentation Plan and Installation Procedure, Revision 1

Condition Reports

CR-PNP-2013-0073, Crankcase exhauster failure occurred during 8.9.1 implementation
CR-PNP-2013-4176, NRC Resident, upon review of the EC-0000043295 Temporary

Modification for SRV monitoring instrumentation installed in RFO-19, raised a question as to how the EC evaluated the potential for accident-generated drywell debris that may affect ECCS Suction Strainers, and how the EC evaluated cyber security concerns regarding the use of computerized instrumentation

Miscellaneous

Engineering Change (EC) 34037, Replace HO-1101-22 Test Valve with Globe Valve
Final Safety Analysis Report, Chapter 8.9, Cable Installation Criteria
Report A13105-R-001, Documentation and Approval of Entergy Temporary Modification EC-43295, Revision 0
Regulatory Guide 1.82, Water Sources for Long-Term Recirculation Cooling following a Loss-of-Coolant Accident, Revision 4
PNP ECCS Strainer Performance Analysis, Calculation M897, Revision 3
Temporary Modification EC43295, Temp Mod for SRV Monitoring Instrumentation RV-203-3A, B, C, D Accelerometers and Pressure Drywell Temporary Wiring and Sensor Mounting
TMOD No: 41844, Provide temporary modification to disable shutdown of 'A' EDG on high crank case vacuum pressure during surveillance testing conditions

Section 1R19: Post-Maintenance Testing

Procedures

3.M.3-4, Insulation Test, Revision 59
3.M.3-17.1, Raychem of Taping on 1000 Volt and Under Cables, Revision 26
3.M.3-35.7, Temporary Power for 125VDC Bus 'A' or 'B', Revisions 1, 2, & 3
3.M.3-51, Electrical Termination Procedure, Revision 31
3.M.4-8, Main Steam Isolation Valve Maintenance, Revision 48
3.M.4-8.1, Main Steam Isolation Valve Preventive Maintenance - Critical Maintenance, Revision 17
3.M.4-55, Recirculation Pump Seal Cartridge Maintenance – Critical Maintenance, Revision 17
8.4.1, Stand-By Liquid Control Pump Quarterly and Biennial Capacity and Flow Rate Test, Revision 76
8.5.4.1, HPCI System Pump and Valve Quarterly and Biennial Comprehensive Operability, Revision 112
8.7.1.6, Local Leak Rate Testing of the Main Steam Isolation Valves, Revision 29
8.9.1, Emergency Diesel Generator and Associated Emergency Bus Surveillance, Revision 126
8.9.8.1, 'A' 125VDC Battery Acceptance, Performance, or Service Test – Critical Maintenance, Revision 21
8.9.8.3, 250V DC Battery Acceptance, Performance, or Service Test – Critical Maintenance, Revision 22
8.Q.3-3, 480V AC Motor Control Center Testing and Maintenance, Revision 58
ARP-C9, Alarm Response Procedure, Revision 7
EN-DC-140, Air Operated Valve Program, Revision 4
EN-MA-125, Trouble Shooting Control of Maintenance Activities, Revision 13
EN-WM-107, Post Maintenance Testing, Revision 4

Condition Reports

CR-PNP-2013-1374, Lube oil leak on 'A' EDG
CR-PNP-2013-2768, Traceability problem identified during 1101-22 valve replacement
CR-PNP-2013-3297, Valve offset concern identified during 1101-22 valve replacement
CR-PNP-2013-3543, Y-2 Breaker 13 is stuck closed
CR-PNP-2013-4041, MSIV-2C failed PWT leak rate test

CR-PNP-2014-4156, New regulating transformer X-56 failed the transient voltage response acceptance criteria
CR-PNP-2013-4262, During HPCI operability demonstration there was water dripping from overhead
CR-PNP-2013-4286, During performance of HPCI run per 8.5.4.1 Att. 3, HPCI flow would not achieve flow setpoint of 4250 gpm with the flow controller in AUTO
CR-PNP-2013-4395, NRC identified VT-2 discrepancies
CR-PNP-2013-4433, Recirculation Pump 'B' seal replacement post work testing does not incorporate recommended post work tests from EN-WM-107

