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

January 31, 2013

Mr. Robert Smith
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 05000293/2012005

Dear Mr. Smith:

On December 31, 2012 the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Pilgrim Nuclear Power Station (PNPS). The enclosed inspection report documents the inspection results, which were discussed on January 9, 2013 with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents four NRC-identified findings of very low safety significance (Green), two of which were determined to involve violations of NRC requirements. However, because of their very low safety significance, and because they have been entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest any 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, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at PNPS. If you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at PNPS.

In accordance with 10 CFR 2.390 of the NRCs “Rules of Practice,” a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC’s Public Document Room or from the Publicly 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/

Ronald R. Bellamy, Ph.D., Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket Nos.: 50-293
License Nos.: DPR-35

Enclosure: Inspection Report 05000293/2012005
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.:	50-293
License Nos.:	DPR-35
Report No.:	05000293/2012005
Licensee:	Entergy Nuclear Operations, Inc.
Facility:	Pilgrim Nuclear Power Station (PNPS)
Location:	600 Rocky Hill Road Plymouth, MA 02360
Dates:	October 1, 2012 through December 31, 2012
Inspectors:	M. Schneider, Senior Resident Inspector, Division of Reactor Projects (DRP) B. Smith, Resident Inspector, DRP T. Fish, Senior Reactor Operations Inspector, Division of Reactor Safety (DRS) T. Moslak, Health Physicist, DRS G. Meyer, Senior Reactor Inspector, DRS S. Pindale, Senior Reactor Inspector, DRS J. Lilliendahl, Reactor Inspector, DRS M. Orr, Reactor Inspector, DRS
Approved By:	Ronald R. Bellamy, Chief Reactor Projects Branch 5 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000293/2012005; 10/01/2012−12/31/2012; Pilgrim Nuclear Power Station; Operability Determinations and Functionality Assessments, Plant Modifications, and Problem Identification and Resolution.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. Four findings of very low safety significance (Green) were identified, two of which were non-cited violations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP), dated June 2, 2011. The cross-cutting aspects for the findings were determined using IMC 0310, "Components Within Cross-Cutting Areas," dated October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated June 7, 2012. 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: Mitigating Systems

Green. The inspectors identified a finding of very low safety significance (Green) involving a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy did not identify an overload condition on the B-15 bus after a similar overload condition was known to exist on the opposite train B-14 bus. Entergy specified an extent of condition review to be performed as a corrective action but was not successful in completing this review to identify the similar vulnerability to B-15. Entergy's corrective actions included immediately reducing loading on the B-15 bus and revising procedures to prohibit overloading the B-15 bus. Entergy has captured these issues in condition reports CR-PNP-2012-2015, CR-PNP-2012-4185 and CR-PNP-2012-4884.

The performance deficiency was determined to be more than minor because it is associated with the Equipment Performance attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone's objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. During certain accident scenarios, equipment electrically powered from the B-15 bus (Reactor Building Closed Cooling Water and Salt Service Water) would have been unavailable to mitigate the consequences of an event. The inspectors used IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings" and Inspection Manual Chapter (IMC) 0609 Appendix A, Exhibit 2, "Mitigating Systems Screening." In accordance with Exhibit 2 of IMC 0609, this performance deficiency required a detailed risk analysis since the issue resulted in an actual loss of function of at least a single train for greater than its Technical Specifications (TS) allowed outage time. The Senior Risk Analyst performed a detailed risk evaluation and determined the finding to be of very low safety significance (Green) with a change in core damage frequency of 1.1E-7. This finding has a cross-cutting aspect in the Problem Identification and Resolution cross-cutting area, Corrective Action Program component, because Entergy did not thoroughly evaluate the problem with B-14 such that the resolution addressed the extent of condition for the same vulnerability to B-15. [P.1(c)] (Section 1R15)

Green. The inspectors identified a finding of very low safety significance (Green) involving a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," because Entergy did not implement design control measures commensurate with those applied to the original design when a system modification was made to the Emergency Diesel Generators'

(EDG) fuel oil transfer system. Specifically, Entergy did not implement the design change or modification process when a Station Blackout Diesel Generator fuel oil transfer system was put in place in 1998 to meet the EDG support function of transferring sufficient fuel to meet the mission time of the EDG safety function. As a result, the fuel oil suction hose used was not in accordance with the design. Entergy replaced the degraded and non conforming hose, and documented this issue in their corrective action program (CR-PNP-2012-3428).

The performance deficiency was determined to be more than minor because it is associated with the Design Control attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone's objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) because the finding was a design process deficiency and did not represent a loss of system and/or function or the loss of a single train for greater than its TS outage time. The finding does not have a cross-cutting aspect since the failure to implement the design change verification process is not indicative of current licensee performance. Entergy's current design change procedures require design reviews of this type of in-field modification. (Section 1R18)

Green. The inspectors identified a finding of very low safety significance (Green) because Entergy did not complete Shutdown Transformer Bus (A8) battery discharge testing within the required timeframe as required by procedure EN-LI-102, Corrective Action Process. Specifically, although Entergy identified in April 2011 that required battery testing had not been completed, as of this inspection, the testing had still not been completed. Entergy entered the issue into their corrective action program (CR-PNP-2012-5071).

This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program component, because Entergy did not take appropriate corrective actions to address a safety issue in a timely manner. Specifically, Entergy did not perform vendor required discharge testing in a timeframe consistent with the safety significance of the equipment. [P.1(d)] (Section 4OA2)

Green. The inspectors identified a finding of very low safety significance (Green) because Entergy did not verify the adequacy of the design of the Station Blackout (SBO) battery as required by procedure EN-DC-126, Engineering Calculation Process. Specifically, Entergy used an incorrect minimum voltage for the SBO battery resulting in the sizing calculation significantly overstating the available design margin. Entergy entered the issue into their corrective action program (CR-PNP-2012-5076).

This finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding has a cross-cutting aspect in the area of Human Performance, Resources

Component, because Entergy did not ensure that accurate design documentation was available. Specifically, Entergy used the incorrect minimum voltage for the SBO battery, resulting in non-conservative conclusions in the battery sizing calculation. [H.2(c)] (Section 4OA2)

REPORT DETAILS

Summary of Plant Status

Pilgrim Nuclear Power Station began the inspection period operating at 100 percent reactor power. On November 6, operators reduced reactor power to 45 percent to support a thermal backwash of the main condenser. On November 7, operators returned to 100 percent reactor power. On November 9, operators reduced reactor power to 85 percent to perform a control rod pattern adjustment and returned to 100 percent reactor power later that same day. On December 18, operators reduced power to 65 percent to perform a control rod sequence exchange and returned to 100 percent reactor power later that same day. 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 – 4 samples)

.1 Impending Storm

a. Inspection Scope

During the week of October 28, Hurricane Sandy was tracking to impact the Pilgrim Plant. The inspectors reviewed Entergy's preparations for the hurricane and the high winds expected to accompany the storm. The inspectors also performed a walkdown of the outside areas including the switchyard to determine if loose debris or other material could become airborne in the presence of high winds and thereby impact safety-related equipment. The inspectors verified the availability of systems important to safety by monitoring conditions and alarms in the control room. The inspectors verified that operator actions defined in Entergy's adverse weather procedure maintained the readiness of essential systems. The inspectors discussed readiness and staff availability for adverse weather response with operations and work control personnel and monitored Entergy's contingency staffing of emergency response facilities. The inspectors conducted site walkdowns after winds had abated to ensure no adverse conditions arose from this storm. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

.2 Impending Storm

a. Inspection Scope

During the week of November 5, a storm was tracking to impact the Pilgrim Plant. The inspectors reviewed Entergy's preparations for the high winds expected to accompany the storm. The inspectors also performed a walkdown of the outside areas including the switchyard to determine if loose debris or other material could become airborne in the presence of high winds and thereby impact safety-related equipment. The inspectors

verified the availability of systems important to safety by monitoring conditions and alarms in the control room. The inspectors verified that operator actions defined in Entergy's adverse weather procedure maintained the readiness of essential systems. The inspectors conducted site walkdowns after winds had abated to ensure no adverse conditions arose from this storm.

b. Findings

No findings were identified.

.3 Cold Weather Preparations

a. Inspection Scope

The inspectors performed a review of Entergy's readiness for the onset of seasonal cold weather and temperatures during the week of November 11. The review focused on the plant heating system, fire protection system, and station blackout diesel generator. The inspectors reviewed station procedures, including Entergy's seasonal weather preparation procedure and applicable operating procedures, to verify that selected steps had been completed. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the functionality of the systems during cold weather conditions.

b. Findings

No findings were identified.

.4 External Flooding

a. Inspection Scope

During the week of October 1, the inspectors performed an inspection of external flood protection measures for the Pilgrim plant. The inspectors reviewed the "Storm Flooding Protection" section of the Updated Final Safety Analysis Report (UFSAR) to identify the design flood levels and areas containing safety-related equipment that may be affected by external flooding. The inspectors conducted a general site walkdown of all external areas of the plant to ensure that flood protection measures were in accordance with design specifications. The inspectors also reviewed operating procedures for mitigating external flooding during severe weather to determine if Entergy planned or established adequate measures to protect against external flooding events.

b. Findings

No findings were identified.

1R04 Equipment Alignment

Partial System Walkdowns (71111.04Q – 4 samples)

a. Inspection Scope

The inspectors conducted partial walkdowns of the following systems:

- Automatic Depressurization System during High Pressure Coolant Injection system maintenance
- Core Spray 'B' following an extended maintenance window
- Reactor Core Isolation Cooling system following emergent maintenance
- Salt Service Water (SSW) partial equipment alignment following 'D' SSW maintenance

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

b. Findings

No findings were identified.

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 during control of a hotwork activity
- Fire Area 1.10, Fire Zone 1.10C, Reactor Building truck lock
- Fire Area 1.10, Fire Zone 1.30A, Torus compartment
- Fire Area 1.10, Fire Zone 3.4, Fan Room No. 2 (control room heating, ventilation, and air conditioning equipment)
- Fire Area 1.10, Fire Zone 3.10B, Air Compressor room

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 2 samples)

.1 Internal Flooding Review

a. Inspection Scope

The inspectors walked down the High Pressure Coolant Injection and Reactor Building Sump rooms and associated flood propagation pathways to assess the effectiveness of Entergy's internal flood control measures. The inspectors assessed the condition of reactor building drains and sumps and selected flood pathways which could affect these areas of the Reactor Building.

b. Findings

No findings were identified.

.2 Annual Review of Cables Located in Underground Bunkers/Manholes

a. Inspection Scope

The inspectors conducted an inspection of an underground bunker/manhole subject to flooding that contains cables whose failure could disable risk-significant equipment. The inspectors performed a walkdown of Cable Pit #1 containing offsite power cables from the Shutdown Transformer, to verify that the cables were not submerged in water, that cables and/or splices appeared intact, and to observe the condition of cable support structures. The inspection included a review of corrective actions to ensure corrective actions for a degraded cable support structure were timely and appropriate.

b. Findings

No findings were identified.

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

.1 Requalification Review by Resident Inspectors

a. Inspection Scope

The inspectors observed a licensed operator simulator training evolution on October 30, which included two scenarios; a loss of main condenser vacuum combined with a loss of offsite power and loss of coolant accident (LOCA) scenario, and a small break LOCA combined with an anticipated transient without scram scenario. 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 emergency classifications and notifications made by the Shift Manager and Shift Control Room Engineer. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems. Finally, the inspectors performed a simulator fidelity review to

determine if the arrangement of the simulator instrumentation, controls, and tagging closely paralleled that of the control room.

b. Findings

No findings were identified.

