

July 26, 2005

EA-05-039

Mr. Michael A. Balduzzi
Site Vice President
Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, Massachusetts 02360-5508

SUBJECT: PILGRIM NUCLEAR POWER STATION - NRC INTEGRATED INSPECTION
REPORT 05000293/2005003

Dear Mr. Balduzzi:

On June 30, 2005, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Pilgrim reactor facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 7, 2005, with Mr T. Kirwin and 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.

On the basis of the results of this inspection, no findings of significance were identified. After this inspection period ended, the NRC issued a letter on July 14, 2005, issuing a Severity Level III Notice of Violation and Proposed Imposition of Civil Penalty. This inspection report acknowledges issuance of that letter and assigns a tracking number for the Severity Level III Notice of Violation. Additionally, licensee-identified violations which were determined to be of very low safety significance are listed in Section 4OA7 of this report. If you contest any NCV in this report, you should provide a response with the basis for your denial, within 30 days of the dated of this inspection report, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at Pilgrim.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document

Michael Balduzzi

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system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Clifford Anderson, Chief
Projects Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 05000293/2005003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-293

License No: DPR-35

Report No: 05000293/2005003

Licensee: Entergy Nuclear Operations, Inc.

Facility: Pilgrim Nuclear Power Station

Location: 600 Rocky Hill Road
Plymouth, MA 02360

Inspection Period: April 1, 2005 - June 30, 2005

Inspectors: W. Raymond, Senior Resident Inspector
C. Welch, Resident Inspector
T. Burns, Reactor Inspector
D. Silk, Senior Emergency Preparedness Inspector
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Approved By: Clifford Anderson, Chief
Projects Branch 5
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000293/2005003; 04/01-06/30/2005; Pilgrim Nuclear Power Station, Other

The report covered a 13 week period of inspection by resident inspectors and announced inspections by regional inspectors including a senior emergency preparedness Inspector, senior reactor inspector, health physics inspector and reactor inspectors. One Severity Level III Notice of Violation and Proposed Imposition of Civil Penalty issued in a letter dated July 14, 2005, is documented in this report. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, July 2000.

A. Inspector Identified and Self-Revealing Findings

Miscellaneous

SL-III In a letter dated July 14, 2005, the NRC issued a Severity Level III Notice of Violation and Proposed Imposition of Civil Penalty to Entergy in the base amount of \$60,000 associated with a Severity Level III problem. The Severity Level III problem involved four violations of NRC requirements related to Technical Specification 5.4.1, 10 CFR Part 50 Appendix B, and 10 CFR Part 26. The specific violations involved: (1) a Pilgrim control room supervisor sleeping for approximately four minutes in the control room; (2) a reactor operator observing the sleeping control room supervisor, but deliberately not taking immediate actions to awaken the control room supervisor, inform appropriate site personnel and initiate a condition report; (3) a Shift Manager, in careless disregard of requirements, although taking some actions, not informing appropriate site personnel and initiating a condition report; and (4) the sleeping control room supervisor not being relieved of duty and for-cause Fitness-for-Duty tested. There were no actual safety consequences resulting from this event because there were no plant conditions that warranted immediate action.

B. Licensee Identified Violations

Violations of very low safety significance, which were identified by Entergy, have been reviewed by the inspector. Corrective actions taken or planned by Entergy have been entered into Entergy's corrective action program. The violations are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Pilgrim Nuclear Power Station operated at reduced power in end-of-cycle coast down at the beginning of the period. The plant shutdown to conduct refueling outage RFO#15 on April 17, 2005. The outage was conducted with no major events. Entergy completed the scheduled outage tests and maintenance, including the 10 year inservice inspection and reactor vessel exams; repaired cracked welds on steam dryer tie-bars; and removed a leaky fuel bundle. Following the outage, the reactor was made critical on May 11 and full power was reached on May 15. The plant operated during the period at 100 percent (%) core thermal power, except for short periods of planned operation at reduced power for routine testing and condenser maintenance.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R02 Evaluations of Changes, Tests, or Experiments (71111.02)

a. Inspection Scope (19 samples)

The inspectors reviewed six safety evaluations (SEs) listed in the attachment, all of which were either issued during the past two years or associated with plant modifications that were completed during the past two years. The SEs reviewed were in the Initiating Event, Mitigating Systems, and Barrier Integrity cornerstones. The selected SEs were reviewed to verify that changes to the facility or procedures as described in the Updated Final Safety Analysis Reports (UFSAR) were reviewed and documented in accordance with 10 CFR 50.59, that safety issues pertinent to the changes were properly resolved or adequately addressed, and that Entergy had appropriately evaluated whether the changes and tests could be accomplished without obtaining license amendments.

The inspectors also reviewed 13 screened-out evaluations for changes, tests and experiments for which Entergy determined that SEs were not required. This review was performed to verify that Entergy's threshold for performing SEs was consistent with 10 CFR 50.59. The listing of the SEs and screened-out evaluations reviewed is provided in the attachment.

In addition, the inspectors reviewed the administrative procedures that were used to control the screening, preparation, and issuance of the SEs to ensure that the procedure adequately covered the requirements of 10 CFR 50.59.

The inspectors reviewed condition reports (CRs) associated with 10 CFR 50.59 issues to ensure that Entergy was identifying, evaluating, and correcting problems associated with these areas and that the planned or completed corrective actions for the issues were appropriate. The inspectors also reviewed self-assessments related to 10 CFR 50.59 SEs at Pilgrim. The listing of the condition reports and self assessments reviewed is provided in the attachment.

b. Findings

On March 10, 2005, Entergy approved a change to Procedure No. 8.M.3-1, Special Test for Automatic ECCS Load Sequencing of Diesels and Shutdown Transformer with Simulated Loss of Offsite Power and Special Shutdown Transformer Load Test, using its 10 CFR 50.59 process. One aspect of the change involved removing the automatic sequencing of the reactor building closed cooling water (RBCCW) and salt service water (SSW) pumps (emergency loads) during the simulated loss of offsite power (LOP)/loss-of-coolant accident (LOCA) testing to allow Entergy to perform the testing without impacting the refueling outage critical path. The inspectors noted that Technical Specifications (TSs) 4.9.A.1.b and 4.9.A.1.c require the energization of the auto-connected emergency loads through the load sequencer to verify loading onto the emergency diesel generators (EDGs) and shutdown transformer (SDT), respectively. Entergy justified the change based, in part, on the TS 4.9.A.1 bases wording (the bases did not specifically mention these emergency loads) and their existing load sequencing overlap testing. The inspectors determined that the overlap testing does not actually verify the load sequencing following an EDG start from ambient conditions as prescribed by TS 4.9.A.1.b nor SDT loading following an EDG trip as prescribed by TS 4.9.A.1.c. As a result, the inspectors questioned whether Entergy needed a TS Amendment to make this change.

The NRC requires more information to determine whether this issue is an acceptable item. Pending further review and discussion with the Office of Nuclear Reactor Regulation (NRR), this is an unresolved item (URI). **(URI 05000293/2005003-01, 2005012-02 Adequacy of Entergy's Change to LOP/LOCA Testing Without Seeking a TS Amendment)**

1R04 Equipment Alignment (71111.04)

a. Inspection Scope (5 samples)

The inspector completed a partial system review of the below-listed risk significant systems during periods when its redundant train or system was out-of-service for maintenance and/or testing or on restoration of the train. The position of key valves, breakers, and control switches, required for system operability, were determined by field walkdown and/or review of the main control board indicators. To ascertain the required system configuration, the inspectors reviewed plant procedures, system drawings, the Updated Final Safety Analysis Report, and the Technical Specifications. The references used for this review are described in the attachment to this report. This inspection activity represented five samples.

- A RHR train, during maintenance on the B train per MR 05102963.
- Alternate Shutdown Cooling (Mode 1) on 4/25/05.
- Alternate Shutdown Cooling (Mode 2) on 4/26/05 while shutdown cooling was secured for maintenance.
- B RBCCW train, post-refuel startup readiness.

- B Core Spray Train, post-refuel startup readiness.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope (12 samples)

The inspector toured selective areas of the plant to observe conditions related to: (1) transient combustibles and ignition sources; (2) fire detection systems; (3) manual firefighting equipment and capability; and (4) passive fire protection features. The inspector evaluated whether the material condition of active and passive fire protection systems features and their operational lineup and readiness were adequate. The inspector also reviewed the applicable fire hazard analysis fire zone data sheets and selective surveillance procedures to ensure that the specified fire suppression systems surveillance criteria were met. The references used for this review are described in the attachment to this report. This inspection activity represented twelve samples.

- Fire Zone 1.30, Drywell
- Fire Zones 2.9A & 2.10A, Condenser Bay
- Fire Zone 2.8, Condensate Pump Area
- Fire Zones 1.21 & 1.22, RBCCW & TBCCW pumps/heat exchangers rooms
- Fire Zones 2.11 & 2.12, Feedwater Pumps Area
- Fire Zones 4.1 & 4.3, A and B Emergency Diesel Generator Rooms
- Fire Zones 4.2 & 4.4, A and B Emergency Diesel Day Tank Rooms

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI), Inspection Procedure (71111.08)

a. Inspection Scope (1 sample)

The inspector observed selected in-process nondestructive examination (NDE) activities. Also, the inspector reviewed documentation of NDE and repair/replacement activities. The activities reviewed were based on the inspection procedure objectives and risk priority of those components and systems where degradation could result in a significant increase in risk of core damage. The observations and documentation reviews were performed to verify activities were accomplished in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code requirements. The inspector reviewed reports that documented the performance and results of ISI examinations completed during this period. Also, the inspector evaluated Entergy's effectiveness in resolving relevant indications identified during ISI activities.

The inspector observed manual ultrasonic testing (UT) and reviewed documentation of the magnetic particle (MT), penetrant (PT), and visual test (VT) activities to verify the effectiveness of the examiner and process for identifying degradation of risk significant systems, structures and components. The inspector reviewed documentation to determine whether test examiner's qualifications were current and in accordance with the ASME Code requirements and, as applicable, performance demonstration initiative (PDI) qualifications were current. The inspector reviewed the UT test of the reactor pressure vessel (RPV) head to flange weld RPV-HF-240-360 and the UT test examination results of RPV top head welds RPV-TH-M4 and M5. Condition reports (CR) were initiated for indications identified in each of the two top head welds. The indications identified in these welds were characterized, sized and entered into the corrective action program for engineering evaluation and disposition.