Drawing

E13, Single Line Relay & Meter Diagram 125V & 250V DC Systems, Revision E80

Work Orders

WO 00264964, Tasks 1-4, Replace 1101-22 with an upgraded valve per SIPD 420
WO 00292971, Tasks 1-2, 5-9, Replace the 'A' 125 VDC Battery in RFO-19
WO 00296640, Tasks 1-5, 8-9 & 15, Replace X-56 XFMR per EC32292 during RFO-19
WO 00344024, Tasks 1-2, Repair Oil Leak on EDG 'A' Lube Oil Piping
WO 00350369, Tasks 1, 3, 5, Circuit Breaker Y2-13 would not open
WO 00351593, Task 1, Repack Live Load Packing of MSIV 2C
WO 00352468, Task 1, With flow controller in auto, HPCI flow did not reach setpoint
WO 52363502, Tasks 1, 4, 7, 3.M.4.4-55 Recirculation Pump P-201B Seal Cartridge Replacement
WO 52370554, Task 1, 250V DC D3 Battery Service Discharge Test

Miscellaneous

Control Room Logs

EC 33301, Provide Temporary Power to Panel Y4 during Transformer X-56 Replacement during RFO-19
EC 34037, Replace HO-1101-22 Test Valve with Globe Valve
IEEE Std. 450-1995, IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications
Trouble Shooting Control forms for WO 00350369 dated 5/4/13, 5/7/13, 5/8/13, 5/9/13
Y2 Breaker 13 Fuse Index

Section 1R20: Refueling and Other Outage Activities

Procedures

1.3.37, Post-Trip Reviews, Revision 29
1.5.22, Risk Assessment Process, Revision 17
2.1.1, Startup from Shutdown, Revision 180
2.1.4, Approach to Critical and Plant Heatup, Revision 33
2.1.5, Controlled Shutdown from Power
2.1.7, Vessel Heatup and Cooldown, Revision 54
3.M.1-45, Outage Shutdown Risk Assessment, Revision 15
3.M.1-51, Readiness for Restart Reviews, Revision 7
3.M.4-90, Pipe Freezing Procedure, Revision 22
EN-WM-104, Online Risk Assessment, Revision 7

Condition Reports

- CR-PNP-2013-3455, During the performance of 8.M.2-8.2 Attachment #2 while pumping up PT-263-50B the SDC suction valves MO-1001-47 and MO-1001-50 auto closed. Followed actions of ARP enhance
- CR-PNP-2013-3457, During performance of alternate feed to MO-1001-28B, breaker 52-17116 tripped
- CR-PNP-2013-3470, On 5/2/2013, Operations personnel attempted and failed to provide an alternate power feed to RHR system valves MO-1001-50 shutdown cooling suction and MO-1001-28A RHR inlet to recirc loop A (RHR SDC return path)
- CR-PNP-2013-3516, During the Y-1 and Y-2 outage instrument and the air supply to the Main Steam Line Plugs (MLSPs) was lost
- CR-PNP-2013-3520, Pilgrim undertook a significant evolution with minimal procedural guidance in de-energizing safety related instrument buses Y1 and Y2
- CR-PNP-2013-3522, D6 failed to report alarms when Y2 was de-energized
- CR-PNP-2013-3526, Recorder JR-750-10C on panel C-905 did not reenergize when vital bus Y-2 was returned to service
- CR-PNP-2013-3869, PNPS is accepting local leak testing results under the LLRT program 8.7.1.3 of 62 SLM for RWCU system MO-1201-2 valve. While is allowable by Technical Specification 4.7.A.2.a.3(1), it borders on misuse of allowed margin
- CR-PNP-2013-4070, During high pressure safety injection (HPCI) overspeed testing per 8.5.4.9 section 8.4 using TCTD equipment the overspeed trip occurred at 4800 RPM. 8.5.4.9 acceptance criteria is 4900-5100 RPM
- CR-PNP-2013-4075, During the performance of 1000# leak check of AO-220-44 packing per 2.1.8.4, WO #00351472-05, the packing leakage was noted to be 5 DPM
- CR-PNP-2013-4078, During performance of 8.7.1.5 for AO-220-44 the valve went closed with no control switch manipulation
- CR-PNP-2013-4081, When exercising Control Rods IAW 2.1.1, the Rod Select Power Switch operator separated from the collar and fell through the benchboard section of C905
- CR-PNP-2013-4172, CR-PNP-2013-3019 identified a problem with OPEN position indication light for AO-220-51
- CR-PNP-2013-4176, The NRC resident, upon review of the EC-43295, "Temporary Modification for SRV Monitoring Instrumentation installed in RFO-19," raised a question as to how the EC evaluated the potential for accident-generated drywell debris that may affect ECCS suction strainers, and how the EC evaluated cyber security concerns regarding the use of computerized instrumentation
- CR-PNP-2013-4181, During performance of the weekly RBCCW heat exchanger backwash, noticed the condition of Aux Bay 'B' unacceptable for plant operation
- CR-PNP-2013-4262, During the HPCI operability demonstration and flow rate test at 150 PSIG per 8.5.4.3 operations noted water dripping down from the exhaust line area in the overhead
- CR-PNP-2013-4266, While performing 8.5.4.3 found tac remote not working for HPCI turbine
- CR-PNP-2013-4269, At 0445 on 5/23/2013, alarm 'C903L-B2' (Relief/Safety Valve Open) was received and instantly cleared
- CR-PNP-2013-4271, During a walk down of the Appendix R yard lighting for path to the diesel generators, it was found that 11 of 12 lights that are on the Appendix R circuit are out
- CR-PNP-2013-4272, During plant startup, computer point RXX008 for SRV 3A tailpipe temperature was reading 56°F less than the other SRVs
- CR-PNP-2013-4292, During station walkdown, Fire Protection found the dirty lube oil room to be below good housekeeping standards
- CR-PNP-2013-4276, HPCI control valve 2301-24 has no indication lights working at C903
- CR-PNP-2013-4286, During performance of HPCI run per 8.5.4.1 Att. 3, HPCI flow would not achieve flow setpoint of 4250 gpm with the flow controller in AUTO