.2 Main Control Room Review by Resident Inspectors

The inspectors observed Main Control room activities during power maneuvers to support a thermal backwash, control rod testing, and control rod pattern adjustments. See section 4OA3 for specific discussion of these activities. The inspectors reviewed procedural guidance for station power changes and the power maneuver plan, and observed control room conduct and control of these evolutions.

b. Findings

No findings were identified.

.3 Licensed Operator Requalification Program (71111.11A – 1 sample)

a. Inspection Scope

On November 15, a region-based inspector conducted an in-office review of the results of the licensee-administered comprehensive written exams and annual operating tests. The inspection assessed whether pass rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process". The inspector verified that:

- Individual pass rate on the dynamic simulator test was greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rate on the job performance measures of the operating exam was greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rate on the comprehensive written exams was greater than 80 percent. (Pass rate was 92.3 percent.)
- More than 75 percent of the individuals passed all portions of the operating exam. (Pass rate was 92.3 percent.)
- Crew pass rate was greater than 80 percent. (Pass rate was 100 percent.)

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, or component (SSC) performance and reliability. The inspectors reviewed system health reports, corrective action program documents, maintenance work orders, and maintenance rule basis documents to ensure

that Entergy was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by Entergy staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Entergy staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- Functional failure review of VAC-104B, control room and cable spreading room heating, ventilation, and air conditioning fan
- Functional failure review for B-14 electrical bus loading during a station blackout and subsequent breaker trip

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 4 samples)

a. Inspection Scope

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

- Emergent Green risk assessment for Hurricane Sandy and Y1 120 VAC electrical bus being on its backup power supply
- Emergent Orange risk assessment due to B-15 electrical bus declared inoperable
- Emergent Yellow risk assessment following the unexpected loss of the 'B' EDG DC control power
- Planned Green risk assessment for the Diesel Fire Pump and 'A' Residual Heat Removal pump out of service in addition to Y1 electrical bus being on its backup power supply

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- Arcing sound emanating from start-up transformer breakers
- B-15 electrical bus overloading results in trip of feeder breaker 52-103
- 'F' Reactor Building Closed Cooling Water pump seal leakage
- Leakage from the 1st point feedwater heater
- Reactor Core Isolation Cooling valve leak
- Station Blackout fuel oil transfer system hose to EDG fuel oil tanks degraded

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

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) involving a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy did not identify an overload condition on the B-15 bus after a similar overload condition was known to exist on the opposite train B-14 bus. Entergy specified an extent of condition review to be performed as a corrective action but was not successful in completing this review to identify the similar vulnerability to B-15.

Description: The inspectors observed an evaluated simulator exercise on April 30, 2012 documented in IR 05000293/2012003 Section 1R11. During the performance of the exercise, the operations crew responded to a trip of the 480 volts alternating current (VAC) breaker 52-204, the feeder breaker to safety-related buses B-14 from B-2. B-14 (and B-15) electrically powers safety-related loads including Reactor Building Closed Cooling Water (RBCCW) and Salt Service Water (SSW) pumps. According to the simulator exercise timeline, this trip of the B-14 bus was not planned by the training evaluators. Following the exercise critique, it was determined that the unexpected trip could be a concern in the plant rather than simply a simulator error. CR-PNP-2012-2015 was written and concluded that an overload condition in the plant existed during certain accident scenarios, mainly scenarios requiring torus cooling to be maximized by starting a third RBCCW pump. Corrective actions were taken to immediately reduce existing loading on bus B-14, to investigate the extent of condition, and to perform a Maintenance Rule Functional Failure (MRFF) determination.

On May 24, the MRFF determination was completed and concluded that an MRFF for breaker 52-204 had not occurred because the breaker would perform its design function to trip under an overload condition. The inspectors discussed with Entergy that the breaker function was to supply power to the safety-related loads and that this function would not be met under a breaker overload condition (i.e., breaker opening). CR-PNP-2012-4185 was written to re-evaluate the MRFF determination and subsequently concluded on October 24 that an MRFF for B-14 had occurred.

Following further discussions between the inspectors and Entergy concerning the incorrect MRFF, the corrective actions for CR-PNP-2012-2015 were reviewed. A licensing engineer noted that the opposite train bus, B-15, had not been evaluated for possible overload conditions. He contacted Electrical Design Engineering who performed an informal Electrical Transient Analyzer Program (ETAP) simulation and determined that, with the existing loading on B-15, during certain accident scenarios which required starting a third RBCCW pump to maximize torus cooling, the 52-103 feeder breaker to safety-related bus B-15 from B-1 would trip. Entergy declared B-15 inoperable and took immediate corrective action to reduce loads on B-15 and return B-15 to service. Additionally, procedural changes were made that prohibited starting a third RBCCW pump during accidents that required maximized torus cooling. This relieved the overload conditions on both B-14 and B-15. Following these corrective actions, Entergy re-performed an ETAP simulation and determined that conservatisms in the original simulation allowed the overload condition on B-14. The loading on B-15, however, was less conservative due to additional loading due to the alignment of the Y-1 non-safety related 120V electrical bus. An overload condition on B-15 still existed following subsequent ETAP simulations.

Analysis: The inspectors determined that Entergy's failure to identify an overload condition on safety-related Bus B-15 following the identification of an overload condition on the B-14 safety-related bus was a performance deficiency that was within Entergy's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the Equipment Performance attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone's objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, during certain accident scenarios, equipment electrically powered from B-15 would have been unavailable to mitigate the consequences of an event.

The inspectors used IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings" and Inspection Manual Chapter (IMC) 0609 Appendix A, Exhibit 2, "Mitigating Systems Screening." In accordance with Exhibit 2 of IMC 0609, this performance deficiency required a detailed risk analysis since the issue resulted in an actual loss of function of at least a single train for greater than its Technical Specifications allowed outage time. The Senior Risk Analyst performed a detailed risk evaluation and determined the finding to be of very low safety significance (Green). The condition was modeled in SAPHIRE 8 using the Pilgrim SPAR model version 8.21, assuming a 45 day exposure period. Based on the additional loading due to the alignment of the Y-1 bus, it was assumed that the 480 VAC MCC B-15 supply breaker 52-103 would fail to remain closed for all internal events. This is a conservative assumption since the need to start a third RBCCW pump, resulting in the tripping of the bus, would have only been directed under conditions of high containment heat load when both loops of RBCCW were cross connected. Since the loss of the B-15 bus would be readily detected by control room

operators and the condition could be recovered, a recovery credit of 2E-3 was applied. This resulted in a change in core damage frequency of 1.1E-7. The dominant sequence was a loss of DC bus B along with failures of the power conversion system, suppression pool cooling, condensate, containment spray, recovery of the power conversion system, containment venting and long term low pressure injection. Large early release and risk associated with external events was evaluated and found to be minimal.

This finding has a cross-cutting aspect in the Problem Identification and Resolution, Corrective Action Program, because Entergy did not adequately address the extent of condition for the overload issue on B-14 and, as a result, the same vulnerability on B-15 was not identified [P.1(c)].

Enforcement: 10 CFR 50, Appendix B, Criterion XVI requires, in part, that measures shall be established to assure that conditions adverse to quality are identified and corrected. Contrary to the above, from May 1, 2012 until November 2, 2012, Entergy did not identify a condition adverse to quality concerning overloading the B-15 safety-related 480 VAC bus during certain accident scenarios. Corrective actions taken in response to an overload condition identified on the B-14 safety-related 480 VAC bus were not effective in identifying the same condition on the B-15 bus. Further corrective actions included immediately reducing loading on the B-15 bus and revising procedures to prohibit overloading the B-15 bus. Entergy has captured these issues in condition reports CR-PNP-2012-2015, CR-PNP-2012-4185 and CR-PNP-2012-4884. **(NCV 05000293/2012005-04, Failure to Evaluate Extent of Condition for B-15 Safety-Related Bus After Identifying an Overload Condition on the B-14 Safety-Related Bus)**

1R18 Plant Modifications (71111.18 – 1 sample)

a. Inspection Scope

The inspectors evaluated a modification that was implemented in 1998 to provide a fuel oil transfer system from the Station Blackout (SBO) diesel generator underground storage tanks to the EDG underground storage tanks. The SBO fuel oil transfer system was put in place when the licensee determined that onsite EDG fuel oil storage tank volumes would not meet a seven day mission time for the onsite power supply safety function.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) involving a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," because Entergy did not implement design control measures commensurate with those applied to the original design when a system modification was implemented to meet the EDG fuel oil transfer function. Specifically, Entergy did not implement the design change or modification process when an SBO fuel oil transfer system was put in place in 1998 to meet the EDG support function of transferring sufficient fuel to meet the mission time of the EDG safety function.

Description: In 1998, the licensee determined that the amount of fuel oil stored in the onsite EDG underground fuel oil storage tanks would not meet a seven day mission time for this safety function. The licensee subsequently credited the volume of fuel oil stored

in the SBO diesel generator underground fuel oil storage tanks and implemented a fuel oil transfer system that could pump fuel from the SBO tanks to the EDG tanks.

In July 2006, the NRC staff identified that equipment for transferring fuel from the SBO diesel generator fuel oil storage tanks to the EDG fuel oil storage tanks supports the EDG function and should therefore fall within the scope of the Aging Management Program (AMP). In August 2006, Entergy acknowledged that this equipment would fall under an AMP and that visual or other non-destructive examination techniques would be used to inspect this equipment periodically.

On August 1, 2012, Entergy conducted Procedure 8.9.12, Revision 0, Diesel Fuel Oil Emergency Transfer Skid Aging Management Surveillance. This inspection identified signs of cracking on the SBO fuel oil suction hose and CR-PNP-2012-3334 was written to evaluate the condition of the hose. On August 7, 2012, Entergy identified that the SBO fuel oil transfer skid suction hose staged in the field did not match the hose description on the applicable design drawing. In addition, Entergy's immediate assessment of the hose material staged in the field was that it could deteriorate significantly if used to transfer fuel oil. Operations and Engineering assessed the condition and concluded that the EDGs were operable but degraded and nonconforming since, although other means of fuel oil replenishment could be credited, the pre-staged equipment to transfer fuel oil as described in the current licensing basis using this method was unavailable. A replacement hose was obtained and staged for use on August 8, 2012. Additionally, follow-up testing of the hose that had been originally staged identified that the hose would not have failed in a time-frame commensurate with the EDG safety function mission time.

The inspectors questioned Entergy on whether crediting other means of obtaining fuel oil from offsite sources would meet the design objective of the standby power supply to provide post-accident power requirements for a period of seven days using onsite underground storage tanks. In addition, the inspectors requested design documentation associated with the review of the equipment used to support the EDG safety functions. Entergy subsequently conducted an apparent cause evaluation to determine why an incorrect hose had been staged as part of the SBO fuel oil transfer skid equipment. The apparent cause analysis determined that the SBO fuel oil transfer skid approach credited in the current licensing basis had not been subjected to a design change or modification process and, as a result, the necessary design inputs, evaluations and reviews were not performed. Entergy concluded that a design modification process was not implemented at the time the SBO fuel oil transfer skid system was established to support the safety function of onsite standby power provided by the EDG's.

Analysis: The inspectors determined that Entergy's failure to verify the adequacy of the SBO fuel oil transfer system by the performance of design reviews to ensure the EDG onsite power safety function would be met was a performance deficiency that was within Entergy's ability to foresee and prevent and should have been corrected. The finding is more than minor because it is associated with the Design Control attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone's objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the degraded and nonconforming SBO fuel oil suction hose affected the operability of the EDGs. In accordance with IMC 0609.04, "Initial Characterization of Findings" and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined that this finding

is of very low safety significance (Green) because it was a design or qualification deficiency that did not result in the loss of operability.