The inspector examined Entergy's evaluation and disposition for continued operation without repair or rework of non-conforming conditions identified during ISI activities by review of CR-2003-01095 (reduced wall thickness on torus shell) and CR 2005-01916 (indication in N2F nozzle to safe end weld). The inspector reviewed a portion of the remote in-vessel visual inspection of the reactor steam dryer base metal, structural welds, tie bar welds and the tack welds of the leveling screws. The review was conducted to evaluate examiner skill, test equipment performance, examination technique, and inspection environment (water clarity) to verify Entergy's ability to identify and characterize observed indications.

The inspector did not review outage welding activities on the pressure boundary of ASME Code Class 1 or 2 systems since no ASME Section XI welding activities on these systems had been performed prior to the period the inspector was on site or were underway during the period the inspector was on site.

The inspector reviewed CR 2005-01914, CR 2005-02322, and Maintenance Request 05108176 associated with acceptance of a socket weld in the standby liquid control system. The socket weld was UT and PT tested but an indication identified during the UT test could not be characterized and sized because of procedure limitations. The inspector conducted the review to verify the activities were in accordance with the applicable ASME Code requirements.

The inspector reviewed Condition Report (CR) 2005-01608 and Indication Notification Report (INR) RFO15-05-01, Rev. 1, which identified cracks discovered in the welds of four tie bars of the steam dryer. The tie bars maintain spacing and provide lateral support to the steam dryer banks. The inspector reviewed the CR to determine whether the tie bar weld cracks identified during non-destructive testing were reported, characterized, evaluated and appropriately dispositioned and entered into the corrective action program. Also, the inspector reviewed CR 2005-01916 which had been initiated to report the identification of a circumferential indication in the N2F (recirculation inlet) nozzle to safe-end weld. The indication had not been identified during previous ultrasonic tests. The indication was identified during this examination period using the qualified Performance Demonstration Initiative (PDI) ultrasonic test and was evaluated,

characterized, sized and dispositioned as “accept for continued use” by fracture mechanics evaluation in accordance with ASME Section XI.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

1. Licensed Operator Simulator Training

a. Inspection Scope (1 sample)

The inspector observed the performance of an operator crew during a simulator training session on June 8, 2005. The training was conducted per module O-RQ-06-02-102 as part of licensed operator requalification program. The inspector also reviewed training conducted on June 8 on the procedures related to offsite power and observed a joint training session between the Pilgrim Station and the Transmission System operator (TSO). The simulator scenarios involved operational transients and loss of power events. The training with the TSO personnel reviewed procedures and protocols to monitor grid reliability and to enhance communications in response to degraded grid conditions. The inspector evaluated whether the crew met the training scenario objectives and performed the critical tasks. The inspector evaluated whether the crew was properly using system operating procedures and emergency operating procedures. The inspector also evaluated whether the post-training review discussed any relevant lessons learned and highlighted actions to improve crew performance. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope (6 samples)

The inspector evaluated on-line risk management for planned and emergent work. The inspector reviewed maintenance risk evaluations, work schedules, recent corrective actions, and control room logs to verify that other concurrent planned and emergent maintenance or surveillance activities did not adversely affect the plant risk already incurred with the out of service components. The inspector evaluated whether Entergy took the necessary steps to control work activities, took actions to minimize the probability of initiating events and maintained the functional capability of mitigating systems. The inspector assessed Pilgrim’s risk management actions during plant walkdowns. The inspector also discussed the risk management with maintenance, engineering and operations personnel as applicable for the activities. Other references

used for the inspection are identified in the attachment to this report. The inspection covered the following six samples:

- MR 05102963, 05102965, 05102969, B RHR System Valve Maintenance
- MR 0001297, Planned Startup Transformer maintenance on April 4-6
- MR 01108097, B RBCCW Heat Exchanger Inspection and Repair
- Local Leak rate testing of MO-1001-50 on April 26, 2005.
- April 21, 2005 during bus outages on A6 and A8.
- April 28, 2005, during special testing of the ECCS and EDG load sequencing.

b. Findings

No Findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions (71111.14)

a. Inspection Scope (2 samples)

The inspectors observed the following non-routine planned evolutions or portions thereof to assess the performance of the control room operators. The inspections focused on command and control, communications, procedure adherence, and response to abnormal conditions and/or alarms.

- Procedure 2.2.20, "Core Spray;" for reactor cavity fill with core spray from the CST.
- Procedure 8.M.3-1, "Special Test for Automatic ECCS Load Sequencing of Diesels and Shutdown Transformer with Simulated Loss of Off-Site Power and Special Shutdown Transformer Load Test".

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope (7 samples)

The inspector reviewed selected operability determinations to assess the adequacy of the evaluations, the use and control of compensatory measures, compliance with the technical specifications, and the risk significance of the issues. The inspector used the technical specifications, Final Safety Analysis Report, associated Design Basis Documents, Procedure ENN-OP-104 "Operability Determinations," and the additional references listed in the attachment to this report for Section 1R15. This review covered seven inspection samples.

- OE and REO CR 200501136, Potential Safety Limit Violation for Analyzed Operational Occurrences, (CR 200501136, GE Part 21 Report SC05-03)
- Condition Reports 200502037, 200501711, 200501851 and 200501748 identified safety-related snubbers SS-23-20-36, SS-2-20-25, SS-2-20-02, and SS-10-20-08 did not have a visible hydraulic fluid level. The inspector reviewed test results acquired per 3.M.4-37, "Hydraulic and Mechanical Snubbers Functional Test," to verify Entergy's determination that the snubbers were operable.
- OE and REO CR200502618, 8.M.3-1 loss of off-site power test discrepancies
- MO-1001-29A torque switch setting low out of specification past operability determination (CR 200501820).
- OE and REO CR 200501028, MO-1001-29A control power fuse installed in neutral vs power feed.
- CR 200503168, B EDG POT Fuse Failure During Test Run (MR 05109337)
- CR 200503140 and 200503151, Both EDGs Inoperable due to High Ambient Temperatures

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds (71111.16)

a. Inspection Scope (2 samples)

The inspector reviewed the operator work around, burden, and tour lists to evaluate the potential cumulative impact of the equipment deficiencies on the operators' ability to implement abnormal or emergency operating procedures. The inspector walked down the control room panels and selected plant areas to review the impact of the deficiencies and to ensure that applicable deficiencies were captured in Entergy's deficiency list. The inspector discussed the operator workarounds with station personnel to assess the aggregate impact on plant operations. During the review, the inspector used the criteria contained in Entergy's procedure 1.3.34.4. This inspection covered one inspection sample of the cumulative effects of operator workarounds.

This review covered one inspection sample of specific operator workarounds. The inspector reviewed Entergy's actions to address item #349, inoperable emergency lights, in the list of operator compensatory measures. The inspector reviewed the deficiencies to determine if the functional capability of the system or human reliability in responding to an initiating event was affected. The inspector evaluated the effect of the deficiency on the operator's ability to implement abnormal and emergency operating procedures.

The inspector determined whether Entergy evaluated deficiencies for potential impact as operator workarounds, entered them into the corrective action process, and had planned maintenance activities to correct the identified operational deficiencies. References used during this inspection are identified in the attachment to this report.

Enclosure

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope (6 samples)

The inspectors reviewed six risk-significant plant modification packages selected from the design changes that were completed within the past two years. The review was performed to verify that: (1) the design bases, licensing bases, and performance capability of risk significant structures, systems, and components (SSCs) had not been degraded through the modifications; and, (2) the modifications performed during increased risk configurations did not place the plant in an unsafe condition. The listing of the modifications reviewed is provided in The attachment.

The selected plant modifications were distributed among the Initiating Event, Mitigating Systems, and Barrier Integrity cornerstones. For these selected modifications, the inspectors reviewed the design inputs, assumptions, and design calculations to determine the design adequacy. The inspectors also reviewed field change notices that were issued during the installation to confirm that the problems associated with the installation were adequately resolved. In addition, the inspectors reviewed the post-modification testing, functional testing, and instrument and relay calibration records to determine readiness for operations. Finally, the inspectors reviewed the affected procedures, drawings, design basis documents, and UFSAR sections to verify that the affected documents were appropriately updated.

For the accessible components associated with the modifications, the inspectors also walked down the systems to detect possible abnormal installation conditions.

The inspectors reviewed condition reports (CRs) associated with plant modification issues to ensure that Entergy was identifying, evaluating, and correcting problems associated with these areas and that the planned or completed corrective actions for the issues were appropriate. The inspectors also reviewed self-assessments related to plant modification activities at Pilgrim. The listing of the condition reports and self assessments reviewed is provided in The attachment.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)a. Inspection Scope (6 samples)

The inspector reviewed post-maintenance test activities on risk significant systems to verify that the effect of the test on the plant had been evaluated adequately, the test was properly performed in accordance with procedures, the test data met the required acceptance criteria, and the test activity was adequate to verify system operability and functional capability following maintenance. The inspector assessed whether systems were properly restored following testing and that discrepancies were appropriately documented in the corrective action process. The inspection activity represented six samples:

- Post Work Test for MR05102967 and 05102970 for B RHR System, 4/1/05
- PWT per 8.5.3.14 for MR 01108097 following B RBCCW HX Overhaul
- PWT for MRs P0000060, 03111321, P0000052 MSIV AO-203-1D actuator, springs, and packing replacement per 8.7.1.6 for local leak rate testing and 8.I.11.21 for valve stroke timing and fail safe operation.
- PWT for MR 031119011 MSIV AO-203-2A packing replacement per 8.7.1.6 for local leak rate testing and 8.I.11.21 for valve stroke timing and fail safe operation.
- PWT for MRs 03109316, 03109315, 03109315 Rev 1(CR 200502219), 03109314, 03109387, for local leak rate testing per 8.7.1.5 of the feedwater check valves following soft seat replacement and refurbishment.
- Procedure 3.M.3-24.16, "Quick look Operations Procedure;" for static and dynamic testing of motor-operated valve (MO) MO-1001-29A (CR 200501820).

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)a. Inspection Scope (1 sample)1. Review of Outage Plan

The inspector reviewed the RFO-15 outage Shutdown Risk Assessment and procedure TP05-002, "RFO15 Compensatory Measures," to verify that Entergy addressed the outage impact on defense-in-depth for the five shutdown critical safety functions: electrical power availability, inventory control, decay heat removal, reactivity control, and containment. The inspector reviewed how Entergy provided adequate defense-in-depth for each safety function, and the planned contingencies to minimize the overall risk where redundancy was limited or not available. Consideration of operational experience was also assessed. The inspector periodically reviewed the daily risk up-date,

accounting for schedule changes and unplanned activities. The references used during this review are listed in the attachment to this report.