- CR-PNP-2013-4297, Fire Protection performed a review of current trouble conditions on Fire Panels C220 and C221 and found fire zones on Fire Panel C220 and for Fire Panel C223 did not have caution tags identifying what the problem was and what work order number they were under. Caution tag is needed for this zone
- CR-PNP-2013-4302, On 5/23/2013 at 2205 with reactor power at approx 5%, reactor power was lowered IAW 2.1.14 and 2.4.36 due to degrading condenser vacuum and rising hotwell temperatures
- CR-PNP-2013-4305, During a verification of the fire system condition, discovered Tag #725 on Tagout 1C19-2, 33-045 for C22 Zn 2C incorrectly hung on C220 instead of C222
- CR-PNP-2013-4307, The temperature element for SV-203-4A is suspect
- CR-PNP-2013-4317, 30-HO-45 RBCCW Pump D (P-202D) suction valve locking device was found to be broken
- CR-PNP-2013-5431, Review of SFP pre-outage preparatory action and compressed schedules has raised a concern for RFO schedule adherence and overall outage readiness

Miscellaneous

- Pilgrim Fuel Cycle 20, Core Operating Limits Report (COLR), Revision 33
- PNPS Cycle 20 Startup, RMP-PNP-20-01
- Reactor Maneuver Plan, Startup from RFO-19
- Reactor Plant Event, HPCI Declared Inoperable during Post Maintenance Test on 5/23/13
- Refueling Outage 19 Shutdown Risk Assessment Book

Section 1R22: Surveillance Testing

Procedures

- 2.2.20, Attachment 9, Core Spray System Flow Differential Pressure Test on MO-1400-25A, Revision 79,
- 2.4.30, MSIV Closure, Revision 20
- 3.M.3-24.16, Quiklook Operations Procedure, Revision 17
- 3.M.3-25.3, Resistance Testing and Torquing of Station Batteries, Revision 14
- 8.2.1, Special Test for Turbine Generator Overspeed Testing, Revision 24
- 8.7.1.6, Local Leak Rate Testing of the Main Steam Isolation Valves, Revision 29
- 8.9.1, Emergency Diesel Generator and Associated Emergency Bus Surveillance, Revision 126
- 8.9.8.1, 'A' 125VDC Battery Acceptance, Performance, or Service Test – Critical Maintenance, Revision 21
- 8.9.16.2, Manual Start and Loading of Station Blackout Diesel Generator via Safety Bus A5 or A6, Revision 9
- 8.M.1-14, MSIV Closure, Revision 33
- 8.M.3-1, Special Test for Automatic ECCS Load Sequencing and Shutdown Transformer with Simulated Loss of Offsite Power and Special Shutdown Transformer Load Test, Revision 56