The finding does not have a cross-cutting aspect since the failure to implement the design change verification process is not indicative of current licensee performance. Entergy's current design change procedures require design reviews of this type of in-field modification.

Enforcement: 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that the design basis be correctly translated into specifications, drawings, procedures, and instructions and that these measures shall provide for verifying or checking the adequacy or design by the performance of design reviews, or by the use of alternate or simplified calculational methods. Contrary to the above, Entergy did not verify the adequacy of the design of the SBO fuel oil transfer system. Entergy's corrective actions included replacing the degraded hose, scheduling the completion of an SBO fuel oil transfer system design review, and evaluating the extent of condition of any other standby support systems to determine whether they should be evaluated under a formal design change process. Because this finding is of very low safety significance, and Entergy has entered it into their corrective action program (CR-PNP-2012-3428), this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC's Enforcement Policy. **(NCV 05000293/2012005-01, Failure to Verify the Adequacy of the Design of the SBO Fuel Oil Transfer System)**

1R19 Post-Maintenance Testing (71111.19 – 5 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.

- 'B' Standby Gas Treatment relay replacement
- 'D' Salt Service Water pump replacement
- Diesel Fire Pump battery replacement
- Reactor Core Isolation Cooling flow controller replacement
- Residual Heat Removal motor operated valve(s) maintenance

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 4 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and Entergy procedures. 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:

- Diesel fuel oil transfer system skid-mounted valve operability and supplemental pump testing
- Load shed test of the 'C' Salt Service Water pump
- Reactor Coolant System leakage
- Stand-By Liquid Control pump In-Service test (IST)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 1 sample)

Simulator Training Evaluation

a. Inspection Scope

The inspectors observed a licensed operator requalification training simulator exercise on October 30. The inspectors evaluated operator performance in the simulator for two scenarios; a loss of main condenser vacuum combined with a loss of offsite power and loss of coolant accident (LOCA) scenario; and a small break LOCA combined with an anticipated transient without scram scenario. Both scenarios required the declaration of an alert and subsequent escalation to a site area emergency.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

During the period November 5 through 8, the inspector conducted the following activities to verify that Entergy was properly implementing physical, administrative, and engineering controls for access to locked high radiation areas, and other radiological controlled areas during full power operations. Implementation of these controls was

reviewed against the criteria contained in 10 CFR Part 20, relevant TSs, and Entergy's procedures.

Plant Walkdown and Radiation Work Permits (RWP) Reviews

The inspector toured accessible radiological controlled areas in the reactor building, turbine building, and radwaste building to evaluate radiological controls. Prior to performing these walkdowns, the inspector reviewed radiation surveys and RWPs, and was briefed by radiation protection technicians regarding plant radiological conditions, and area postings. During the tour, the inspector confirmed that the radiation survey data was accurate for selected areas and that the posting identifying contaminated areas, high radiation areas and locked high radiation areas was appropriate.

The inspector reviewed electronic dosimeter dose and dose rate alarm reports, and related condition reports that were generated since the last inspection of this area. The inspector determined that the causes for the alarms were properly determined and that no unplanned dose was received that exceeded the performance indicator criteria.

The inspector observed workers performing tasks in the radiological controlled areas and verified that the workers were wearing the appropriate dosimetry and the workers were knowledgeable of the radiological conditions at the job site.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

During the period November 5 through 8, the inspector conducted the following activities to verify that Entergy was properly maintaining the gaseous and liquid processing systems to ensure that radiological releases were properly mitigated, monitored, and evaluated with respect to public exposure. Implementation of these controls was reviewed against the criteria contained in the 10 CFR Parts 20 and 50, TSs, the Off-site Dose Calculation Manual (ODCM), and Entergy's procedures.

a. Inspection Scope

Annual Radioactive Effluent Release Reports

The inspector reviewed the 2010 and 2011 Annual Radiological Effluent Release Reports to verify that the effluent programs were implemented as required by the ODCM.

The inspector confirmed that no changes were made to the ODCM or the UFSAR that affected Entergy's ability to maintain effluent releases as low as is reasonably achievable (ALARA).

Walkdown and Observations of Effluent Monitoring

The inspector walked down selected components of the gaseous and liquid effluent monitoring systems, to verify that the system configuration complied with the UFSAR

description, and to evaluate equipment material condition. The walkdown included the liquid radwaste monitor (RM 1705-30), the Reactor Building vent monitor (RM-1705-32A/32B), the steam jet air ejector monitor (RM 1705-3A/3B), and the turbine building exhaust monitor (GEMS 3003).

Effluent Monitoring Instrumentation

The inspector reviewed the most current liquid and gaseous effluent monitor calibration results to verify that the instrumentation met the operability acceptance criteria and associated flow instruments were accurate. Calibration records were reviewed for the liquid radwaste monitor (RM 1705-30), the main stack monitor (RM1705-18A/18B), the Reactor Building vent monitor (RM-1705-32A/32B), the steam jet air ejector monitor (RM 1705-3A/3B), and the turbine building exhaust monitor (GEMS 3003).

The inspector confirmed that appropriate compensatory measures were implemented when an effluent monitor became inoperable; e.g., the Reactor Feed Pump Bay area monitor (GEMS 3004), to assure that gaseous effluents were monitored and analyzed.

Air Cleaning Systems

The inspector reviewed the air cleaning system test surveillance results for HEPA (High Efficiency Particulate Absolute) and charcoal filtration systems installed in A and B trains of the standby gas treatment system to ensure the components met their acceptance criteria. The inspector confirmed that the air flow rates were consistent with the ODCM values.

Dose Calculations

The inspector reviewed monthly, quarterly, and annual dose projections for liquid and gaseous effluents performed during the past 12 months, to verify that the effluent was processed and released in accordance with ODCM requirements. The inspector confirmed that compensatory sampling was performed when installed monitors were out of service. The inspector confirmed that no ODCM performance indicator criteria were exceeded for this time period.

The inspector reviewed the Validation and Verification (V&V) results for the radiological effluent dose calculation software, used for the generation of discharge permits, to ensure that the software currently in use provides accurate dose projections.

The inspector reviewed a liquid discharge permit (No. 2012005) for discharging the waste neutralizer tank. The inspector determined that the effluent was properly characterized, that dose was appropriately calculated, and the discharge was prepared in accordance with the approved procedure.

Sampling and Analysis

The inspector reviewed the relevant effluent sampling procedures, including taking airborne effluent samples from the turbine deck exhaust monitor, and observed a technician collect and analyze weekly particulate/iodine filter samples and noble gas grab samples from the turbine building exhaust monitor.

The inspector reviewed the calibration records and daily quality control records for the counting room gamma spectroscopy instrumentation (Detectors Nos. 2, 3, & 4) to determine if the required lower limits of detection (LLD) were achievable and that the instruments were properly maintained.

Problem Identification and Resolution

The inspector reviewed relevant condition reports, a Self Assessment Report (LO-PNPLO-2012-00084 CA-001) regarding implementing the ODCM, and a Snap Shot Assessment Report (LO-PNPLO-2012-00016 CA-001) regarding the ground water monitoring program, to evaluate Entergy's threshold for identifying, evaluating, and resolving problems in implementing the ODCM and ground water protection program.

Groundwater Protection Initiative (GPI) Program (2515/TI-185 – 1 sample)

An assessment was performed of Entergy's implementation of the Nuclear Energy Institute - Voluntary Ground Water Protection Initiative (NEI 07-07, dated August 2007, ML072610036). The inspector verified that Entergy had evaluated work practices that could lead to leaks and spills, and has performed an evaluation of SSCs that contain licensed radioactive material to determine potential leak or spill mechanisms.

Entergy has completed a site characterization of geology and hydrology to determine the predominant ground water gradients and potential pathways for ground water migration from on-site locations to off-site locations. Monitoring wells have been installed at the appropriate locations and an on-site ground water sampling program has been implemented to monitor for potential radioactive material leakage into groundwater. The groundwater monitoring results were reported in the annual radiological environmental operating report.

Entergy has prepared procedures for the decision making process for potential remediation of leaks and spills, including consideration of the long term decommissioning impacts. Records of leaks and spills are being recorded in Entergy's decommissioning files in accordance with 10 CFR 50.75(g).

Entergy has identified the appropriate local and state officials and has conducted briefings on Entergy's ground water protection initiative. Protocols have been established for notification to these local and state officials regarding detection of leaks and spills.

The inspector walked down 18 of the 21 monitoring wells to confirm their location and material condition. The inspector also observed a technician obtaining a ground water sample from monitoring well MW-216. The inspector determined that the technician appropriately followed the sampling procedure.

The inspector attended the weekly Tritium Project status meeting to evaluate Entergy's progress in identifying potential sources of tritium found in on-site monitoring wells.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Cornerstone: Mitigating Systems

.1 Mitigating Systems Performance Index (2 samples)

a. Inspection Scope

The inspectors reviewed Performance Indicator (PI) data to determine the accuracy and completeness of the reported data. The review was accomplished by comparing reported PI data to confirmatory plant records and data available in plant logs, CRs, Licensee Event Reports (LERs), and NRC inspection reports. The acceptance criteria used for the review included Nuclear Energy Institute (NEI) 99-02, Revision 6, "Regulatory Assessment Performance Indicator Guidelines," and NUREG-1022, Revision 2, "Event Report Guidelines 10 CFR 50.73." The following performance indicators were reviewed:

- Emergency AC power from the fourth quarter of 2011 through the third quarter of 2012 [MS06]
- Cooling water (Salt Service Water/Reactor Building Closed Cooling Water) from the fourth quarter of 2011 through the third quarter of 2012 [MS10]

b. Findings

No findings were identified.

Cornerstones: Occupational/Public Radiation Safety

.2 Occupational Exposure Control Effectiveness (1 sample)

a. Inspection Scope

The inspector reviewed implementation of Entergy's Occupational Exposure Control Effectiveness Performance Indicator (PI) Program. Specifically, the inspector reviewed electronic dosimeter dose and dose rate alarm reports, condition reports, and associated documents, for occurrences involving locked high radiation areas, very high radiation areas, and unplanned exposures occurring during the past four calendar quarters. Data contained in these records was reviewed against the criteria specified in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, to verify that all occurrences that met the NEI criteria were identified and reported as performance indicators.

b. Findings

No findings were identified.

.3 RETS/ODCM Radiological Effluent Occurrences (1 sample)

a. Inspection Scope

The inspector reviewed relevant effluent release reports and associated dose assessments for the period October 2011 through October 2012, for issues related to the public radiation safety performance indicator, which measures radiological effluent release occurrences that exceed 1.5 mrem/qtr whole body or 5.0 mrem/qtr organ dose for liquid effluents; and 5mrads/qtr gamma air dose, 10 mrad/qtr beta air dose, and 7.5 mrads/qtr for organ dose for gaseous effluents.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 4 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 the corrective action program at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the corrective action program and periodically attended condition report screening meetings.

b. Findings

No findings were identified.

.2 Semi Annual Review of Trends

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, "Problem Identification and Resolution," to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by Entergy outside of the corrective action program, such as trend reports, PIs, major equipment problem lists, system health reports, maintenance rule assessments, and maintenance or corrective action program backlogs. The inspectors also reviewed Entergy's corrective action program database to assess condition reports for their contribution to trends. The inspectors reviewed Entergy's quarterly trend reports to verify that Entergy personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

Implementation of the Operability Determination Process

Deficiencies in Pilgrim's Operability Determination Process have been discussed in previous NRC inspection reports (IR05000293/2012003, 2011005, and 2011003). The inspectors discussed these observations at the time of their occurrence, during quarterly exit meetings, and during semi-annual trend review discussions. Several condition reports over the past few years have been written to assess operability shortfalls and to address programmatic areas for improvement. Training has been performed periodically by the Operations and Licensing department and improvements were subsequently noted by the inspectors in several areas of the process.