2. Monitoring of Plant Shutdown and Cooldown Activities

The inspector reviewed Entergy's action to shut the plant down in accordance with procedures 2.1.14, "Station Power Changes," and 2.1.5, "Controlled Shutdown from Power," 2.2.19.1, "Residual Heat Removal-Shutdown Cooling Mode of Operation," and 2.2.85, "Augmented Fuel Pool Cooling". Portions of various activities to place the plant in a cold shutdown condition and on shutdown cooling were observed by the inspector to assess operator performance, communications, command and control and procedure adherence. The inspector reviewed the reactor vessel cool down rate, recorded per OPER-07 and 2.1.7, "Vessel Heat up and cool down," to determine whether it was within technical specification requirements. Other references used are listed in the attachment to this report.

The inspector also conducted inspection walkdowns of plant areas not normally accessible during plant power operations (drywell, condenser bay, and main steam tunnel) to verify the integrity of structures, piping and supports, and to confirm systems appeared functional.

3. Fuel Shuffle Activities and Reactivity Control

The inspector reviewed refueling activities to determine whether they were conducted in accordance with the technical specifications and procedure 4.3, "Fuel Handling". The inspector independently reviewed, on a sampling basis, core alteration activities. The inspector observed core alterations to assess whether core reactivity was properly controlled. The inspector observed activities from the control room and the refueling floor at various times. The inspector determined whether the location of fuel and core components was tracked in accordance with the fuel movement schedule. The inspector reviewed Entergy's actions to meet the requirements of Technical Specification 3.10 for core alterations, including the requirements for core monitoring using the source range monitors and the functional checks of the refueling interlocks. The inspector reviewed Entergy's use of and technical bases for alternate core quadrant definitions as described in procedure 4.3. The inspector observed communications and the coordination of activities between the control room and the refueling floor while fuel handling activities were in progress. The inspector independently reviewed Entergy's action to verify the proper core loading per procedure 4.5. Other references used during this review are described in the attachment to this report.

4. Control of Outage Activities

Outage Risk

The inspectors performed routine daily checks of the outage risk profile and determined whether Entergy maintained defense-in-depth for the key safety functions

commensurate with the outage risk control plan and that control room operators were kept cognizant of the plant configuration.

Clearance Activities

The inspectors reviewed a sample of risk significant clearance activities to verify whether tags were properly hung and/or removed, equipment was appropriately configured per the clearance requirement, and that the clearance did not impact equipment credited to meet the shutdown critical safety functions.

- RBCCW system clearances: 30-0002, 29-0001-G, 30-0009-C

Inventory Control

The inspector reviewed Entergy's actions to establish, monitor and maintain the proper water inventory in the reactor during the outage, and in the reactor and spent fuel pool after flooding the reactor cavity for refueling activities. The inspector reviewed the plant system flow paths and configurations established for reactor makeup and determined whether the configurations were consistent with the outage plan. The inspector reviewed Entergy's evaluations and corrective actions related to Condition Report 200501535.

Foreign Material Exclusion

The inspector reviewed the implementation of Entergy's procedures for foreign material exclusion control (FME) for the open reactor vessel, reactor cavity and spent fuel pool. The inspector reviewed Entergy's actions to verify that FME issues were documented and resolved. References used for this review are described in the attachment to this report.

Electrical Power

The inspector evaluated the status of electrical systems to determine whether they met the technical specifications requirements and Entergy's outage risk control plan. The inspector reviewed the work plans for the switchyard during the A6 bus outage while the shutdown transformer and the station blackout diesel generator were unavailable.

Decay Heat Removal (DHR) System Monitoring

The inspector observed spent fuel pool (SFP) and reactor decay heat removal system status and operating parameters to determine whether the cooling systems operated properly. The review included periodic review of SFP & reactor cavity level, temperature, and RHR flow. The inspector conducted partial system walkdowns to determine whether the proper system configuration was established for alternate spent fuel pool cooling following an RHR train swap. The inspector also determined whether

procedures were in place to establish alternate decay heat removal systems (i.e. augmented fuel pool cooling) to recover from a loss of SFP cooling.

Containment Control

The inspector reviewed Entergy's activities during the outage to control primary and secondary containment and to clean and prepare the containment for closure prior to plant restart. The inspector performed a walkdown of the drywell prior to reactor startup to review cleanup and demobilization controls in areas where work was completed to assure that tools, materials and debris were removed. This review focused on the removal of debris which might impact the performance of the safety systems.

5. Monitoring Plant Startup, Heatup and Approach to Critical

The inspector observed operator performance during the plant startup activities during the period of May 8 through May 12, 2005. The inspection consisted of control room observations, plant walkdowns and a review of the operator logs, plant computer information, station procedures 2.1.1, "Startup from Shutdown," and 2.1.14, "Station Power Changes". The inspector observed the approach to critical on May 11, 2005. The inspector assessed whether Entergy met the Technical Specification requirements during heatup and startup activities. The inspector assessed whether Entergy met the Technical Specification requirements for compliance with the banked position withdrawal sequence (BPWS) and the rod worth minimizer.

The inspector reviewed plant restart activities in accordance with procedure 2.1.1 to determine whether, on a sampling basis, technical specifications, license conditions, and other requirements for mode changes were met. The inspector evaluated whether reactor coolant system (RCS) integrity was maintained throughout the restart process by periodically reviewing RCS leakage calculations and by review of systems that monitor conditions inside the containment.

The inspector reviewed the test results for the in-sequence shutdown margin determination to determine whether the calculated test results per 9.16.1, "In-Sequence Critical For Shutdown Margin Demonstration," met the technical specification requirements.

6. Problem Identification and Resolution

The inspectors reviewed condition reports to determine whether Entergy was identifying outage related issues and had entered them into the corrective action program. The inspectors reviewed a sample of the corrective actions to verify they were appropriate to resolve the issues. The references used in this review are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)a. Inspection Scope (6 samples)

The inspector observed and/or reviewed surveillance testing results to determine whether the test acceptance criteria was consistent with Technical Specifications and related Performance Indicators, that the test was performed in accordance with the written procedure, the test data was complete and met procedural requirements, and the components were capable of performing their intended safety functions. The inspection activity represented six samples:

- Procedure 8.10.1, Refueling Interlocks Functional Test, 4/20/05
- Procedure 3.M.3-24.16, "Quick look Operations Procedure," for static and dynamic testing of motor operated valve (MO) MO-1400-25A.
- Procedure 8.7.1.6, "Local Leak Rate Testing of the Main Steam Isolation Valves".
- Procedure 8.7.1.5, "Local Leak Rate Testing of Primary Containment Penetrations and Isolation Valves," for MO-1001-28A.
- Procedure 8.M.3-1, "Special Test for Automatic ECCS Load Sequencing of Diesels and Shutdown Transformer with Simulated Loss of Off-Site Power and Special Shutdown Transformer Load Test".
- 2.1.8.5 & 2.1.8.3, Class 1 Reactor Pressure Test, 5/9/05.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)a. Inspection Scope (1 sample)

The inspector reviewed temporary alteration 05-1-026, installed per procedure 3.M.2-40, "Refuel Outage Temporary Alteration Reactor Shutdown/Floodup Level Indicator". A walkdown was performed to determine whether temporary equipment was installed in accordance with the work instructions. The inspector reviewed applicable category A drawings to determine whether they were up-to-date with the temporary alteration. Alignment data for the temporary indicator and detector was reviewed to determine whether it was within the established acceptance criteria. The inspector observed the detector's response to actual reactor level changes.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

1EP2 Alert and Notification System (ANS) Testing (71114.02)a. Inspection Scope (1 sample)

An onsite review of Entergy's ANS was conducted to ensure prompt notification of the public for taking protective actions. During the inspection at Pilgrim, the inspector reviewed the test and maintenance documentation for the siren system. Condition reports (CRs) generated as a result of siren testing were reviewed for causes, trends and corrective actions. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 02, and the applicable planning standard, 10 CFR 50.47(b)(5) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation Testing (71114.03)1. Inspection Scope (1 sample)

A review of Pilgrim's ERO augmentation staffing requirements and the process for notifying the ERO was conducted to ensure the readiness of key staff for responding to an event and timely facility activation. The inspector reviewed procedures and CRs associated with the ERO notification system and process. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, and the applicable planning standard, 10 CFR 50.47(b)(2) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

2. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) Revision Review (71114.04)a. Inspection Scope (1 sample)

Prior to this inspection, the NRC had received and acknowledged the changes made to the Pilgrim Emergency Plan and implementing procedures. These changes were made by Entergy in accordance with 10 CFR 50.54(q), after Entergy had determined the change did not result in a decrease in effectiveness of the Plan and concluded that the changes continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR 50. The inspector conducted a sampling review of the changes which could potentially result in a decrease in effectiveness. This review does not constitute an

approval of the changes and, as such, the changes are subject to future NRC inspection. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 4, and the applicable requirements in 10 CFR 50.54(q) were used as reference criteria.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope (1 sample)

The inspector reviewed CRs initiated by Pilgrim from drills, tests, and audits and the associated corrective actions to determine the significance of the issues and to determine if repeat problems were occurring. A list of the CRs reviewed are contained in the attachment to this report. Also, the 2003 and 2004 audit reports were reviewed to assess Pilgrim's ability to identify issues, assess repetitive issues and the effectiveness of corrective actions through their independent audit process. This inspection was conducted according to NRC Inspection Procedure 71114, Attachment 05, and the applicable planning standard, 10 CFR 50.47(b)(14) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Control to Radiologically Significant Areas (71121.01)

3. On-site Inspection dates April 25 - 29, 2005

a. Inspection Scope (7 samples)

The inspector reviewed radiological work activities and practices and procedural implementation during observations and tours of the facilities and inspected procedures, records, and other program documents to evaluate the effectiveness of Pilgrim's access controls to radiologically significant areas. This inspection activity represents the completion of seven samples relative to this inspection area (i.e., inspection procedure sections 02.02.a thru d and 02.04.a thru c) in partial fulfillment of the annual inspection requirements.