Condition Reports

- CR-PNP-2013-3460, When retorquing the 125 'A' batteries, intercell connection bolting was found excessively loose
- CR-PNP-2013-4319, NRC Senior Resident Inspector identified a data entry error in procedure 8.M.3-1 (LOOP/LOCA Test)
- CR-PNP-2013-4388, NRC identified numerous steps signed that should be N/A'd or signed with incorrect data

Calculation

PS162, Station Blackout Diesel Generator Loading, Revision 0

Work Orders

WO 00292971, Task 5, Replace the 'A' 125VDC Battery in RFO-19

WO 52363661, Task 1, Perform 2.2.20, Att. 9, DP Flow Test

Miscellaneous

Condensed Data Sheet for MO-1400-25A, Statistical Calculations Performed on 4/24/2013
Technical Specifications

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Miscellaneous

EP-IP-100, Emergency Classification and Notification, Revision 36

Section 1EP6: Drill Evaluation

Miscellaneous

SES-1022-02, LORT/NRC Simulator Exam Scenario, Revision 1

Section 2RS1/2/3/4: Occupational Radiation Safety

Procedures

EN-RP-101, Access Control for Radiologically Controlled Areas

EN-RP-105, Radiological Work Permits

EN-RP-108, Radiation Protection Posting

EN-RP-110-04, Radiation Protection Risk Assessment

EN-RP-122, Alpha Monitoring

EN-RP-131, Air Sampling

EN-RP-143, Source Control

EN-RP-201, Dosimetry Administration

EN-RP-203, Dose Assessment

EN-RP-204, Special Monitoring Requirements

EN-RP-503, Selection, Issue, and Use of Respiratory Protection Equipment

PNP-RP-6.1-22, Radiological Controls for High Risk Evolutions

Nuclear Oversight Performance Assessment Reports

NOS Function Area Performance Assessment Reports for

March 1, 2013 through April 11, 2013, August 18 – 2012 through January 2, 2013

NOS Outage Reports for

April 14 -16, 2013, April 18 – 23, 2013, April 23 -26, 2013, April 26 -30, 2013,

May 3 – 7, 2013

Condition Reports for 2013

2282	2733	2830	3813
2927	3037	3166	
3246	3291	3298	
3324	3596	1575	
2939	2943	3263	
3427	3496	2691	
2228	3219	3702	

Temporary Shielding Packages

TS-06-008: DW-58', A & B Feedwater Check Valves
TS-02-097: DW-41', A & B Recirc Discharge Ring Headers
TS-02-098: DW-41', N1A Nozzle Recirc Suction Elbow
TS-10-035, RHR Suction above RSIVs
TS-12-062, Under Vessel Drain Line

RWP/ALARA Plans

2013-536, N1B Nozzle Shield Block Removal
2013-490, Post Drain down Cavity Decontamination
2013-481, Scaffolding Removal
2013-506, Main Steam Relief Valve (MSRV), Safety Valve (SV), and Associated Work in Drywell

ALARA In-Progress Reviews

2013-481, Scaffolding
2013-485, Disassemble/Reassemble Reactor Vessel
2013-501, Shielding
2013-506, MSRV, SV, and associated work in DW
2013-509, Control Rod Drive Exchange

ALARA Manager Committee Meeting Minutes

Meetings held on: 04/15/13, 04/25/2013, 04/28/2013, 05/01/2013

Miscellaneous

Access Control Alarm Report for January 1 – May 9, 2013
Radiological Evaluation of Airborne Tritium Hazard
Air Sampling Records for April 14 – May 6, 2013
Multi-Dosimeter Work Sheets For CRD replacement and In-Service Inspections

Section 40A1: Performance Indicator Verification

Procedure

EN-LI-114, Attachment 9.2, Performance Indicator Process for Pilgrim Safety System Functional Failure Data Submittal from 1st Quarter 2012 through 4th Quarter 2012, Revision 4