CR-PNP-2012-2076, discussed in IR05000293/2012003, was written by the Operations Department discussing a trend in the rigor of initial operability determinations. As a result, the Operations Department has focused further attention on improving the skill-set of senior reactor operators in operability determinations through use of a feedback process, periodic training, and a "What it Looks Like" (WILL) guide for operability assessments.

The inspectors have determined that the Operability Determination process implementation at Pilgrim has improved sufficiently to close this trend review. The inspectors also note that the assessment of the operability and functionality of safety-related plant equipment remains a vital process to ensuring the availability of mitigating systems. As such, ongoing licensee focus in this area is necessary to ensure performance continues to improve in the future.

.3 Annual Sample: High Pressure Coolant Injection Turbine Steam Supply Valve Showed Dual Indication When Taken to Closed During Testing

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's evaluation and corrective actions associated with receiving a dual position indication of the High Pressure Coolant Injection (HPCI) system turbine steam supply valve, MO-2301-3. Specifically, a dual position indication occurred when operators closed the valve at the conclusion of a routine quarterly HPCI system test on October 16, 2011. Entergy had determined that the valve had stopped its travel near its closed position, but it had not fully closed due to the torque switch actuating prior to achieving full travel.

The inspectors assessed Entergy's problem identification threshold, cause analysis, extent-of-condition review, and the prioritization and timeliness of their corrective actions to determine whether they were appropriately identifying, characterizing, and correcting problems associated with this issue; and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of Entergy's corrective action program and 10 CFR 50, Appendix B.

The inspectors reviewed condition reports and associated documents, including the operability assessment for the October 2011 issue and an operability determination from a prior similar issue in 2009. The inspectors also performed a field walkdown of the valve to assess the material condition, and interviewed engineering personnel to assess the acceptability and effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified.

Valve MO-2301-3 is a normally closed valve that has a safety-related function to open to admit steam to the HPCI turbine. The valve has no automatic closing function, and its ability to close is not a safety-related function. While there had been similar problems in the past for this valve to close at the completion of periodic testing (valve closes fully upon torque switch actuation), similar problems had not been experienced in the open direction (valve opens fully when the open limit switch is actuated). The inspectors reviewed Entergy's operability assessments and concluded that they adequately addressed the failure mechanism and provided a sufficient basis for concluding that the valve's ability to open was not challenged.

Entergy determined the likely apparent causes of the dual position indication (valve did not fully close) were 1) there was a lack of grease on the stem due to a tight stem to stem nut clearance, and 2) there was not sufficient guidance for performing stem lubrication on this particular type of valve operator, which used a compensator unit attached to the valve operator above the valve stem. Entergy determined that the combination of both causes resulted in this repeat event. The presence of the compensator unit represented a challenge in reaching the stem nut while greasing the valve.

The inspectors found that Entergy's corrective actions were appropriate. These actions included revising the associated lubrication procedure, re-lubricating the valve stem and stem nut (ensuring the grease reached the stem nut), lubricating the stem and stem nut more frequently until the next refueling outage, and scheduling a maintenance activity during the upcoming refueling outage to re-machine the stem nut to improve the clearance between the valve stem and stem nut.

The inspectors identified a minor deficiency associated with Entergy's evaluation and documentation of their efforts. In particular, this valve had similar issues in the past (2007 and 2009). Entergy's extent-of-condition and repeat issue review for the 2011 problem did not clearly identify that prior stem nut machining was not effective (i.e., there still was not sufficient stem to stem nut clearance) in preventing repeat problems. In addition, the evaluation did not identify that prior information (CR-PNP-2009-1743 related to a thrust issue with the operator) could have provided insight into potentially degrading valve operator performance. Notwithstanding the incomplete documentation of this information, the inspectors found that Entergy took reasonable corrective actions for all contributing causes for this problem, including extent-of-condition.

.4 Annual Sample: Station Blackout Battery

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's evaluations and corrective actions associated with the A8 station blackout (SBO) battery issues. Specifically, the design and testing of the SBO battery were found to be incomplete in 2011.

At Pilgrim the SBO diesel generator provides power to the plant through A8 which is a 4160 VAC bus. This bus has an associated Nickel Cadmium (Ni-Cd) battery which provides breaker control power for the A8 bus and control power for the SBO diesel generator.

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

b. Findings and Observations

.1 Inadequate Corrective Actions for Station Blackout (SBO) Battery

Introduction: The inspectors identified a finding of very low safety significance (Green) because Entergy did not complete Shutdown Transformer Bus (A8) SBO battery discharge testing within the required timeframe as is required by procedure EN-LI-102, Corrective Action Process. Specifically, although Entergy identified in April 2011 that required battery testing had not been completed, as of November 9, 2012, the testing had still not been completed.

Description: In April 2011, the NRC conducted an inspection using Temporary Instruction 2515/183, "Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event." During this inspection, the inspectors identified that no discharge testing was being performed for the A8 SBO battery. This issue was entered into the CAP (CR-PNP-2011-01548) and the inspectors determined that there was reasonable assurance of operability. In October 2011, during a Component Design Basis Inspection, the NRC reviewed Entergy's progress toward performing testing. The NRC raised concerns about the design calculation, but based upon a draft calculation and testing not being due until February 2012, the inspectors determined there was reasonable assurance of operability.

Industry guidance states that capacity testing is the only method of providing definitive information about a battery's capacity and providing information for trending to predict the end of a battery's life. Institute of Electrical and Electronics Engineering (IEEE) 1106-2005, IEEE Recommended Practice for Installation, Maintenance, Testing, and Replacement of Vented Nickel-Cadmium (Ni-Cd) Batteries for Stationary Applications, states that Ni-Cd batteries should be discharge tested within two years of installation and then every five years. The SBO battery vendor manual only specifies discharge testing every five years. The SBO battery was tested when installed in November 2005. Using the vendor's recommendation of five years and applying a 25 percent grace period would result in a February 2012 completion due date.

The original CR, which was written on April 15, 2011, was closed to Corrective Action (CA) 17 in CR-PNP-2011-01075 on April 19, 2011. This was appropriate because the two CRs were closely related. CA 17 determined that a design calculation was needed

prior to beginning the testing to ensure the testing encompassed the design requirements. CA 17 was closed stating, "CA 36 will be assigned to Electrical Design Engineering to develop a load profile for the A8 SBO battery and a new CA will be assigned to System Engineering to develop testing once the load profile has been developed." CA 36 was appropriately created to perform the design calculation to determine the load profile, but no other CA was created to perform the testing. CA 36 was closed on November 17, 2011, upon completion of the design calculation. On June 12, 2012, Entergy recognized that no CA had been created for the testing and subsequently created a new CA (CA 48) to perform the testing. CA 48 was closed on October 31, 2012 to three new CAs to fund the testing, perform the initial testing, and to schedule periodic future testing.

As of this inspection, the vendor required discharge testing had not been completed and testing was now outside of the vendor recommended timeframe (including a grace period).

Entergy entered this issue into the CAP (CR-PNP-2012-05071). Entergy reviewed the weekly and quarterly SBO battery surveillance results along with industry guidance on expected battery degradation. Based on the calculated battery loading and age of the battery, Entergy determined that there is a reasonable expectation of operability. The inspectors reviewed Entergy's evaluation and agreed with this conclusion.

Analysis: The inspectors determined that the failure to take effective and timely corrective action to perform vendor required discharge testing for the A8 SBO battery was a performance deficiency that was reasonably within Entergy's ability to foresee and correct and should have been prevented. This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Entergy's failure to test the SBO battery prevented Entergy from determining the functionality of the battery.

In accordance with IMC 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined the finding screened as very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system or function, did not result in a loss of safety function of a single train for greater than its TS allowed outage time, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program Component, because Entergy did not take appropriate corrective actions to address safety issues in a timely manner. Specifically, Entergy did not perform vendor recommended discharge testing in a timely manner. [P.1(d)]

Enforcement: This finding does not involve enforcement action because no regulatory requirement violation was identified since the SBO battery is not safety-related. Entergy took immediate corrective action to provide a basis for operability, to initiate an apparent cause evaluation, and to enter this issue into their corrective action system (CR-PNP-2012-5071). Because this finding does not involve a violation of regulatory requirements

and has very low safety significance, it was identified as a finding. **(FIN 05000293/2012005-02, Inadequate Corrective Actions for Station Blackout Battery)**

.2 Inadequate Design Control for Station Blackout (SBO) Battery

Introduction: The inspectors identified a finding of very low safety significance (Green) because Entergy did not verify the adequacy of the design with respect to the SBO battery as required by procedure EN-DC-126, Engineering Calculation Process. Specifically, by using the incorrect minimum voltage for the SBO battery, the sizing calculation significantly overstated the available design margin.

Description: The inspectors reviewed PS257, Station Blackout Battery Sizing Calculation, to determine if the calculation appropriately verified the adequacy of the size of the installed SBO battery. The inspectors noted that the calculation sized the battery with the assumption that the minimum required voltage for the battery was 105VDC. The inspectors noted that Attachment 7.18 of PS257 performed a voltage drop calculation that demonstrated that the battery was required to provide 108VDC.

The battery vendor does not provide data to accurately support a minimum battery voltage above 105VDC. The inspectors conservatively estimated what the vendor data would be for 108VDC and determined that the battery capacity margin reduced from 13% to negative 10% (i.e., the battery would be undersized by 10%).

Entergy agreed that the minimum voltage was incorrectly assumed to be 105VDC, and entered this issue into the CAP (CR-PNP-2012-05076). Entergy re-performed the calculation by adjusting the load profile and was able to provide reasonable assurance that sufficient margin would be available. The final calculation will require vendor assistance for determining the proper correction factors above 105VDC. Entergy is also planning on performing an apparent cause evaluation for the error. The inspectors reviewed Entergy's draft calculation and agreed that it provided reasonable assurance of functionality.

Analysis: The inspectors determined that the failure to verify the adequacy of the design with respect to the SBO battery was a performance deficiency that was reasonably within Entergy's ability to foresee and correct and should have been prevented. This finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the SBO battery did not have sufficient capacity for the current loading.

In accordance with IMC 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined the finding is of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system or function, did not result in a loss of safety function of a single train for greater than its TS allowed outage time, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

This finding has a cross-cutting aspect in the area of Human Performance, Resources Component, because Entergy did not did not ensure that accurate design documentation

was available. Specifically, Entergy used the incorrect minimum voltage for the SBO battery, resulting in non-conservative conclusions in the battery sizing calculation [H.2(c)]

Enforcement: This finding does not involve enforcement action because no regulatory requirement violation was identified since the SBO battery is not safety related. Entergy took immediate corrective action to verify reasonable assurance of operability, to formally revise the calculation, to initiate an apparent cause evaluation, and to enter this issue into their corrective action system (CR-PNP-2012-05076). Because this finding does not involve a violation of regulatory requirements and has very low safety significance, it was identified as a finding. **(FIN 05000293/2012005-03, Inadequate Design Control for Station Blackout Battery)**

.5 Annual Sample: 2011 Emergency Diesel Generator Equipment Reliability and Adverse Trend

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's evaluations and effectiveness of the corrective actions associated with equipment or component failures on the EDGs. Specifically, Entergy experienced one critical component failure on EDG 'A' and four on EDG 'B' during 2011. Condition Report (CR) CR-PNP-2011-5311 was written to document an adverse trend and determine the actions to improve the EDG system reliability. The five EDG failures were documented separately by individual CRs at the time of each failure.