Plant Walkdowns and RWP Reviews (02.02.a thru d)

During the inspection week of April 25, 2005, the Pilgrim plant was in the middle of a scheduled refueling outage. The inspector reviewed the work activities taking place in the radiologically controlled area to identify any exposure significant work areas within radiation areas, high radiation areas (<1 Roentgen/hour), or airborne radioactivity areas in the plant. For selected exposure significant work areas, the inspector reviewed associated controls and surveys of those areas to determine if controls (e.g., surveys, postings, barricades) were acceptable. When possible, the inspector, with a survey instrument, walked down those areas or their perimeters to determine whether prescribed radiation work permits (RWPs), procedures, and engineering controls were in place, whether surveys and postings were complete and accurate, and whether air samplers were properly located. The inspector reviewed the radiation work permits (RWPs)(as listed in the List of Documents Reviewed section) used to access these and other high radiation areas and identified what work control instructions or control barriers had been specified. The inspector reviewed electronic-personal-dosimeter (EPD) alarm set points (both for the integrated dose and for the dose rate) for conformity with survey indications and plant policy. The inspector contacted workers to determine whether they knew what actions were required when their EPD noticeably malfunctions or alarms. Also, the inspector reviewed radiation work permits (RWPs) to identify any airborne radioactivity areas with the potential for individual worker internal exposures of greater than 50 millirems (committed effective dose equivalent). The inspector focused on work areas with a history of, or the potential for, airborne transuranic radioactivity.

Job-In-Progress Reviews (02.04.a thru c)

During the inspection week of April 25, 2005, the inspector reviewed and observed work activities on several radiation work permits (RWPs) including Numbers 05-0054, 05-0071, 05-0080, 05-0082, and 05-0101 (as listed in the List of Documents Reviewed section). The inspector reviewed all radiological job requirements (RWP requirements and work procedure requirements) and attended the RWP pre-job briefing on April 26, 2005 for the dryer weld repair work. During these reviews, the inspector determined whether the radiological conditions in the work area were being adequately communicated to workers through briefings and postings. The inspector reviewed radiological controls including surveys, radiation protection job coverage, contamination controls, and consideration of dosimetry in high radiation work areas with significant dose rate gradients to determine whether they were adequate.

Related Activities

During the inspection week of April 25, 2005, the inspector observed Radiologically-Controlled Area (RCA) entries and exits being made by radiation workers at the primary RCA access control point to determine whether they complied with requirements for RCA entry and exit, wearing of record dosimetry, and issuance and use of alarming electronic radiation dosimeters. The inspector toured various

elevations in the drywell and reactor building during this refueling outage to determine whether the radiological controls being implemented were adequate. The inspector reviewed observed work activities for compliance with the radiation work permit (RWP) requirements. During these observations and tours the inspector reviewed, for regulatory compliance, the posting, labeling, barricading, and level of radiological access control for locked high radiation areas (LHRAs), high radiation areas (HRAs), radiation and contamination areas, and radioactive material areas.

The inspector performed a selective examination of documents (as listed in the List of Documents Reviewed section) to evaluate the adequacy of radiological controls. The review in this area was against criteria contained in 10 CFR 19.12, 10 CFR 20 (Subparts D, F, G, H, I, and J), Technical Specifications, and procedures.

Identification and Resolution of Problems

During the inspection week of April 25, 2005, the inspector selected fourteen issues/condition reports (CRs) identified in the Corrective Action Program (CAP) for detailed review (i.e., CR-PNP-2004-02331, -03585, and -03625 and CR-PNP-2005-00086, -00810, -00853, -00857, -00930, -01318, -01351, -01367, -01370, -01627, and -01778). The documented reports for the issues were reviewed to determine whether the full extent of the issues were identified, appropriate evaluations were performed, and appropriate corrective actions were specified and prioritized.

b. Findings

No findings of significance were identified.

4. On-site Inspection dates June 13 - 16, 2005

a. Inspection Scope (7 samples)

The inspector reviewed radiological work activities and practices and procedural implementation during observations and tours of the facilities and inspected procedures, records, and other program documents to evaluate the effectiveness of Pilgrim's access controls to radiologically significant areas. This inspection activity represents the completion of seven samples relative to this inspection area (i.e., inspection procedure sections 02.02.f, 02.03.a thru d, and 02.05.a and b) in partial fulfillment of the annual inspection requirements.

Plant Walk Downs and RWP Reviews (02.02.f)

During the inspection week of June 13, 2005, the inspector examined Entergy's physical and programmatic controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools.

Problem Identification and Resolution (02.03.a, b, c, and d)

During the inspection week of June 13, 2005, the inspector reviewed Entergy's self-assessment activities for any results related to the access control program since the last inspection. The intent of this review was to determine if identified problems are entered into the corrective action program for resolution. The inspector also reviewed corrective action reports related to access controls and included in this review any high radiation area radiological events that have occurred since the last inspection in this area. The inspector selected eight CRs identified in the CAP for detailed review (i.e., CR-PNP-2005-02021, -02151, -02175, -02205, -02221, -02793, -02796, -02903). The inspector discussed the corrective action reports with several members of the radiological protection staff to determine whether the follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk. There were no self-assessments, conducted since the last inspection, which covered health physics access controls directly. Also, there were no Entergy Performance Indicator events or documentation packages for the Occupational Exposure Cornerstone which required review.

High Risk Significant, High Dose Rate HRA and VHRA Controls (02.05.a and b)

During the inspection on the week of June 13, 2005, the inspector met at various times with several radiation protection supervisors and discussed the controls and procedures for high-dose-rate high radiation areas (HRAs) and for very high radiation areas (VHRAs). The inspector reviewed the subject procedures (as listed in the List of Documents Reviewed section) to determine whether the level of worker protection was adequate.

Related Activities

The inspector performed a selective examination of documents (as listed in the List of Documents Reviewed section) to evaluate the adequacy of radiological controls. The review in this area was against criteria contained in 10 CFR 19.12, 10 CFR 20 (Subparts D, F, G, H, I, and J), Technical Specifications, and Entergy's procedures.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02)

5. On-site Inspection dates April 25 - 29, 2005

a. Inspection Scope (3 samples)

The inspector reviewed the effectiveness of Entergy's program to maintain occupational radiation exposure as low as is reasonably achievable (ALARA). This

inspection activity represents the completion of three samples relative to this inspection area (i.e., inspection procedure sections 02.01.b, 02.03.b, and 02.04.a.1) in partial fulfillment of the biennial inspection requirements.

Inspection Planning (02.01.b)

During the inspection week of April 25, 2005, the inspector reviewed the work being conducted during the current refueling outage (RFO 15). The inspector examined the outage work scheduled during this inspection period and the associated work activity exposure estimates and the historical work activity data. The inspector selected work activities which were likely to result in the highest personnel collective exposures. The selected work activities/RWPs are described in the List of Documents Reviewed section.

Verification of Dose Estimates and Exposure Tracking Systems (02.03.b)

The inspector reviewed, during the inspection week of April 25, 2005, Entergy's method for adjusting exposure estimates, or replanning work, when unexpected changes in scope or emergent work were encountered. The dryer repair evolution involving diving in the separator/dryer pool was an example of significant emergent work during this outage. The inspector reviewed in-progress ALARA reviews for RWPs 05-0054, -0080, -0082, -0099, and -0101 (as listed in the List of Documents Reviewed section) to determine whether adjustments to estimated exposure (intended dose) were based on sound radiation protection and ALARA principles and not just adjusted to account for failures to control the work.

Job Site Inspections and ALARA Control (02.04.a.1)

Based on scheduled work activities during the inspection week of April 25, 2005 and the associated exposure estimates, the inspector selected work activities in radiation areas, airborne radioactivity areas, or high radiation areas for observation. The inspector concentrated on work activities that presented the greatest radiological risk to workers, for example, the work that was estimated to result in the highest collective doses, the diving activities to repair the dryer tie-rods, and the under vessel work. The inspector evaluated Entergy's use of ALARA controls for these work activities. The inspector accomplished this by evaluating Entergy's use of engineering controls to achieve dose reductions and whether the procedures and controls were consistent with Entergy's ALARA reviews.

Related Activities

On April 26, 2005, the inspector observed a pre-job radiological briefing for the diving evolution to repair the dryer in the separator/dryer pool on the refueling floor of the reactor building. This briefing included a detailed discussion of the ALARA recommendations. On April 27, the inspector attended a site ALARA committee meeting which addressed the dryer repair work activity for which the dose estimate

was greater than one person-rem. The inspector also noted that the actual outage dose to date was tracking slightly below the estimated outage dose to date.

The inspector performed a selective examination of documents (as listed in the List of Documents Reviewed section) for regulatory compliance and for adequacy of control of radiation exposure. The review was against criteria contained in 10 CFR 20.1101 (Radiation protection programs), 10 CFR 20.1701 (Use of process or other engineering controls), and procedures.

b. Findings

No findings of significance were identified.

6. On-site Inspection dated June 16 - 19, 2005

a. Inspection Scope (3 samples)

The inspector reviewed the effectiveness of Entergy's program to maintain occupational radiation exposure as low as is reasonably achievable (ALARA). This inspection activity represents the completion of three samples relative to this inspection area (i.e., inspection procedure sections 02.02.a, b, and c) in partial fulfillment of the biennial inspection requirements.

Radiological Work Planning (02.02.a, b, and c)

During the inspection on the week of June 13, 2005, the inspector obtained from Entergy a list of work activities ranked by actual/estimated exposure that had been completed during the outage of earlier this year (refueling outage 15) and selected the three work activities/radiation work permits (RWPs) of highest exposure significance. These RWPs involved work activities connected with in-service inspection of reactor vessel nozzles in the drywell, with electrical work on motor-operated valves in the drywell, and with work activities on the refuel floor connected with reactor disassembly and reassembly. The inspector reviewed the ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements to determine whether Entergy had established procedures, engineering and work controls, based on sound radiation protection principles, to achieve occupational exposures that were ALARA. The inspector also reviewed to determine whether Entergy had reasonably grouped the radiological work into work activities, based on historical precedence, industry norms, and/or special circumstances. The inspector compared the results achieved (dose rate reductions, person-rem used) with the intended dose established in Entergy's ALARA planning for these work activities. The inspector reviewed the reasons for any inconsistencies between intended and actual work activity doses.

Related Activities

The inspector performed a selective examination of documents (as listed in the List of Documents Reviewed section) for regulatory compliance and for adequacy of control of radiation exposure. The review was against criteria contained in 10 CFR 20.1101 (Radiation protection programs), 10 CFR 20.1701 (Use of process or other engineering controls), and Entergy's procedures.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

1. On-site Inspection dates April 25 - 29, 2005

a. Inspection Scope (2 samples)

The inspector reviewed the program for health physics instrumentation to determine the accuracy and operability of the instrumentation. This inspection activity represents the completion of two samples relative to this inspection area (i.e., inspection procedure sections 02.04.b and c) in partial fulfillment of the biennial inspection requirements.