Condition Report

CR-PNP-2013-4774, The NRC resident identified that all three of the RCS leak rate data collection sheets provided with EN-LI-114, Attachment 9.2, which were utilized for NRC performance indicators in the 2nd quarter of 2012, had discrepancies

Technical Specifications

TS 3.6.B, Coolant Chemistry
TS 3.6.C, Coolant Leakage

Miscellaneous

2012 Licensee Event Reports
NRC Performance Indicator Technique Data Sheets for RCS Leakage and RCS Activity 2nd quarter 2012 through 1st quarter 2013
Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 6

NUREG 1022, "Event Report Guidelines 10 CFR 50.73," Revision 2

Section 40A2: Problem Identification and Resolution

Procedure

EN-LI-102, Corrective Action Process, Revision 21

Condition Reports

CR-LO-PNPLO-2012-0112, Corrective action 25, CR-PNP-2012-1930 effectiveness review
CR-PNP-2012-1930, Work was performed without anyone signing onto the applicable tagout, level 1 tagging error
CR-PNP-2013-0276, Security officers performing rounds are not tagout qualified
CR-PNP-2013-0518, Operations "Caution Tags > 90 Days Old" performance indicator continues to be RED
CR-PNP-2013-2469, Two workers were not signed on to a tagout for work on check valve 2469
CR-PNP-2013-4227, Inadequate causal analysis for CR-PNP-2013-2469
CR-PNP-2013-4305, Tags hung incorrectly on fire panels
CR-PNP-2013-4321, Adverse trend on operations "Caution Tag > 90 Days Old" performance indicator
CR-PNP-2013-4344, Engineer did not sign on to a condenser tagout for inspection inside the condenser
CR-PNP-2013-5047, Supplemental work commenced prior to tags being hung

Miscellaneous

3rd Quarter 2012 Quarterly Trend Report
4th Quarter 2012 Quarterly Trend Report
Compensatory Measures List
Control Room Deficiencies
List of CRs Addressing Tagging Issues from 6/1/2012 through 6/1/2013
NRC Performance Indicators
Quality Assurance Reports
Temporary Modification Packages

Section 40A3: Followup of Events and Notices of Enforcement Discretion

Procedure

EP-AD-601, Emergency Action Level Bases Document, Attachment 9.2, Revision 0

Condition Reports

CR-PNP-2013-3728, Suspended fire tour on 51' turbine deck to declare a fire emergency
CR-PNP-2013-3729, Smell of smoke in condenser bay due to fire on the 51' elevation
CR-PNP-2013-3730, Report of a fire in a seavan on the turbine deck
CR-PNP-2013-4190, Main turbine aux oil pumps tripped at roughly 0353. Aux oil pump 'A' found tripped. Soon after, security reported smoke and noise in the area of the turbine lube oil reservoir

Miscellaneous

Emergency Action Levels
Licensee Event Report (LER) 2013-001-11, "Inadvertent Trip on Both Recirculation Pumps and Subsequent Manual Scram"
10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors

10 CFR 50.72 Report, Reactor Plant Event Notification, Off-Site Notification due to Fire in the
Turbine Building on 5/20/13

LIST OF ACRONYMS

AC	alternating current
ADAMS	Agencywide Documents Access and Management System
ALARA	as low as reasonably achievable
AMC	ALARA Managers Committee
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DHR	decay heat removal
DMW	dissimilar metal weld
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EC	engineering change
EDG	emergency diesel generator
IMC	Inspection Manual Chapter
ISI	In-service inspection
IST	in-service test
KV	kilovolt
LER	licensee event report
LHRA	locked high radiation area
LOOP	loss of offsite power
MT	magnetic particle examination
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NDE	non-destructive examination
NSIR	Office of Nuclear Security and Incident Response
PARS	Publicly Available Records
PDI	performance demonstration initiative
PT	penetrant test
RCA	radiological controlled area
RCS	reactor coolant system
RBCCW	reactor building closed cooling water
RFO	refueling outage
RHR	residual heat removal
RPV	reactor pressure vessel
RWP	radiation work permit
SDP	Significance Determination Process
SSC	structure, system, or component
TS	technical specifications
UFSAR	Updated Final Safety Analysis Report
UT	ultrasonic test
VT	visual test