The inspectors assessed Entergy's problem identification threshold, associated cause analyses and evaluations, extent-of-condition reviews, and the prioritization and timeliness of their corrective actions to determine whether they were appropriately identifying, characterizing, and correcting problems associated with these issues, and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of Entergy's corrective action program and 10 CFR 50, Appendix B. The inspectors reviewed the applicable CRs and associated documents, including the EDG Engineering Reliability Excellence Plan and a Single Point Failure Vulnerability Review. Additionally, the inspectors chose a sampling of CRs to review from the EDG 'A' overhaul performed during the last quarter of 2012. The inspectors also performed field walkdowns of the EDGs to assess the material condition, and interviewed engineering personnel to assess the acceptability and effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified.

The inspectors determined that Entergy appropriately identified the adverse trend with EDG performance and properly evaluated the matter in accordance with Entergy procedures. The inspectors reviewed several of the subject CRs, all of which included Apparent Cause Evaluations (ACEs), along with a number of the corresponding corrective actions and additional documentation developed by Entergy, and concluded the licensee had appropriately evaluated the problems and identified the necessary corrective actions. The inspectors found Entergy's conclusion reasonable that there did not appear to be any prominent common cause, programmatic or otherwise, to the failures. The inspectors found that the issues had been accurately and thoroughly

documented within the corrective action program. The inspectors determined that Entergy performed appropriate extent-of-condition reviews as well as internal and external operating experience reviews to assess the potential impact on other EDG system components.

The inspectors determined that Entergy's associated technical evaluations were sufficiently thorough and were based on focused plant walkdowns, vendor/Alco-Owner's Group guidance, sound engineering judgment, testing, and relevant operating experience. The inspectors concluded that Entergy's assigned corrective actions were aligned with the identified causal factors, reasonable, appropriately documented, and adequately tracked for completion. Based on the documents reviewed, plant walkdowns and engineer interviews, the inspectors noted that Entergy personnel identified problems and entered them into the corrective action program at a low threshold.

4OA3 Event Follow-up (71153 – 1 sample)

Operator Performance during a Downpower to Support a Thermal Backwash and Control Rod Pattern Adjustment

a. Inspection Scope

The inspectors observed a planned downpower on November 6, 7, and 9 to approximately 45 percent reactor power to support control rod testing and a thermal backwash of the main condenser. The inspectors reviewed procedural guidance for station power changes and the power maneuver plan, and observed just-in-time training, the infrequently performed test or evolution brief, control room operator conduct and control of the evolution.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Temporary Instruction 2515/187 – Inspection of Near-Term Task Force Recommendation 2.3 – Flooding Walkdowns

The inspector(s) verified that Entergy's walkdown packages contained the elements as specified in NEI 12-07, Guidelines for Performing Verification Walkdowns of Plant Protection Features.

The inspectors accompanied Entergy on their walkdown of the 'A' EDG enclosure and verified that Entergy confirmed the following flood protection features:

- Visual inspection of the flood protection feature
- External visual inspection for indications of degradation
- Critical dimensions were measured
- Available Physical Margin
- Flood protection feature functionality was determined using either visual observation or by review of other documents.

The inspectors also independently performed a walkdown of the intake structure and verified that the flood protection features were in place.

The inspectors verified that non-compliances with current licensing requirements, and issues identified in accordance with the 10 CFR 50.54(f) letter, Item 2.g of Enclosure 4, were entered into Entergy's corrective action program. In addition, issues identified in response to Item 2.g that could challenge risk significant equipment and Entergy's ability to mitigate the consequences will be subject to additional NRC evaluation.

No findings were identified.

.2 Temporary Instruction 2515/188 – Inspection of Near-Term Task Force Recommendation 2.3 – Seismic Walkdowns

The inspectors accompanied Entergy on their seismic walkdowns of the 'A' EDG, the Reactor Core Isolation Cooling components on the Mezzanine level, and the 'B' Reactor Building Component Cooling Water pumps, heat exchanger and room during the week of October 1, 2012. The inspectors verified that Entergy confirmed that the seismic features associated with these Seismic Walkdown Equipment List (SWEL) items were free of potential adverse seismic conditions:

- Anchorages were free of bent, broken, missing or loose hardware
- Anchorages were free of corrosion that is more than mild surface oxidation
- Anchorages were free of visible cracks in the concrete near the anchors
- Anchorage configuration was consistent with plant documentation
- SSCs will not be damaged from impact by nearby equipment or structures
- Overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls were secure and not likely to collapse onto the equipment
- Attached lines have adequate flexibility to avoid damage
- The area appears to be free of potentially adverse seismic interactions that could cause flooding or spray in the area
- The area appears to be free of potentially adverse seismic interactions that could cause a fire in the area
- The area appears to be free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)

The inspectors independently performed walkdowns during the weeks of October 1 and November 26 and verified that the seismic features described above for the High Pressure Coolant Injection pump and room, the spent fuel pool and cavity drains, and the 'A' and 'B' 125VDC Control Battery Racks were free of potential adverse seismic conditions. Observations made during the walkdowns that could not be determined to be acceptable were entered into Entergy's corrective action program for evaluation. Additionally, inspectors verified that items that could allow the spent fuel pool to drain down rapidly had been added to the SWEL and that these items had been walked down by Entergy.

No findings were identified.

.3 License Renewal Activities (IP 71003)

This inspection was performed by NRC Region I based inspectors to follow up and evaluate license renewal activities at Pilgrim in accordance with IP 71003. In NRC Inspection Report 05000293/2012007, the inspectors reviewed Entergy actions on commitments made as part of the License Renewal Application. The inspectors identified some concerns, which were entered into the Pilgrim corrective action program. The purpose of this inspection was to review Entergy actions on these previously identified concerns. The bases for the review were the NRC staff's safety evaluation report (SER) (NUREG-1891), including Appendix A, License Renewal Commitments, and the License Renewal Application (LRA). A renewed license was issued on May 29, 2012, and the period of extended operations began on June 9, 2012.

Commitments

Commitment 14 – Metal Enclosed Bus

Commitment 14 specified that by June 8, 2012, Entergy would "Implement the Metal-Enclosed Bus Inspection Program as described in LRA Section B.1.18." The Metal-Enclosed Bus (MEB) program included visual and thermographic inspections of the MEBs. The MEB program documentation included the specification to inspect a sample of MEB bolted connections every 10 years if inspected with thermography and every five years if inspected visually.

Previously, the inspectors had questioned what the sample size and inspection frequency would be for future inspections. Entergy had issued CR-PNP-2012-2054 to establish the sample size and inspection frequency.

The inspectors reviewed the revised inspection procedure, Entergy program procedure, and completed Condition Report CR-PNP-2012-2054. These documents specified appropriate inspections, sample size, and frequency.

The inspectors determined that Entergy had implemented Commitment 14.

Commitment 20 – One-Time Inspection

Commitment 20 specified that by June 8, 2012, Entergy "Implement the One-Time Inspection Program as described in LRA Section B.1.23."

Previously, the inspectors had determined that Entergy rescinded a specified inspection of the cast austentic stainless steel (CASS) main steam line flow restrictors based on sound technical judgment but did not initiate any regulatory process to revise its commitment. Entergy had issued CR-PNP-2012-02056 to address follow-up actions to revise the commitment via an appropriate regulatory process. Also, the inspectors had determined that inspections to verify the effectiveness of the diesel fuel and oil analysis monitoring programs had not been addressed within the sample matrix. Entergy had added this concern to CR-PNP-2012-02056 to evaluate follow-up actions to address the fuel oil and lube oil environments.

The inspectors reviewed the revised One-Time Inspection Summary Report, including all inspections of components in fuel oil and lube oil environments. Also, the inspectors

reviewed the commitment change evaluation for rescinding of the CASS main steam flow restrictors and the completed CR-PNPS-2012-02056.

The inspectors determined that Entergy had implemented Commitment 20.

Commitment 23 – Selective Leaching

Commitment 23 specified that Entergy would "Implement the Selective Leaching Program in accordance with the program as described in LRA Section B.1.27" by June 8, 2012. The Selective Leaching Program identified one-time inspections of a sample of components made of materials which are susceptible to selective leaching.

Previously, the inspectors had determined that inspections were incomplete regarding the material - environment combination of gray cast iron in raw water, and the sampling plan did not provide sufficient coverage of these components. Entergy had issued CR-PNP-2012-02055 to resolve this concern.

The inspectors reviewed the revised Selective Leaching Summary Report, including all inspections of gray cast iron components in a raw water environment, addenda to the commitment closure summary, and evaluation of ultrasonic testing (UT) inspections of fire water valves. The inspectors also reviewed the commitment change evaluation for use of UT testing in the selective leaching program and the completed CR-PNPS-2012-02055. The inspectors determined that the evaluation of UT inspections of fire water valves was congruent with a similar evaluation of fire water valves performed by Entergy at Vermont Yankee. The inspectors determined that the Entergy ultrasonic test method had a reasonable technical basis and when combined with the multiple conservatisms of the evaluations, and the visual and hardness inspections of other gray cast iron components, would support a conclusion that aging management activities for selective leaching would not be necessary. To further validate the evaluation, Entergy stated that they planned to perform an ultrasonic test or visual inspection on valve 12-P-136, which had the least calculated margin (12%) above the design minimum wall thickness, in five years.

The inspectors determined that Entergy had implemented Commitment 23.

Commitment 36 – Ultrasonic Examination of Condensate Storage Tank

Commitment 36 specified that by June 8, 2012, "To ensure that significant degradation on the bottom of the condensate storage tank is not occurring, a one-time ultrasonic thickness examination in accessible areas of the bottom of the condensate storage tank will be performed. Standard examination and sampling techniques will be utilized."

Previously, the inspectors had reviewed the work orders and acceptance criteria for the ultrasonic thickness examinations of tanks A and B, and had noted that the work was planned for completion in May 2012.

The inspectors verified the work had been performed by reviewing the recorded video of the divers cleaning the tank bottoms of sludge, visually examining the cleaned areas, and taking ultrasonic thickness readings.

The inspectors determined that Entergy had implemented Commitment 36.

Commitment 42 – Bolted Cable Connections

Commitment 42 specified that by June 8, 2012, Entergy will, "Implement the Bolted Cable Connections Program. Details are provided in LRA Amendment 23, Attachment 7." The program as described in the LRA was a one-time program to confirm that loosening of bolted connections was not occurring.

Previously, the inspectors had noted that Entergy had not documented the technical basis for the sample selection, specifically the circuit loading and the environment of the connections. Entergy had initiated CR-PNP-2012-02059 to revise the program documents with the technical basis.

The inspectors reviewed the revised Bolted Cable Connection Inspection Report, which included inspections completed in May 2012, and a sound technical basis for sample selection, and completed CR-PNP-2012-02059.

The inspectors determined that Entergy had implemented Commitment 42.

The inspectors concluded that Entergy actions on the above commitments were complete and met regulatory expectations as reflected in the staff's safety evaluation report.

4OA6 Meetings, Including Exit

On November 8, 2012 the inspector performed a radiation protection exit meeting and presented the results to Mr. Robert Smith, Site Vice President, and other members of the PNPS staff. At the exit meeting, the inspector confirmed that no proprietary information was provided to the inspector.