Problem Identification and Resolution (02.04.b and c)

During the inspection week of April 25, 2005, the inspector reviewed corrective action program reports related to exposure significant radiological incidents that involved radiation monitoring instrument deficiencies since the last inspection in this area. During this review, the inspector looked at activities such as problem identification, characterization, tracking, and the identification and implementation of corrective actions which would achieve lasting results. The inspector performed this examination to determine if those activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk. There were no recent self-assessment activities which addressed radiation monitoring instrument deficiencies.

Related Activities

During the tours of the drywell and reactor conducted during this inspection week of April 25, 2005, the inspector examined the calibration status and operability of selected radiation protection equipment in use in the plant. Also, the inspector performed a selective examination of documents (as listed in the List of Documents Reviewed section) for regulatory compliance and adequacy in this area. The review was against criteria contained in 10 CFR 20.1501, 10 CFR 20 Subpart H, Technical Specifications, and procedures.

b. Findings

No findings of significance were identified.

2. On-site Inspection June 13 - 16, 2005

a. Inspection Scope (2 samples)

The inspector reviewed the program for health physics instrumentation and protective equipment to determine the accuracy and operability of the instrumentation and of the equipment. This inspection activity represents the completion of two samples relative to this inspection area (i.e., inspection procedure sections 02.06.a and b) in complete fulfillment of the biennial inspection requirements.

Self-Contained Breathing Apparatus (SCBA) Maintenance and User Training (02.06.a and b)

During the inspection on the week of June 13, 2005, the inspector reviewed the status and surveillance records of SCBA staged and ready for use in the plant against procedural requirements. The inspector also examined Entergy's capability for refilling and transporting SCBA air bottles to and from the control room and operations support center during emergency conditions. Additionally, the inspector evaluated whether control room operators and other emergency response and radiation protection personnel were trained and qualified in the use of SCBA (including personal bottle change-out). Additionally, the inspector reviewed whether only personnel who possess manufacturer-certified training/qualifications were allowed to perform maintenance and repairs on SCBA components vital to the unit's function. Entergy stated that all maintenance and repairs on SCBA components vital to the unit's function were performed by a vendor. Entergy provided documentation from the SCBA manufacturer stating that the subject vendor was an authorized distributor and service center for their SCBAs. The inspector reviewed available vital component maintenance records for three SCBA units currently designated as "ready for service." Also, the inspector reviewed the records used to ensure that the required, periodic air cylinder hydrostatic testing was documented and up to date and that the DOT-required-retest air cylinder markings were in place.

Related Activities

During the tours of the reactor and radioactive waste buildings conducted during the inspection week of June 13, 2005, the inspector examined the calibration status and operability of selected radiation protection equipment in use in the plant. Also, the inspector performed a selective examination of documents (as listed in the List of Documents Reviewed section) for regulatory compliance and adequacy in this area. The review was against criteria contained in 10 CFR 20.1501, 10 CFR 20 Subpart H, Technical Specifications, and Entergy's procedures.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator (PI) Verification (71151)

a. Inspection Scope (3 samples)

The inspector reviewed Entergy's procedure for developing the data for the EP PIs which are: (1) Drill and Exercise Performance (DEP); (2) ERO Drill Participation; and (3) ANS Reliability. The inspector also reviewed Entergy's drill/exercise reports, training records and ANS testing data to verify the accuracy of the reported data. Data generated since the April 2004 EP PI verification was reviewed during this inspection. Therefore, data from the second, third and fourth quarters of 2004 and the first quarter of 2005 were reviewed. The review was conducted in accordance with NRC Inspection Procedure 71151. The acceptance criteria used for the review were 10 CFR 50.9 and NEI 99-02, Revision 1, Regulation Assessment Performance Indicator Guideline.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

1. Routine Review of Corrective Action Program Issues

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspector performed a screening of each item entered into Entergy's corrective action program. This review was accomplished by reviewing printouts of each condition report, attending daily screening meetings and/or accessing Entergy's database. The purpose of this review was to identify conditions such as repetitive equipment failures or human performance issues that might warrant additional follow-up.

b. Findings

No findings of significance were identified.

2. Corrective Action Program Semi-annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspector performed the semi-annual trend review to identify trends, either Entergy or NRC identified, that might indicate the existence of a more significant safety issue. Included within the scope of this review were condition reports from June 2004 - June 2005, the 3rd and 4th quarter 2004 corrective action trend reports, and the daily plant status report listings of operations equipment problems, operability evaluations, and temporary alterations.

b. Findings

No findings of significance were identified. No trends were noted which suggests the presence of a more significant safety issue. The majority of the repetitive issues / trends identified by the inspector had also been recognized by Entergy and were captured in adverse trend CRs, including an emerging adverse trend in emergency diesel generator performance (CR 2005-1058) that is currently being evaluated by Entergy. Two trends noted by the inspector not captured in an adverse trend CR were related to tracking and maintaining current required personnel qualifications and observing scaffolding requirements.

4OA3 Event Follow-up (71153)

1. Licensee Event Report Review and Closeout (2 samples)

- a. (Closed) LER 05000293/2005-01, High Pressure Coolant Injection System Inoperable due to Fuse Failure in Valve Control Circuit. The inspector reviewed Entergy's actions associated with Licensee Event Report (LER) 50-293/2005-01. Entergy's actions were addressed in the corrective action program as Condition Report 20050517. This event was similar to the events reported in LERs 2004-02 and 2002-01. The event was also described in NRC Report 2005-006 for which a Green NCV was identified. The inspector reviewed Entergy's actions to inspect and replace potentially susceptible fuses of the type caused the event. The LER provided an accurate description of the event and followup actions, taken or planned, were appropriate to address the event cause. This LER is closed.
- b. (Closed) LER 05000293/2005-02, One Less Than the Technical Specification Required Minimum Number of Operable Drywell Pressure Channels due to Licensed Operator Error. The inspector reviewed Entergy's actions associated with Licensee Event Report (LER) 50-293/2005-02. Entergy's actions were addressed in the corrective action program as Condition Reports 2005-1439 and 200502800. The inspector reviewed actions to restore the channel to an operable status, assure other channels remained operable, and to address human performance errors. The LER provided an accurate description of the event and followup actions, taken or planned,

were appropriate to address the event cause. This licensee identified finding involved a violation of TS 3.2.B "Instrumentation that Initiates or Control the Core and Containment Cooling Systems." The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

4OA5 Other

1. TI 2515/163, Operational Readiness of Offsite Power

The inspector performed Temporary Instruction 2515/163, "Operational Readiness of Offsite Power." The inspector collected and reviewed Entergy's procedures and supporting information pertaining to the offsite power system specifically relating to the areas of offsite power operability, the maintenance rule (10 CFR 50.65), and the station blackout rule (10 CFR 50.63). The inspector reviewed Entergy's training in the procedures related to offsite power and observed a joint training session between the Pilgrim Station and the Transmission System operators on June 8, 2005. The inspector reviewed this data against the requirements of 10 CFR 50.63; 10 CFR 50.65; 10 CFR 50 Appendix A General Design Criterion 17, Electric Power Systems; and Plant Technical Specifications. This information was forwarded to NRR for further review.

2. TI 2515/161 - Transportation of reactor control rod drives in Type A packages

During the inspection week of June 13, 2005, this area was inspected to verify that Entergy's radioactive material transportation program complied with specific requirements of 10 CFR Parts 20 and 71, and Department of Transportation (DOT) regulations contained in 49 CFR Part 173. The inspector interviewed Entergy personnel and determined that entergy had undergone refueling/defueling activities twice since January 1, 2002. Entergy made five shipments of reactor control rod drives in Department of Transportation Specification 7A Type A packages during this time period. The inspector reviewed the documentation for each of these shipments. No findings of significance were identified.

3. Closed URI 05000293/2004005-02: Operator Inattentiveness in the Control Room

In a letter (ADAMS accession number: ml051960068) dated July 14, 2005, the NRC issued a Severity Level III Notice of Violation and Proposed Imposition of Civil Penalty to Entergy in the base amount of \$60,000 associated with a Severity Level III problem. The Severity Level III problem involved four violations of NRC requirements related to Technical Specification 5.4.1, 10 CFR Part 50 Appendix B, and 10 CFR Part 26. The specific violations involved: (1) a Pilgrim control room supervisor sleeping for approximately four minutes in the control room and therefore being neither alert or attentive to his duties; (2) a reactor operator observing the sleeping control room supervisor, but deliberately not taking immediate actions to awaken the control room supervisor, inform appropriate site personnel and initiate a condition report; (3) a Shift Manager, in careless disregard of requirements, although taking some actions, not

informing appropriate site personnel and initiating a condition report; and (4) the sleeping control room supervisor not being relieved of duty and for-cause Fitness-for-Duty tested. **VIO 05000293/2005003-002, Inattentive Control Room Supervisor with Wilfull Inappropriate Response by Other Control Room Licensed Staff .** There were no actual safety consequences resulting from this event because there were no plant conditions that warranted immediate action.

This Severity Level III Notice of violation closes out the unresolved item (URI 05000293/2004005-02) associated with operator Inattentiveness in the control room.

4. Review of Third Party Assessment Reports

The inspector reviewed the results of the Pilgrim Plant Evaluation conducted by the World Association of Nuclear Operators (WANO) in February 2005. The inspector noted that the WANO assessment results were consistent with the NRC's assessment of Pilgrim activities.

4OA6 Meetings, Including Exit

On April 29, 2005, the inspector presented the inspection results to Mr. P. Dietrich, General Manager-Plant Operations, and other members of his staff who acknowledged the inspection results.

On June 13, 2005, the inspector presented the inspection results to Mr. S. Bethay, Safety Assessment Director, and other members of the site staff who acknowledged the inspection results.

On June 23, 2005, the inspectors presented the inspection results to Mr. Robert Smith, Engineering Director, and other members of Entergy management who acknowledged the inspection results and confirmed the information reviewed by the inspectors was not considered proprietary.

On June 24, 2005, the inspector presented the inspection results to Mr. Brian Ford, Licensing Manager, and other members of his staff. Entergy had no objections to the NRC's observations. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On July 7, 2005, the inspector presented the inspection results to Mr. T. Kirwin, Plant Production Manager, and other members of the site staff who acknowledged the inspection results. The inspector confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by Entergy and are a violation of NRC requirements which met the criteria of Section VI

of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a Non-Cited Violation.

1. Technical Specification (TS) 3.2.B requires two operable instrument channels per trip system of drywell pressure instrumentation that initiate the core and containment cooling system. If one channel of a trip system is inoperable, then the TS requires Entergy to repair the trip system or place the reactor in a Cold Shutdown Condition within 24 hours after this trip system is made or found to be inoperable. Contrary to the above during plant operations at 87% full power on April 14, 2005, a licensed operator made drywell pressure transmitter PT-1001-89B inoperable when he inadvertently closed its isolation valve during a valving operation on the CRD backfill system. This caused one of the two division B drywell pressure instrument channels to be inoperable. On April 16, Entergy restored PT-1001-89B to an operable condition. PT-1001-89B was out of service for a total of 49 hours and the reactor was not placed in a cold shutdown condition within 24 hours after the pressure instrument channel was made inoperable. This finding is of very low safety significance because during the time PT-1001-89B was isolated, the other drywell pressure instruments were operable and would have actuated the emergency core cooling, containment isolation and diesel generator initiation circuits in response to a high drywell pressure condition. Entergy documented this issue in the corrective action program in CRs 200501439 and 200502800.
2. Technical Specification 5.4.1 requires written procedures be established and implemented. Contrary to the above on June 1, 2005, Entergy's procedure for calibrating emergency diesel generator (EDG) B control relays were not adequately established and implemented and resulted in a wiring error on a capacitor in the monitoring circuit for Breaker 52-609, that impacted the availability of the EDG. The calibration procedure, 3.M.3-1, did not refer to the capacitor even though it had to be removed to bench calibrate the relay. Work practices were inadequate because procedure 3.M.3-51 was not used to document lifting the capacitor leads. The faulty wiring was not identified due to an inadequate post-maintenance testing. Entergy discovered the error during EDG surveillance testing on June 27, 2005, and required additional EDG unavailability time to repair the wiring error. This finding is of very low safety significance because the error affected the alarm circuit only and there was no impact on EDG function. Entergy documented this issue in the corrective action program in CR 200503183.
3. Technical Specification 5.4.1 requires in part that written procedures be established and implemented covering the activities recommended in Regulatory Guide 1.33, Revision 2. Contrary to the above, on October 22, 2004, Entergy found valve 30-HO-43 one-quarter turn open vs closed, as required by procedure 2.2.30, "Reactor Building Closed Cooling Water (RBCCW) System." The incorrect RBCCW valve position resulted in a 3 gallon per minute leak thru vent valve 30-HO-43 and the A train of RBCCW to be inoperable for approximately 15 hours until the vent valve was closed. The train was inoperable because of the inability to fulfill its thirty-day mission time without the need to refill the expansion tank. The finding is of very low safety significance because the condition did not exceed half of the allowable Limiting

Condition for Operation (LCO) time. Entergy documented this issue in the corrective action program in CR 200503265.

4. Technical Specification 5.4.1 requires in part that written procedures be established and implemented covering the activities recommended in Regulatory Guide 1.33, Revision 2. Contrary to the above, on March 28, 2005, Entergy personnel did not follow procedure 8.7.1.19, "Pressure Drop Test of Air Supply for Standby Gas Treatment (SBGT) System Dampers." Specifically, Entergy personnel did not make periodic projections to predict whether the final leak rate results would be acceptable nor did they calculate the final results and compare them to the acceptance criteria prior to securing from Attachment 1 of the test. As a result, Entergy did not recognize on March 28 that the B train of SBGT was inoperable due to air system leakage. Entergy recognized on March 29 that the B train was inoperable. Entry into a Limiting Condition for Operation (LCO) and mitigative actions to place the system in a fail-safe configuration were therefore unnecessarily delayed. The finding is of very low safety significance because the condition did not exceed half of the allowable LCO time. Entergy documented this issue in the corrective action program in CR 200501130.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION**KEY POINTS OF CONTACT**Entergy personnel:

M. Balduzzi	Site Vice President
S. Bethay	Nuclear Assessment Director
P. Dietrich	Plant Manager
J. Detwiler	Radiation Protection Technician
R. Emmitt	Radiation Protection Specialist (Support)
B. Ford	Licensing Manager
L. Foreaker	Radiological Instruments Supervisor
W. Grieves	Quality Assurance Superintendent
T. Kirwin	Plant Production Manager
K. Larson-Sullivan	Sr. Emergency Planner
B. McDonald	Radiation Protection Specialist (Support)
P. McNulty	Radiation Protection Manager
B. Reynolds	Administrative Specialist
E. Salomon	Sr. Emergency Planner
L. Seehaus	Radiation Protection Technician
T. Sowdon	Emergency Planning Manager
B. Sullivan	Operations Superintendent
P. Sullivan	Sr. Emergency Planner
T. Tetzlaff	Radiation Protection Supervisor
J. Veglia	Programs & Components Manager
T. White	Design Control Manager
S. Wilson	Facilities and Equipment Specialist
G. Zavaski	Radiation Protection Specialist (Projects)
R. Blagborough	Senior Engineer
T. Collis	System Engineer
S. Das	Senior Lead Engineer
J. Falconieri	Senior Engineer
H. Goettsch	Senior Component Engineer
J. Keen	System Engineer
D. Mahesh	Senior Component Engineer
D. Sitkowski	Senior Engineer
R. Smith	Engineering Director
D. Titus	Senior Engineer
J. Yingling	Senior Engineer
D. Young	Senior Engineer
S. Woods	Structural Engineer

LIST OF ITEMS OPENED, CLOSED AND DISCUSSEDOpened

05000293/2005003-01	URI	Adequacy of Entergy's Change to LOP/LOCA Testing Without Seeking a TS Amendment. (Section 1R02)
05000293/2005003-002	VIO	Inattentive Control Room Supervisor with Willful Inappropriate Response by Other Control Room Licensed Staff .

Closed

05000293/2004005-02	URI	Operator Inattentiveness in the Control Room
05000293/2005-01	LER	High Pressure Coolant Injection System Inoperable due to Fuse Failure in Valve Control Circuit.
05000293/2005-02	LER	One Less Than the Technical Specification Required Minimum Number of Operable Drywell Pressure Channels due to Licensed Operator Error

LIST OF DOCUMENTS REVIEWED**References for Sections 1R02 and 1R17**10 CFR 50.59 Applicability Determinations

SEE 1083, Safety Relief Valve O-Ring Seat Equivalency Evaluation, dated 7/17/03
PDC 03-51, 480 VAC Power from B35 Made Permanent, dated 7/23/03

10 CFR 50.59 Screened-out Evaluations

PDC 03-101, Replacement motor for Control Room Recirc Fan, VRF-101B
PDC 03-58, Replace Unit Auxiliary Transformer
PDC 03-090, ATWS Power Supply PS1A Replacement
ER 03105182, EDG, Install Load Shed Switches C6, B17, B18
PDC 03-76, Reactor Recirc Pump Leak Sealant Injection
SEE 1130, Equivalency Evaluation for UPS B44 AC Voltmeter (UPS Output) Selector Switch
Electro Switch Model PR10-910C8-6, Rev. 0
SEE 1030, Equivalency Evaluation for ASCO Solenoid Valve NP 831664E, Rev. 0
TA 04-1-032, Mechanical Gag to Open Reactor Building Exhaust Backdraft Dampers
SEE 1124, Lower Diaphragm Plate (Button), HCU Scram Actuators, P/N 213A8821P35 or
80025A (Scram Isolation Valves), Rev. 0
8.M.3-1, Special Test for Automatic ECCS Load Sequencing of Diesels and Shutdown
Transformer with Simulated Loss of Offsite Power and Special Shutdown Transformer
Load Test, dated 3/10/05
ER 03114086, MOV Modifications, Rev. 0

PDC 03-059, Modification of Supports on the "A" EDG Air Start 2" Piping at Valves SV-4586 A/B, dated 7/18/03
New Procedure 7.4.64, Process Radiation Monitor Alarm Response, Rev. 0

Audits and Self-Assessments

Assessment Report, Assess the Quality of the Plant Design Changes, Temporary Modification and Alteration Process at Pilgrim Station, dated 8/15/03

Calculations

PS79, Emergency Diesel Generator Loading, Rev. 5
PS234, Calculations - Scenarios & Load Categories, dated 8/25/99
PS95, Change No. 5, Rev. 2, dated 8/7/03
PS65, Change No. PS65-1-14, Rev. 1, dated 8/25/03
PS65A, Change No. PS65A-0-19, Rev. 0, dated 8/25/03
Calculation No. M1265, Effect of the Removal of the Biological Shield Blocks on the Containment Temperatures, Rev. 0
PNPS-1-ERHS-XXII.A-2, Radiological of a Design Basis Fuel Handling Accident Using the Alternate Source Term, Rev. 1

Completed Surveillances

Procedure No. 8.E.29.1, Salt Service Water (SSW) Instrumentation Calibration and Functional Test, Attachment 2 & 4, dated 9/10/03
Procedure No. 8.E.29.1, Salt Service Water (SSW) Instrumentation Calibration and Functional Test, Attachment 4, dated 10/12/04
Procedure No. 8.E.30.1, Closed Cooling Water System (CCWS) Instrumentation Calibration and Functional Test, Attachment 1, dated 7/16/03
Procedure No. 3.M.3-47, Load Shed Relay Operational/Functional Test, Attachment 2, dated 10/18/03
Procedure No. 8.M.3-1, Special Test for Automatic ECCS Load Sequencing of Diesels and Shutdown Transformer with Simulated Loss of Offsite Power and Special Shutdown Transformer Load Test, dated 5/9/03 & 4/28/05
Procedure No. 3.M.3-47.2, "B" Train Functional Test of Individual Load Shed Components, Attachment 8-9-10, dated 6/11/03
Procedure No. 3.M.3-47.2, "B" Train Functional Test of Individual Load Shed Components, Attachment 11, dated 10/7/03
Procedure No. 7.1.30, HEPA Filter and Charcoal Cell Performance Test Program, dated 8/11/04 & 9/24/04
Procedure No. 7.1.44, Sampling of Charcoal Cells in Standby Gas Treatment and Control Room Environmental Filters' Systems for Methyl Iodide Testing, dated 8/10/04 & 9/29/04
Procedure No. 8.7.2.7, Measure Flow and Pressure Drop Across Control Room High Efficiency Air Filtration System (CRHEAFS), dated 8/11/04 & 9/29/04
Procedure No. 8.5.3.2.1, Salt Service Water Pump Quarterly and Biennial (Comprehensive) Operability and Valve Operability Tests, dated 9/24/04

Corrective Action Reports

2003-00045	2004-00390	2004-02753	2005-03130
2003-02617	2004-00552	2004-02754	2005-03112
2003-02679	2004-00639	2004-02889	2005-03114
2003-03402	2004-00834	2004-03657	2005-03115
2003-03403	2004-00971	2004-03664	2005-03116
2003-03825	2004-01107	2004-03822	2005-03117
2004-00269	2004-01849	2005-00232	2005-03118
2004-00329	2004-02455	2005-03093	
2004-00352	2004-02484		