On November 8, 2012, the inspectors presented the results of a Problem Identification and Resolution inspection to Mr. Robert Smith, Site Vice President, and other members of the PNPS staff during the NRC's Triennial Fire Protection exit. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

On January 9, 2013, the inspectors presented the quarterly inspection results to Mr. Robert Smith, Site Vice President, and other members of the PNPS staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

B. Ahern	Electrical System Engineer
D. Berkland	Electrical Design 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	System Engineering Manager
B. Clow	Radiation Protection Technician
S. Colburn	Supervisor Access Authorization and Fitness for Duty
H. Cordeiro	Senior Chemistry Technician
J. Cox	Supervisor Radiation Protection Operations
J. Dent	General Manager Plant Operations
A. Dodds	Director Nuclear Safety Assurance
K. Drown	Nuclear Oversight Manager
A. Felix	Auxiliary Operator
J. Fitzsimmons	Radiation Protection Supervisor
M. Gatslick	Security Compliance Supervisor
R. German	Reactor Operator
P. Gerry	Specialist Chemistry
M. Green	MOV Program Engineer
R. Hargat	Radiation Protection Technician
T. Hatch	I&C Superintendent
D. Heard	License Renewal Team
J. House	Superintendent Initial Operations Training
W. Lobo	Licensing Engineer
J. Lynch	Licensing Manager
J. Macdonald	Assistant Operations Manager-Shift
M. McDonnell	Assistant Operations Support Manager
T. McElhinney	Training Manager
V. Magnatta	Operations Training
D. Mannai	Senior Manager Nuclear Safety and Licensing
M. Mantenfel	Groundwater Protection Supervisor
W. Mauro	Supervisor Radiation Protection Support
J. Miketa	Senior Radiation Protection Technician
F. Mogolesko	License Renewal Project Manager
A. Muse	Superintendent Operations Training
D. Noyes	Operations Manager
J. O'Donnell	Senior Engineer Systems Engineering
J. Scheffer	Specialist, Effluent & Environmental Monitoring
P. Smith	License Renewal Team
R. Smith	Site Vice President
W. Smith	Supervisor Chemistry
J. Taormina	Maintenance Manager

M. Thornhill	Radiation Protection Supervisor
D. Twomey	Senior Radiation Protection Technician
J. Whalley	Operations Shift Manager
T. F. White	Design Engineering Manager
J. Yingling	Senior Engineer Systems Engineering

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

05000293/2012005-01	NCV	Failure to Verify the Adequacy of the Design of the SBO Fuel Oil Transfer System (Section 1R18)
05000293/2012005-02	FIN	Inadequate Corrective Actions for Station Blackout Battery (Section 4OA2)
05000293/2012005-03	FIN	Inadequate Design Control for Station Blackout Battery (Section 4OA2)
05000293/2012005-04	NCV	Failure to Evaluate Extent of Condition for B-15 Safety-Related Bus After Identifying an Overload Condition on the B-14 Safety-Related Bus (Section 1R15)

Closed

05000293/2515/187	TI	Inspections of Near-Term Task Force Recommendation 2.3 – Flooding Walkdown (Section 4OA5)
05000293/2515/188	TI	Inspections of Near-Term Task Force Recommendation 2.3 – Seismic Walkdown (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
2.1.37, Coastal Storm Preparations and Actions, Revision 30
2.1.42, Operation during Severe Weather, Revision 12
5.2.2, High Winds (Hurricane), Revision 32
8.C.40, Seasonal Weather Surveillance, Revision 26
8.C.42, Subcompartment Barrier Control Surveillance, Revision 24
EN-DC-170, Fukushima Near Term Task Force Recommendation 2.3, Flooding Walkdown Procedure, Revision 0

Condition Reports
CR-PNP-2012-4834, Due to Hurricane Sandy CSI vibration data vendor instructor was unable to arrive on site for training
CR-PNP-2012-4839, ISFSI project did not prepare their lay down areas appropriately for the coastal storm
CR-PNP-2012-4843, 23 EP sirens were without AC power as a result of the storm
CR-PNP-2012-4860, Display screen on K-117 was not functioning as a result of the storm
CR-PNP-2012-4866, Guidance in Procedure 5.2.2 needs to be revised to reflect conservatism for shutting the plant down with sustained winds equal or greater than 75 mph

Maintenance Order/Work Order
Work Order (WO) 52378554, Task 1, Cold Weather Preparations

Miscellaneous
Assessment of Flooding on the South Side of Site Building Dated 1/15/1993
Final Safety Analysis Report, Section 2.4, Station Site and Environs, Hydrology
Flooding Walkdown Record Forms
Flooding Walkdown Schedule
Individual Plant Examination for External Events
Nuclear Energy Institute (NEI) 12-07, Guidelines for Performing Verification Walkdowns of Plant Flood Protection Features, Revision O-A

Section 1R04: Equipment Alignment

Procedures
2.2.20, Core Spray, Revision 78
2.2.22, Reactor Core Isolation Cooling System, Revision 72
2.2.23, Automatic Depressurization System (ADS), Revision 33
2.2.32, Salt Service Water System, Revision 85
8.5.1.1, Core Spray System Operability – Pump Quarterly and Biennial Comprehensive Flow Rate Tests and Valve Tests, Revision 59
8.5.6.4, ADS Operability from Alternate Shutdown Panel, Revision 14
8.7.1.10, ADS Accumulator Pressure Drop and Check Valve Operability Tests, Revision 31
8.C.13, Locked Component Lineup Surveillance, Revision 83
8.C.43, Monthly System Valve Lineup Surveillance, Revision 11

Condition Reports
CR-PNP-2012-5162, 2.2.23 procedure needs revision following discussion with the NRC inspector

Drawing
M212, Service Water Screen Wash, and Hypochlorination

Section 1R05: Fire Protection

Procedures
5.5.2, Special Fire Procedure, Revision 49
EN-DC-127, Control of Hot Work and Ignition Sources, Revision 12
EN-DC-161, Control of Combustibles, Revision 7

Condition Reports
CR-PNP-2012-4652, NRC resident identified wooden chocks on a wheeled temporary power pack in the SBLC room
CR-PNP-2012-4782, NRC resident inspector identified combustibles in the torus bay
CR-PNP-2012-3811, There is a gap in the effectiveness in the control of combustible materials

Miscellaneous
Fire Hazard Analysis

Section 1R06: Flood Protection Measures

Procedure
8.A.15, HPCI System Integrity Surveillance, Revision 16

Condition Reports
CR-PNP-2012-2126, Cable Pit #1 cable support has rusted through and failed
CR-PNP-2012-2293, Reactor building sump overflowed flooding the sump room and high pressure coolant injection room
CR-PNP-2012-3998, Water was found submerging cables in Cable Pit #1
CR-PNP-2012-4204, Design calculations for flooding require revision

Drawings
Drawing M436, Reactor Building Clean Radwaste Drainage System Piping Diagram, Revision E3
Drawing E351 Sh.2, Off Gas Retention Building Cable Pit Details 1, 2, 2B, and 3, Revision E0

Miscellaneous
Atomic Energy Commission Letter Dated August 3, 1972, Quad Cities Circulating Water Leak
Calculation S & SA-60, Flooding due to ECCS Leakage Outside containment, Revision 0
Calculation S & SA-61, Flood Level Calculations, Revision 1
Calculation S & SA-66, PBOC Blowdown Volumes for Flood Levels, Revision 0
Final Safety Analysis Report (FSAR) Appendix 0, Analysis of the Consequences of High Energy Piping Failures Outside the Primary Containment
FSAR Chapter 1.5.2.6, Nuclear Safety Systems and Engineered Safeguards Criteria
FSAR Chapter 6.4, High Pressure Coolant Injection System
FSAR Chapter 10.13, Equipment and Floor Drain Systems
HPCI Room Flooding CR Listing from 2002 through 2012

IPE Update PNPS-PSA, Probabilistic Safety Assessment Update, Revision 1
PNPS-NE-07-00006, Revision 0, Pilgrim probabilistic safety assessment (PSA), Revision 2
Photographs of Cable Pit #1 taken September and October, 2012

Section 1R11: Licensed Operator Requalification Program

Miscellaneous
Licensed Operator Requalification Training (LORT) Schedule
LORT/NRC Simulator Exam Scenario, SES-179, Revision 2
LORT/NRC Simulator Exam Scenario, SES-2012-06, Revision 0

Section 1R12: Maintenance Effectiveness

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

Miscellaneous
Functional Failure Determination for CR-PNP-2012-4575
Maintenance Rule Basis Document for System 24, HVAC

Condition Reports
CR-PNP-2012-2015, B-14 feeder breaker tripped during a simulator scenario
CR-PNP-2012-4185, NRC questioned basis for Maintenance Rule Functional Failure for B-14 loading
CR-PNP-2012-4764, Incorrect classification of a repeat MRFF on CR-PNP-2012-4185

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures
1.5.22, Risk Assessment Process, Revision 16
2.4.153, Loss of Turbine Building/Aux Bay Area Ventilation, Revision 21
EN-DC-204, Maintenance Rule Scope and Basis, Revision 2
EN-WM-104, Online Risk Assessment, Revision 6

Miscellaneous
10 CFR 50.65 Expert Panel Meeting November 15, 2012 Agenda
Equipment Out of Service Quantitative Risk Assessment Tool
Risk Profile for Week of 10/8/12
Risk Profile for Week of 10/29/12
Training Drawings and Schematics for Y1 non-vital 120V AC power
Weather Reports and Wind Profiles for Hurricane Sandy

Section 1R15: Operability Determinations and Functionality Assessments

Procedures
2.1.26, Inventory of Alternate Shutdown and EOP Support Tools and Materials, Revision 40
2.2.8, Standby AC Power System (Diesel Generators), Revision 100
2.2.30, Reactor Building Closed Cooling Water System, Revision 74
8.9.1, Emergency Diesel Generator and Associated Emergency Bus Surveillance, Revision 125
8.9.19, Diesel Fuel Oil Emergency Transfer Skid Aging Management Surveillance, Revision 0
EN-OP-104, Operability Determination Process, Revision 6

EN-OP-111, Operational Decision-Making Issue (ODMI) Process, Revision 9
EP-IP-210, Control Room Augmentation, Revision 9

Condition Reports
CR-PNP-1998-9462, TS 3.9.A.3, Requirement for onsite Emergency Diesel Generator (EDG) Fuel Oil is insufficient to last 7 days
CR-PNP-1998-9052, Discrepancies noted during review of calculations & SA55
CR-PNP-1998-9530, The Basis for Engineering Evaluation 98-76 may not be bounding
CR-PNP-2012-1326, Design Evaluation for Emergency Diesel Generator Vulnerability to a missile strike on storage tank fill and vent pipes
CR-PNP-2012-2015, During performance of simulator scenario an unexpected trip of 480 VAC breaker 52-204 occurred
CR-PNP-2012-3152, Leak identified from E-105A
CR-PNP-2012-3334, Fuel Oil Transfer Hose showing signs of cracking
CR-PNP-2012-3428, Degraded Station Blackout (SBO) fuel oil transfer hose
CR-PNP-2012-3441, Fuel Oil Transfer Hose Material not suited for fuel oil applications
CR-PNP-2012-3501, NRC concerns with Operability Determination Basis for CR-PNP-2012-3428
CR-PNP-2012-3512, NRC concerns with Operability Evaluation of SBO transfer system operability
CR-PNP-2012-4185, Functional failure for trip of breakers 52-204 was incorrect
CR-PNP-2012-4552, RBCCW 'F' has a 12 dpm leak on its seal and associated revision 1 & 2 of its operability evaluation
CR-PNP-2012-4884, during review of CR-PNP-2012-2015, it was identified that a similar vulnerability exists for B-15
CR-PNP-2012-4893, Lessons learned to address timeliness issues in CR-PNP-2012-2015
CR-PNP-2012-4760, Reactor Core Isolation Cooling Valve Leak
CR-PNP-2012-5010, Arcing sound emanating from start-up transformer