Drawings

E-18, Schematic Diagram Diesel Generator Load Shedding, Rev. E-18
 E-173, Schematic Diagram Cooling Water System Turbine Building, Rev. E-4
 E52A1, Outline and Dimension Salt Service Pump Motor, Rev. E2
 41100-0428, Schematic Drawing Diesel Generator Load Shedding, Rev. E18
 E176, Schematic Diagram - Reactor BLDG Closed Cooling Water System, Sh. 1, Rev. E8,
 A-14, Turbine Auxiliary & Control BLDG Service Area EL +37'-0", Rev. E7
 M8-4, Assembly Drawing Service Water Pump P208A, B, C, D, E; Rev. E19
 M8-27, Service Water Pump (P-208A-E) Motor Base, Rev. A

Evaluations

SEE 1089, Controlled Document Change Notice 03-1583
 SEE 718, Air Operated Manifold On Main Steam Isolation Valves, AO-203-1A, B, C & D
 SEE 1087, Rosemount Master Trip Units
 SEE-1092, Robertshaw Pressure Indicators PI-5001 A, B
 ER 03120866, Permanent Removal of Drywell Shield Blocks, Rev. 0
 SE 2619, Perform Patching and Painting on Panels and Consoles in Main Control
 Room During Power Operations, dated 7/26/91

Miscellaneous

Risk-Informed Inspection Notebook For Pilgrim Nuclear Power Station Unit 1, Rev. 1
 Regulatory Guide 1.186, Guidance and Examples for Identifying 10 CFR 50.2 Design Bases
 NEI 96-07, Guidelines For 10 CFR 50.59 Implementation, Rev. 1
 NEI 97-04, Design Basis Program Guidelines, Rev. 1
 SDBD-61, System Design Basis Document for the Emergency Diesel Generator (EDG) and
 Auxiliary Systems, Rev. E0, dated 10/18/00
 SBDB-30B, Design Basis Document for the Turbine Building Closed Cooling Water System,
 Rev. E0
 ER 03105182; Addition of Test Switches to Load Shed Relays 105XA1, 105XA2 & 105XB2
 ER 04114484; Reverse PDC 03-70 and Provide New Cable Types for Signal and HV Cables of
 RM-1705-3A
 A500024, Simulator Change Evaluation for ER 02116887, dated 5/9/05
 LCS Test Report 0100417; Automatic Valve, Vibration Test, Model B5140-202, dated 9/17/01
 Transformer Test Report No. R-3185, Replacement Unit Auxiliary Transformer, dated 8/11/03
 TR62729-05N, Dedication/Qualification Test Report Meter Device TS P/N 233-3265, Rev. 0

Supplier Design Document Review Form 9324-02, SUDDSRF #03-81 - Test of ATWS Power Supply, Rev. 1, dated 10/2/03
Modification Closeout Report, PDC 03-76, Reactor Recirc Pump Leak Sealant Injection Modification Closeout Report, PDC 03-021, Weld Repair and/or Epoxy Repair to TBCCW Heat Exchanger E-122A
Control Room Logs, dated 6/16/03 - 8/13/03
LI-101 50.59 Program Information update and Lessons Learned, dated 7/7/04
Entergy Letter No. 2.04.115, Proposed License Amendment for a Limited Scope Application of the Alternate Source Term (NUREG-1465) for Re-evaluation of the Fuel Handling Accident Dose Consequences, Rev.1, dated 12/15/04
RTYPE E2.15, Maintenance Rule SSC Basis Document Manual, Rev. 5

Modifications

PDC 03-058, Replace Unit Auxiliary Transformer
ER 02116887, Reduce EDG Loading During Load Shed
PDC 03-021, Weld Repair and/or Epoxy Repair to TBCCW Heat Exchanger E-122A
FRN 03-13-01, Allow Threaded Connections Associated with X-141 Seal Oil Unit (PDC 03-13, Replacement of Level Switch 63-L10)
PDC 02-44, Improving Performance of Control Room Envelope
FRN No. 99-01-10, Salt Service Water Pump/Motor Bases

Operating Experience

NRC Information Notice 98-22: Deficiencies Identified During NRC Design Inspections
GE Operating Experience Report (OER Ref. No. 1032), Biological Shield Plugs, dated 5/31/73
Entergy Response to NRC Information Notice 98-22, dated 6/25/98

Procedures

ENN-LI-100, Process Applicability Determination, Rev. 5
ENN-LI-101, 10CFR50.59 Review Process, Rev. 7
ENN-DC-102, Operating Plant Changes and Modification, Rev. 1
ENN-DC-103, Design Process, Rev. 1
ENN-DC-105, Configuration Management, Rev. 1
ENN-DC-115, ER Response Development, Rev. 4
ENN-DC-116, ER Response Installation, Rev. 4
ENN-DC-117, Post Modification Testing and Special Testing Instructions, Rev. 4
ENN-DC-118, ER Response Closure, Rev. 4
ENN-DC-121, Maintenance Rule, Rev. 2
ENN-DC-171, Maintenance Rule Monitoring, Rev. 2
Procedure No. 1.4.75, Infrequently Performed Tests and Evolutions, Rev. 0
Temporary Test Procedure No. TP04-011, Functional Test of Load Shed Modifications to TBCCW Pumps P-110A and B, completed 10/26/04.
Procedure No. 8.M.3-1, Special Test For Automatic Load Sequencing of Diesels And Shutdown Transformer With Simulated Loss of Off Site Power and Shutdown Transformer Load Test, completed 5/8/05
Procedure No. 8.E.30.1, Closed Cooling Water System (CCWS) Instrumentation Calibration And Functional Test, completed 7/22/03

Procedure No. 3.M.4-14.2, Salt Service Water Pumps Routine Maintenance, completed 9/22/04
Procedure No. 3.M.1-15, Vibration Monitoring for Preventive Maintenance and Balancing, completed 9/22/04
Procedure No. NE6.02; Control of Drawings, Sketches, and Data Sheets, Rev. 35
Procedure No. 7.4.64, Process Radiation Monitor Alarm Response, Rev. 0

Safety Evaluations

SE 3400, New APRM FCTR Setpoints For Stability Option 1-D
SE 3398, Incorporate the term Operation with the Potential To Drain the Reactor Vessel (OPDRV) in the UFSAR Section 1.2.
SE 3397, Cycle 15 Reload Core Design, Rev. 0
SE 3401, Evaluation to Identify The Design Basis for Salt Service Water Pump Intake Water Level Requirements to Ensure Adequate Protection of System Design Basis Requirements is Provided, Rev. 0
SE 3399, Permanent Removal of Drywell Shield Blocks, Rev. 0
SE 3397, Cycle 15 Reload Core Design with Revised Reference Loading Pattern, Rev. 1

Safety Review Committee (SRC) and On Site Review Committee (OSRC)

SRC OSRC Subcommittee Meeting Minutes dated 11/21/03, 2/12/04, 10/28/04, 4/12/05
OSRC Meeting Minutes dated 2/11/05, 4/4/05, 5/7/05

System Health Reports and Trending Data

Pilgrim Nuclear Power Station System Health Report, 4th Quarter 2004
EDG & Fuel Storage System Health Report, 4th Quarter 2004

Work Orders (MRs)

P9900631
02118469
03102361
03110734
03111257

References for Section 1R04

M241, Residual Heat Removal System, Sheet 1&2
2.2.19.1, Residual Heat Removal System - Shutdown Cooling Mode of Operation
M231, Fuel Pool Cooling & Demineralizer system,
2.2.85.1, Augmented Fuel Pool Cooling (With Shutdown Cooling) Mode 1
2.2.85.2, Augmented Fuel Pool Cooling (Without Shutdown Cooling) Mode 2
2.1.1, Startup From Shutdown
M242, Core Spray System
2.2.20, Core Spray System
M215, Reactor Building Closed Loop Cooling Water System, Sheets 1,2&3
2.2.30, Reactor Building Closed Loop Cooling Water System

References for Section 1R05

5.5.2, Special Fire Procedure

Pilgrim Nuclear Power Station Fire Hazards Analysis
 A319, Reactor & Turbine Building Floor Plan El. 51' - 0" & 74' - 3" Fire Barrier System

References for Section 1R08

PIL-R15-05-032, Examination summary sheet for UT of Merid Head Weld RPV-TH-M4 including sizing data and indication evaluation
 PIL-R15-05-033, Examination summary sheet fo UT of RPV-TH-M5 weld including sizing data and indication evaluation
 PIL-R15-05-001 UT Examination summary sheets (UT-011, 012, 023 and 024) for Vessel head to flange weld RPV-HF-240-360
 PIL-R15-05-001 Magnetic Particle examination report (MT-001) for RPV-HF-240-360
 IR 03-0145, Ultrasonic Examinations of the torus shell
 NDE-10.02 R0, VT-2 Examination of annulus drains (IWE exam)
 IR 03-0283, VT-3 Examination - IWE general visual walkdown
 VT-50-05001 thru VT-3, Examination of containment and support surfaces 50-05009
 05-M-307-ISI, MT examination of weld GB-14-VBWJ36A-1
 05-M-308-ISI, MT examination of weld GB-14-VBW36A-2
 05-M-323-ISI, MT examination of weld HL-23-4-1B
 UT-038, UT calibration and examination record for procedure TP04-032
 UT-039, UT calibration and examination record for procedure TP04-032
 UT-001, 002, UT calibration and examination record for procedure ENN-NDE-9.11 015 & 016
 UT-011, 012, UT calibration and examination record for procedure TP04-019 023 & 024
 2.1.8.7, ASME Visual Examination of Primary Containment
 ENN-NDE-9.31, Magnetic Particle Testing
 ENN-NDE-10.02 R0, VT-2 ASME Section XI VT-2 examination of components
 ENN-NDE-9.10 R0, UT of dissimilar metal piping welds (ASME XI)
 ENN-NDE-9.11 R0, Manual UT of RPV welds (ASME XI)
 TP04-014, In vessel Visual Inspection of BWR 3 RPV Internals
 MR 05108176, Replace socket weld B-11-79 in SBLC system
 ENN-DC-126, Evaluation of embedded flaw in N2F nozzle
 PNPS-21Q-310, Wall thickness evaluation for Recirc inlet nozzle N2 1272 Calculation for Recirc inlet nozzle N2
 CR-2005-01914, UT of socket weld revealed lack of fusion at weld root location
 CR-2005-01888, Jet Pump Wedges #16 and 17 are in the full down position
 CR-2005-01890, Metallic debris found in RPV annulus on shroud support ledge
 CR-2005-01608, Four tie bars at top of steam dryer noted to be cracked (3, 4, 5 and 9)
 CR-2005-01895, Nozzle N2G and N2J weld surface profile conditions
 CR-2005-01827, Nozzle N2G weld crown surface conditions
 CR-2005-01830, Nozzle N2J wall thickness and weld surface condition
 CR-2005-01837, Loose insulation during nozzle work inside the drywell
 CR-2005-01860, Unsecured insulation during drywell work
 CR-2005-01870, Indication in top head meridional weld RPV-TH-M4
 CR-2005-01871, Indication in top head meridional weld RPV-TH-M5
 CR-2003-01095, Reduced wall thickness identified at some locations of torus shell
 CR-2005-01368, Correction to frequency for refuel floor liner drains

CR-2005-01657, Reduced wall thickness measured on nozzle N2E
CR-2003-01618, IWE containment examination identified some coating failure
CR-2005-01980, Loose nuts/studs on pressure relief valves of personnel air lock
CR-2005-01916, Indication identified in N2F nozzle to safe end weld
CR-2005-02322, Socket weld B-11-79 requires additional evaluation
CR-2005-01770, UT thickness readings on 2R-N2G-1 noted two areas below min wall
INR 015-05-01 R1, Steam dryer tie bars 3, 4, 5 and 9
INR 015-05-02, Steam dryer leveling screws, comparison with exam in 2003
JXEF4-04 RA, Steam dryer repair instructions (tie bar replacement)
JXEF4-07 RB, Revised steam dryer repair instructions (tie bar replacement)
ENN-DC-115 R4, Process for development of engineering requests response
OEN-2005-00110, Tee quencher bolting, moisture separator and decon line leakage
NE15.14, IWE Containment Inspection Program

References for Section 1R11

LORT Training Module #O-RQ-06-02-102, Loss of Feed Water Heating Heater Tube Leak
Procedure 2.1.144, Degraded Voltage
Procedure 2.1.6, Reactor Trip
EOP-1, RPV Control
Procedure 2.4.150, Loss of Feedwater Heating
Procedure 2.2.152, Feedwater Heater, Extraction Steam, and Heater Drains
Procedure 2.1.14, Station Power Changes
Procedure 2.4.49, Feedwater Malfunction
2.4.16, Distribution Alignment Electrical system Malfunction

References for Section 1R15

OE and REO CR 200501136, Potential Safety Limit Violation for Analyzed Operational Occurrences (GE Part 21 Report SC05-03)
GE Part 21 Report SC05-03 dated March 29, 2005
Condition Report CR-WPO-2005-0071
Condition Reports 200503168, 200503140, 200503151
MR 05109337, Potential Fuse Failure Alarm During B EDG Test Run
Drawings 41100-0443, 41200-3127 and 41100-0427
Procedure 2.2.8, Standby AC Power Systems (Diesel Generators)
2.2.108, Diesel Generator Cooling and Ventilation System
Calculations M991, X-107A/B High Temperature Design Limit
Technical Specifications 3.5.F.1 and 3.9.B.3
UFSAR Sections 8.3 and 8.5
EN#41799, Both Emergency Diesel Generators Inoperable
10 CFR 50.72 (b)(3)

References for Section 1R16

Procedure 1.3.34.4, Compensatory Measures (CM)
Operator Compensatory Measure Log
CM Evaluation #314, 341, 342, 345, 349, 350, 351, 352, 354, 356, 357, 358, 359, 360, 361
Maintenance Request 04105084, Clean & Inspect ACB 102 Insulator Bushings
Condition Reports 200500826, 200501192, 200501482, 200502888, 200503034, 200503142

ENN-LI-100, Att 9.1, SE Screen for CM #349, 4/14/05
ENN-LI-101, Att 9.1, 5059 Screen for CM #349, 4/20/05

References for Section 1R20

3.M.1-45, Outage Shutdown Risk Assessment
RFO 15 Shutdown Risk Review Report
TP05-002, RFO15 Compensatory Measures
Power Maneuvering Plan PMP-MAN.C15-39
2.1.5, Controlled Shutdown from Power, Rev 89
2.2.19.1, Residual Heat Removal System - Shutdown Cooling Mode of Operation (Rev.13)
2.1.7, Vessel Heatup and Cooldown (Rev 46)
2.4.25, Loss of Shutdown Cooling (Rev 27)
2.2.93, Main Condenser Vacuum System, Rev 50
4.3, Fuel Handling, Rev 99
4.5, Reactor Core Fuel Verification, Rev 19
LCO-1-05-0044, Inoperable Rod Worth Minimizer
LCO-OUT-1-05-0014 and LCO-ACT-1-05-084 for Standby Liquid Control
LCO-OUT-1-05-0075 for Structural Integrity of Primary System Boundary
OPER-07, RPV metal Temperatures and Pressures, 4/18/05
OPER-13, Daily Refueling Checklist
OPER-14, Shift Refueling Checklist
OPER-25, Fuel Movement Within the Spent Fuel Pool Checklist
2.4.31, Reactor Basin an/or Spent Fuel Pool Draindown
2.2.85.1, Augmented Fuel Pool Cooling (With Shutdown Cooling) Mode 1 (Rev 6)
Technical Specification 3.10.A and 4.10 A, Refueling Interlocks
Technical Specification 3.10.B, Core Monitoring
UFSAR Section 7.5.4, Source Range Monitoring
UFSAR Section 7.6, Refueling Interlocks
INR RFO15-05-04 Foreign Material Indication Notification Report
Procedure 2.1.36, Object Retrieval from Reactor Cavity and Spent Fuel Pool
License Amendment No. 215, Alternate Source Term for Fuel Handling Accident, 4/28/05
NEA-03-052, Revised SRM Quadrant Definitions including Rotation of Quadrants, 4/21/03
GE-NE-0000-0014-5292, Pilgrim SRM Quadrant Definition Analysis, 4/18/03
MR 03108794, Secondary Containment Leak Rate Test
SRM Neutron Flux Response (MR03117386, 03117387, 03117388, 03117389), 4/17/05
MR 03108819, FCU and FME Cover Installation and Removal
Condition Reports 200501482, 200501498, 200501503, 200501666, 200501673, 200501676,
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200502024, 200502056, 200502139, 200502322, 200502302, 200502356, 200502357,
200502466, 200502468, 200502470, 200502471, 200502472
MR 05107627, Reactor Vessel Debris Removal
OSRC Meeting Minutes 05-06,07, 08, 09, 10 and 11
MAN.C16-01, Power Maneuvering Plan Cycle 16 Startup

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Procedure 4.3, Fuel Handling dated 4/20/05
8.10.1, Attachment 1, refueling Interlock Functional Test, 4/19/05 and 4/20/05

8.10.1, Attachment 7, Refueling Interlocks Logic Functional Test, 4/20/05
1.3.34, Attachment 9, Surveillance Test Review, 4/20/05
Technical Specification 3/4.10 and Bases, Core Alterations
UFSAR 7.6, Refueling Interlocks

References for Section 1EP2

EP-AD-417, Annual Siren Test Program, Rev 3
EP-AD-418, Monthly Testing of the Prompt Alert and Notification System, Rev 5
EP-AD-419, Annual Maintenance of the PANS Two-Way System, Rev 2

References for Section 1EP3

PNPS Emergency Plan Section O, Emergency Response Training
Nuclear Training Manual Section 5.5, Emergency Plan Training, Rev 28
PNPS ERO Training Matrix
NOP88A4, Assignment of Responsibilities in Support of the PNPS EP Program, Rev 8
SCBA EP Qualifications Notification Forms (5/31/05 & 6/23/05)
RP-STD-28, Maintenance of SCBA Qualifications for the EP Program, Rev 1
Procedure No. 6.7-002, Respiratory Protection Program, Rev 9
Procedure No. 6.7.1-104, Issue Use and Return of Respiratory Protection Equipment, Rev 12
EP-IP-100, Emergency Classification and Notification, Rev 23
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LIST OF ACRONYMS

ALARA	As Low As Reasonable Achievable
ANS	Alert and Notification System
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CCWS	Closed Cooling Water System
CFR	Code of Federal Regulations
CR	Condition Report
CST	Condensate Storage Tank
DEP	Drill and Exercise Performance
DHR	Decay Heat Removal
DOT	Department Of Transportation
EAL	Emergency Action Level
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EP	Emergency Preparedness
EPD	Electronic Personnel Dosimeter
ER	Engineering Request
ERO	Emergency Response Organization
FME	Foreign Material Exclusion
HRA	High Radiation Area
HX	Heat Exchange
INR	Indication Notification Report
IR	Inspection Report
ISI	Inservice Inspection
LER	Licensee Event Report
LHRA	Locked High Radiation Area
LOCA	Loss of Coolant Accident
LOP	Loss of Offsite Power
MO	Motor Operated
MOV	Motor-Operated Valve
MR	Maintenance Request
MSIV	Main Stream Isolation Valve
MT	Magnetic Particle
NDE	Non-Destructive Examination
NRC	Nuclear Regulatory Commission
OA	Other Activities
OE	Operating Experience
OS	Occupational Radiation Safety
OSRC	On Site Review Committee
PDI	Performance Demonstration Initiative
PI	Performance Indicator

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PI&R	Problem Identification and Resolution
PNPS	Pilgrim Nuclear Power Station
PT	Penetrant
PWT	Post Work Test
QASR	Quality Assurance Surveillance Report
RBCCW	Reactor Building Closed Cooling Water
RCA	Radiologically-Controlled Area
RCS	Reactor Coolant System
RFO	ReFueling Outage
RHR	Residual Heat Removal
RPV	Reactor Pressure Vessel
RSPS	Risk Significant Planning Standard
RWP	Radiation Work Permit
SCBA	Self-Contained-Breathing Apparatus
SDP	Significant Determination Process
SDT	Shutdown Transformer
SE	Safety Evaluation
SEE	Substitution Equivalency Evaluation
SFP	Spent Fuel Pool
SRC	Safety Review Committee
SSC	Structure, System, and Component
SSW	Salt Service Water
TBCCW	Turbine Building Closed Cooling Water
TI	Temporary Instruction
TS	Technical Specification
TSO	Transmission System Operators
UFSAR	Updated Final Safety Analysis Report
UT	Ultrasonic Testing
VHRA	Very High Radiation Area
VT	Visual Test