Drawings
C20, Yardwork Underground Piping and Culverts Plan, Revision 12
C64-1-1, Underground Storage Tanks T-126 A&B and T-129 A&B, Revision 7
C64A1-1, Blackout Diesel Generator Fuel Oil Storage Tanks T-160 A and T-160 B, Revision E1
M100C70, Station Blackout Diesel Generator Diesel Oil Storage Tanks Fill & Vent Piping, Revision E1
M100C76, Emergency Diesel Fuel Oil Transfer Skid – SBO D/G, T-160 A&B to EDG T-126 A&B, Revision 2
Training Drawings 250/125/24DC and 480VAC System Diagrams

Miscellaneous
Daily Logs and Status Sheets
EE01-016, Engineering Evaluation Regarding Allowable RBCCW Leakage
Emergency Diesel Generators Lesson Plan 0-NL-03-01-08, Revision 8
Engineering Evaluation 98-011, Supplement 1, EDG Fuel Oil Requirements
EN#48466, 10CFR 50.72 Notification on 10/31/12 for Loss of Secondary Containment Safety Function
Final Safety Analysis Report (FSAR), Chapter 8.5, Standby AC Power Source
FSAR, Chapter 8.10, Blackout AC Power Source
FSAR, Chapter 10.5, Reactor Building Closed Cooling Water System
Licensee Event Report (LER) 1998-001-01, Single Failure Vulnerability of the Emergency Diesel Generator Fuel Supply System

LER 1998-021-01, Inadequate Emergency Diesel Generators Fuel Supply
Maintenance Rule SSC Basis Document 4160 and 480VAC Distribution System
ODMI – Observed Water Leak from Feed Water Heater E-105A, Revision 2 and Revision 3
Operability Evaluation (OE) 98-067, Operability of EDG Fuel Oil Consumption Basis
Pilgrim License Amendment 184, License DPR-35 dated March 17, 2000
PR.98.9530, EE 98-083, Evaluation and Operability Evaluation of EDG Fuel Oil Supply, Revision 1
RCIC Quadrant Radiation Survey dated 10/24/2012
S&SA-119, EDG Fuel Oil Consumption over 7 Days in Response to a LOCA with LOOP using EOPs, Revision 0
Schematic for Leakage Collection Trough and Volume of Trough in the Heater Bay

Section 1R18: Plant Modifications

Procedures
2.1.26, Inventory of Alternate Shutdown and EOP Support Tools and Materials, Revision 40
2.2.8, Standby AC Power System (Diesel Generators), Revision 101
2.2.9, Switchyard 208VAC System, Revision 15
8.9.1, Emergency Diesel Generator and Associated Emergency Bus Surveillance, Revision 125
8.9.19, Diesel Fuel Oil Emergency Transfer Skid Aging Management Surveillance, Revision 0
EP-IP-210, Control Room Augmentation, Revision 9

Condition Reports
CR-PNP-1998-9052, Discrepancies identified during review of calculations S&SA 55, minimum onsite diesel requirements
CR-PNP-1998-9462, TS 3.9.A.3 Minimum fuel requirement for EDGs is insufficient to support loads for 7 days
CR-PNP-1998-9530, Basis for engineering evaluation 98-076 may not be bounding for EDG fuel consumption
CR-PNP-2011-1326, Missile strike vulnerability on EDG fuel oil storage tank fill and vent pipes
CR-PNP-2012-3334, SBO fuel oil transfer system hose shows signs of cracking
CR-PNP-2012-3428, SBO fuel oil transfer system hose degraded
CR-PNP-2012-3441, Hose material in warehouse does not match description asset suite catalog
CR-PNP-2012-3481, Issues identified with CR-PNP-2012-3428 operability
CR-PNP-2012-3501, CR-PNP-2012-3428 Operability determination concerns
CR-PNP-2012-3512, Issues with operability for CR-PNP-2012-3428 identified by NRC

Drawings
C20, Yardwork Underground Piping & Culverts Plan, Revision 12
C64A-1, Blackout Diesel Generator Fuel Oil Storage Tanks T-160 A and T-160 B, Revision E1
C64-1-1, Underground Storage Tanks T-126 A & B and T-129 A & B, Revision 7
M100C70, Station Blackout Diesel Generator Diesel Oil Storage Tanks Fill & Vent Piping, Revision E1
M100C76, Emergency Diesel Fuel Oil Transfer Skid – SBO D/G T160 A & B to EDG T-126 A & B, Revision 2

Technical Specification
Technical Specification 3.9, Auxiliary Electrical System

Miscellaneous
Boston Edison Letter Dated May 5, 1999, Proposed License Amendment to Revise On-Site Fuel Storage Requirements for Emergency Diesel Generators
Calculation S&SA 119, EDG Fuel Consumption Over Seven Days in Response to a LOCA with LOOP Using EOPs, Revision 0
Engineering Evaluation 98-076, EDG Fuel Oil Storage Assessment for EDG Operability
Engineering Evaluation 98-083, Assessment of Single Failure Vulnerability of EDGs, Revision 1
FSAR Chapter 8.10, Blackout AC Power Source
FSAR Chapter 8.5, Standby AC Power Source
LER 1998-021-01, Inadequate Emergency Diesel Generators Fuel Supply
NRC Letter Dated March 17, 2000, Pilgrim Nuclear Power Station – Issuance of Amendment RE: Emergency Diesel Fuel
NRC Standard Review Plan, Branch Technical Position 8-8, Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions
Operability Evaluation 98-067, EDG Fuel Oil Assessment
Pilgrim LER 1998-001-01, Single Failure Vulnerability of the Emergency Diesel Generator Fuel Supply System
Training Course Number 0-NL-03-01-08, Emergency Diesel Generators, Revision 8

Section 1R19: Post-Maintenance Testing

Procedures
3.M.3-51, Electrical Termination Procedure, Revision 29
3.M.4-14.2, Salt Service Water Pumps: Routine Maintenance, Revision 60
8.5.3.2.1, Salt Service Water Pump Quarterly and Biennial (Comprehensive) Operability and Valve Operability Tests, Revision 26
8.5.3.2.3, LPCI and Containment Cooling Motor – Operated Valve Operability Test, Revision 50
8.B.1, Fire Pump Test, Revision 90
8.C.16.5, Diesel Fire Pump Battery Quarterly Inspection/Surveillance, Revision 10
8.Q.3-8.2, Limitorque Type HBC, SB/SMB-0 through SB/SMB-3 Valve Operator Maintenance

Condition Reports
CR-PNP-2012-4292, Diesel fire pump did not start when system pressure was lowered
CR-PNP-2012-4703, Dog stud found on P-208D is shorter than what is required by the design
CR-PNP-2012-4887, During performance of surveillance VEX-201B standby gas fan 'B' tripped
CR-PNP-2012-5623, NRC review of paper work on the 'B' RHR valve work noted conditions with the PWT paperwork quality up to current standards

Maintenance Orders/Work Orders
Work Order (WO) 00242057 Tasks 1-4, replace FIC-1340-1 and SQRT-1340-10 per EC12968
WO 00298657 Task 1, Overhaul SSW P-208D
WO 00298657 Task 3, Overhaul SSW P-208D IAW 3.M.14-14.2
WO 00298657 Task 7, Inject epoxy into pump baseplate
WO 00298657 Task 11, Repair pump discharge head
WO 00298657 Task 12, Replace dog stud on P-208D
WO 00298657 Task 13, Remove and inspect loose dog stud on P-208D
WO 00328069 Task 1, Pump did not automatically start during 8.B.1
WO 00329963 Task 2, Prefab P-208D rework feeder conduit support
WO 00331682 Tasks 3-5, Work on VEX-201B after trip of fan during performance of procedure 8.M.3-18
WO 00291125, Replace dog bolt on Pump 208D

WO 52313942 Task 1, 8.Q.3-8.2 MOV Maintenance and Inspection (MO-1001-43D)
WO 52313942 Task 2, MOV Post Maintenance Test
WO 52313945 Task 1, 8.Q.3-8.2 MOV Maintenance and Inspection (MO-1001-43B)
WO 52313945 Task 2, MOV Post Maintenance Test
WO 52313953 Task 1, 8.Q.3-8.2 MOV Maintenance and Inspection (MO-1001-7B)
WO 52313953 Task 2, MOV Post Maintenance Test
WO 52313953 Task 3, MO-1001-7B Operations PMT
WO 52314032 Tasks 1, 2, & 3, Diesel Fire Pump Battery Replacement

Drawing
Drawing No. M50-3-3, Schematic & Wiring Diagram Standby Gas Treatment System heater controls Panels C68 & C69, Revision 19

Miscellaneous
Calculation PS2338B-02, 125 Volt Battery 'A' System Voltage Calculation, Revision 1
Commercial Grade Engineering Evaluation No. 411 Revision 9 for Exide Battery Diesel Fire Pump Engine
EC 40074 correct wire color on SQRT-1340-10 GEMAC
ECN 12968 NUS Instruments – CM900 Multiply/Divide, Square
NUS Instruments NUS-A1 345A Equivalency Review of the PID 901-540 and NUSI CMM900 Module

Section 1R22: Surveillance Testing

Procedures
3.M.3-47.1, "A" Train Functional Test of Individual Load Shed Components Critical Maintenance, Revision 32
3.M.3-47.2, "B" Train Functional Test of Individual Load Shed Components Critical Maintenance, Revision 23
8.4.1, Standby Liquid Control Pump Quarterly and Biennial Capacity and Flow Rate Test, Revision 76
8.9.1.1, Diesel Oil Transfer System Skid – Mounted Valve Operability and Supplemental Pump Testing, Revision 19

Condition Reports
CR-PNP-2012-4706, C19A was taken out of shutdown for troubleshooting leakage
CR-PNP-2012-4785, Recirculation Pump 'A' seal leakage alarm received

Maintenance Orders/Work Orders
WO 52314378 Task 1, 3.M.3-47, Attachment 16, Functional Test of Individual Load Shed Component P-208C
WO 52314379 Task 1, 3.M.3-47.2, Attachment 11, Functional Test of Individual Load Shed Component P-208C

Miscellaneous
Daily Log Test #45 Drywell Air Sampling System Check
Drywell Leakage Detection Training Schematics
Drywell Leakage Tabulated Data Sheets
Failure Modes Analysis for Increase in Drywell Unidentified Floor Leakage, EN-LI-118-08, Attachment 9.2, Revision 0
FSAR Section 4.10, Nuclear System Leakage Rate Limits
ODMI Action Plan for Increased Drywell Unidentified Leakage CR-PNP-2012-3944

Section 1EP6: Drill Evaluation

Condition Reports
CR-PNP-2012-3985, Operating crew missed the appropriate EAL calls during as-found scenario
CR-PNP-2012-4640, NRC resident expressed concern with a missed opportunity to evaluate emergency plan implementation with less than the normal crew compliment

Miscellaneous
Licensed Operator Requalification Training (LORT) Schedule
LORT/NRC Simulator Exam Scenario, SES-179, Revision 2
LORT/NRC Simulator Exam Scenario, SES-2012-06, Revision 0
Performance Indicators for Emergency Action Level Declarations and Notifications

Section 4OA1: Performance Indicator Verification

Condition Reports
CR-PNP-2011-4002, Maintenance rule functional failure roll-up CR
CR-PNP-2011-4755, 'B' EDG turbo assist valves failed during testing
CR-PNP-2011-5152, 'B' EDG breaker tripped during surveillance
CR-PNP-2011-5563, 'B' EDG exceeded its maintenance rule performance criteria
CR-PNP-2012-0043, Erratic indications during 'B' EDG testing

Miscellaneous
MSPI – Cooling Water System 29 Data Sheets from October 2011 - September 2012
MSPI Emergency AC Power System Performance Indicator Data Sheets
NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 6
NRC Performance Indicator web printout for Pilgrim Nuclear Power Station

Section 4OA2: Problem Identification and Resolution

Procedures
2.2.146, Station Blackout Diesel Generator, Revision 42
3.M.3-24.15, Valve Stem Lubrication, Revision 10
8.5.4.1, HPCI System Pump and Valve Quarterly and Biennial Comprehensive Operability, Revision 110
8.I.32, Obtaining Field Stroke Time Data for Establishing In-Service Test and Appendix B Test Programs Power-Operated Valve Acceptance Criteria, Revision 7

Evaluations
Calculation M553, HPCI Steam to Turbine Supply Valve, Revision 6
PMRQ 50075933, Revise Frequency Code for MO-2301-3, 1/24/12

Completed Tests
In-Service Test Stroke Time Results (Graph) for MO-2301-3 for the period 2/17/09 - 8/15/12
MOV Diagnostic Data (Results) for MO-1001-23A, 4/10/95 and 10/20/04
MOV Diagnostic Data (Results) for MO-1301-49, 5/9/99, 4/25/01, 4/22/03 and 4/18/09
MOV Diagnostic Data (Results) for MO-1400-24A, 3/12/97, 5/12/99 and 3/17/09
MOV Diagnostic Data (Results) for MO-2301-3, 5/25/95, 6/2/99, 5/9/01, 5/5/05 and 4/29/09

Condition Reports
CR-PNP-2001-2484, MO-2301-3, Negative trend in thrust values
CR-PNP-2007-0670, HPCI steam supply isolation valve MO-2301-3 dual indication when closed
CR-PNP-2009-0560, HPCI steam supply isolation valve MO-2301-3 dual indication when closed
CR-PNP-2009-1743, HPCI steam supply isolation valve MO-2301-3 insufficient thrust
CR-PNP-2011-1075, INPO IER 11-1, Fukushima Fuel Damage Event
CR-PNP-2011-1548, IER 11-1, A8 Battery does not undergo periodic load testing
CR-PNP-2011-5071, P-103B mechanical seal covers removed
CR-PNP-2011-5076, Radwaste cost performance indicator is red
CR-PNP-2011-5200, HPCI steam supply isolation valve MO-2301-3 dual indication when closed
CR-PNP-2011-5204, MO-2301-3 had no grease where stem goes through stem nut
OE-PNP-2010-0107, MOV failures due to degraded stem lubricant
CR-PNP-2012-1338, Trend in systems not being scoped in the Maintenance Rule
CR-PNP-2012-2076, Trend in the Operability Determination Process

Work Orders
WO 289221
WO 331864

Miscellaneous
307544, SAFT Test Results for SBL 37-2 Battery Cells, Dated 11/22/05
Letter from Roy Anderson to NRC, Boston Edison Company's Response to the NRC Supplemental SE of the PNPS Response to the SBO Rule, Dated 2/26/92
2.2.146, Station Blackout Diesel Generator, Revision 42
PS257, 125VDC Battery D40, Station Blackout Battery Sizing Calculation, Revision 0
SIPD 1603, Funding Justification NiCd Battery First Time Vendor Test Support, Revision 0
SIPD 1604, Funding Justification Replace A8 NiCad Battery Option, Revision 0
Pilgrim Station Quarterly Trend Report for Third Quarter 2012
CR Closure Quality Vision Memo Sheet
WILL Sheet Standing Order for Operability Determinations

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

Procedures
2.1.14, Station Power Changes, Revision 110

Miscellaneous
Power Maneuver Plan – MAN.C19-27 for November 6 downpower

Section 4OA5: Other Activities

Procedures
EN-DC-168, Fukushima Near-Term Task Force Recommendation 2.3: Seismic Walkdown Procedure, Revision 0
EN-DC-170, Fukushima Near-Term Task Force Recommendation 2.3: Flooding Walkdown Procedure, Revision 0
PNPS-CS-12-00001, Pilgrim Station Seismic Walkdown Submitted Report for Resolution of Fukushima Non-Term Task Force Recommendation 2.3: Seismic, Revision 0

Condition Reports

CR-PNP-2012-4372, Light fixture in SSW Pump P-208C room not adequately secured
CR-PNP-2012-4374, T-handle reach rod in SSW Pump C room not adequately secured
CR-PNP-2012-4375, Aux Bay Door 47 degraded door jam due to corrosion
CR-PNP-2012-4376, Elastomer seal degradation App. R duct bank to EDG B
CR-PNP-2012-4377, Apparently abandoned conduit and ground wire on west wall of SSW Pump P-208D/E compartment
CR-PNP-2012-4378, Door 102 Turbine Building Roll-up Truck Door during door panels are bowed toward the inside of the building
CR-PNP-2012-4379, The below listed housekeeping discrepancies were noted by the NRC resident while accompanying the team performing seismic interaction walkdowns
CR-PNP-2012-4404, Damaged concrete wall and cracked grout pad in B-Aux bay
CR-PNP-2012-4405, Degraded foam insulation on discharge valves for RBCCW Pumps P-202D/E/F in B-Aux bay
CR-PNP-2012-4411, Housekeeping discrepancies were identified during seismic walkdowns
CR-PNP-2012-4509, The two hold down clip plates at the base of A8 4KV Emergency Bus are showing signs of corrosion
CR-PNP-2012-4513, Light fixture located above the south door of the MCC-B18 environment is supported by a chain with an open S-hook connection
CR-PNP-2012-4656, Light fixture located in the overhead of the MG Set Room is supported by a chain with an open S-hook connection
CR-PNP-2012-4657, Visual inspection identified one missing fastener on the cover plate for the Gaitronics Station on RB 51'
CR-PNP-2012-4659, Robust barrier fence vertical posts have a missing set screw on the base bracket
CR-PNP-2012-4661, Abandoned 2" scram header cross connect pipe runs through the overhead of the RHR-A Valve Room
CR-PNP-2012-4664, Six fasteners missing on the back of the MCC-B10 cabinet
CR-PNP-2012-4665, Five fasteners missing on the cover of junction box J2289
CR-PNP-2012-4838, A small piece of thermal insulation is partially detached from piping at EL-17.5' of A-RHR Quad
CR-PNP-2012-5369, During an independent seismic walkdown (Fukushima) of the B Battery Room, the NRC resident inspector noticed a Gaitronics speaker that was missing a fastener
CR-PNP-2012-5370, During an independent seismic walkdown (Fukushima) of the B Battery Room, the NRC resident inspector noticed an S-hook on lighting fixture JI547 that was not closed. A plastic tie-wrap was installed to secure the fixture
CR-PNP-2012-5372, During an independent seismic walkdown (Fukushima) of the A Battery Room, the NRC resident inspector noticed that the chains and S-hooks on the lighting fixture above batteries 53 through 56 were smaller than others
CR-PNP-2012-5378, A formal flooding walkdown of the Intake Structure should be performed

Miscellaneous

Electric Power Research Institute (EPRI) Report 1025286, Seismic Walkdown Guidance
Entergy Letter No. 2.12.076, dated November 27, 2012, Flooding Walkdown Report
Entergy Letter No. 2.12.077, dated November 27, 2012, Seismic Walkdown Report
Fire Protection System Maintenance Rule Basis Document
Flooding Walkdown List
Flooding Walkdown Pre-Lab Briefs
Flooding Walkdown Record Forms
Flooding Walkdown Schedule

Flooding Walkdown Training Presentations
Individual Plant Examination for External Events
Intake Structure Drawings
Memorandum to F. Mogolesko from J. Dyckman dated 5/11/93, IPEEE Flooding Inpacts
Nuclear Energy Institute (NEI) 12-07, Guidelines for Performing Verification Walkdowns of Plant Flood Protection Features, Revision 0-A
Pilgrim Hurricane and High Winds Procedure
Pilgrim Seismic Walkdown and Area Walkby Checklists
Pilgrim Seismic Walkdown Equipment Lists
Pilgrim Seismic Walkdown Team Certifications and Qualifications
Seismic Walkdown Pre-Job Briefs
Seismic Walkdown Schedule(s)
Seismic Walkdown Training Materials
Temporary Instruction 2515/188, Inspection of Near-Term Task Force Recommendation 2.3: Seismic Walkdowns

Commitment 14 (Metal Enclosed Bus)

3.M.3.5.8, 4KV Bus Startup Transformer PT Fuse Drawer and Bus Duct Maintenance and Inspection, Rev. 6
EN-DC-349, Metal Enclosed Bus Inspection Procedure, Rev. 0
CR-PNP-2012-2054

Commitment 20 (One-Time Inspection)

PNPS-NE-09-00006, License Renewal One-Time Inspection Summary Report, Rev. 1
A-16754, Commitment Change Evaluation – Main Steam Flow Restrictors
CR-PNP-2011-04689
CR-PNP-2012-02056
UT inspection records of steel piping and tanks in fuel oil
VT inspection records of steel components in fuel and lube oil

Commitment 23 (Selective Leaching)

Commitment Closure Summary Report, Addendums 1, 2, and 3
A-16748, Commitment Change Evaluation – Selective Leaching Program
PNPS-NE-09-00005, License Renewal Selective Leaching Summary Report, Rev. 1
PNPS-RPT-12-00005, Commitment 23, Selective Leaching UT of 12 Fire Water Valves, Rev. 0
PM change request for 12-P-137, periodic UT of fire valves, Sept. 12, 2012
CR-PNP-2012-02055
VT inspection records of gray cast iron components in raw water

Commitment 36 (UT of CST)

Video recordings of Condensate Storage Tank cleaning and inspection

Commitment 42 (Bolted Cable Connections)

PNPS-NE-09-00004, Bolted Cable Connection Inspection Report, Rev. 1
3.M.3-60, Infrared Thermography, Rev. 7
CR-PNP-2012-02059

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ALARA	as low as is reasonably achievable
AMP	Aging Management Program
CA	corrective action
CASS	cast austentic stainless steel
CFR	Code of Federal Regulations
CR	condition report
CRS	control room supervisor
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EDG	emergency diesel generator
FSAR	final safety analysis report
HPCI	high pressure coolant injection
IEEE	Institute of Electrical and Electronics Engineering
IMC	Inspection Manual Chapter
LER	licensee event report
LOCA	loss of coolant accident
LOOP	loss of offsite power
LRA	license renewal application
MEB	metal enclosed bus
NCV	non-cited violation
NEI	Nuclear Energy Institute
Ni-Cd	Nickel-Cadmium
NRC	Nuclear Regulatory Commission
ODCM	off-site dose calculation manual
PARS	Publicly Available Records
PEO	Period of Extended Operations
PI	performance indicator
PNPS	Pilgrim Nuclear Power Station
SBO	station blackout
SDP	significance determination process
SER	Safety Evaluation Report
SSC	system, structure, or component
SSW	salt service water
SWEL	seismic walkdown equipment list
TS	technical specifications
UFSAR	Updated Final Safety Analysis Report
UT	Ultrasonic Test
VAC	volts alternating current
VDC	volts direct current
VT	Visual Test
WO	work order