November 9, 2004

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

SUBJECT: PILGRIM NUCLEAR POWER STATION - NRC INTEGRATED INSPECTION REPORT 05000293/2004005

Dear Mr. Balduzzi:

On September 30, 2004, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Pilgrim reactor facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on September 29, 2004 with you 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.

The report documents one finding of very low safety significance (Green), which involved a violation of NRC requirements. However, because of the very low safety significance and because the issue has been entered into your corrective action program, the NRC is treating the issue as a non-cited violation (NCV), in accordance with Section VI.A.1 of the NRC's Enforcement Policy. 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 date 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

system (ADAMS). ADAMS is accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room). (Note: Public access to ADAMS has been temporarily suspended so that security reviews of publicly available documents may be performed and potentially sensitive information removed. Please check the NRC website for updates on the resumption of ADAMS access.)

Sincerely,

/RA/

Clifford J. Anderson, Chief
Projects Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 050000293/2004005
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.	05000293/2004005
Licensee:	Entergy Nuclear Operations, Inc.
Facility:	Pilgrim Nuclear Power Station
Location:	600 Rocky Hill Road Plymouth, MA 02360
Inspection Period:	July 1, 2004 - September 30, 2004
Inspectors:	W. Raymond, Senior Resident Inspector C. Welch, Resident Inspector John R. McFadden, Health Physicist J. Schoppy, Senior Reactor Inspector G. Johnson, Operations Engineer J. A. Bobiak, Reactor Inspector D. Pelton, Senior Resident Inspector B. Sienel, Resident Inspector
Approved by:	Clifford Anderson, Chief Projects Branch 5 Division of Reactor Projects

CONTENTS

SUMMARY OF FINDINGS

IR 05000293/2004005, 07/1/2004 - 09/30/2004; Pilgrim Nuclear Power Station, Operability Evaluations.

The report covered a 13-week period of inspection by resident and region-based inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). 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

Cornerstone: Mitigating Systems

Green. A self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control, of very low safety significance was identified because Entergy did not adequately translate design information, associated with the maximum allowable leak rate from the standby gas treatment (SBGT) control air system, into the station's operating and alarm response procedures. As a result, Entergy did not have information readily available to recognize that leakage from the "B" train SBGT control air system rendered the "B" train of SBGTS inoperable while the "A" train of SBGTS was removed from service for planned maintenance.

The issue is more than minor because it is associated with the Maintain Functionality of Containment-Design Control attribute and affected the Mitigating System cornerstone objective to provide reasonable assurance that the containment can protect the public from radio nuclide releases caused by accidents. Specifically, for approximately 14 hours, neither the "A" nor "B" train of SBGTS was able to perform its safety function for the required 30-day post accident mission time. The finding is of very low safety significance when evaluated in the significance determination process because the B train of SBGT was always available when the A train was unavailable for service due to maintenance and could have functioned for a considerable portion of the 30-day mission time.

A contributing cause of this finding is related to the cross-cutting area of problem identification and resolution, in that Entergy did not generate a CR or perform a formal operability evaluation when station staff suspected a "B" train SBGT control air system leak prior to performing maintenance on the "A" train of SBGTS.

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 and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Pilgrim Nuclear Power Station operated during the period at 100 percent (%) core thermal power, except for short periods of planned operation at reduced power for routine testing and maintenance.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

1. Adverse Weather Preparations

a. Inspection Scope (1 sample)

The inspector reviewed Entergy's procedures 5.2.2, "High Winds (Hurricane)," and 2.1.37, "Coastal Storm - Preparations and Actions," for site preparations for adverse weather. The inspector also toured the intake structure, the emergency diesel generators, the station blackout diesel, and the protected area to verify adequate precautions for adverse weather had been implemented in accordance with Entergy's procedures. The inspection included a review of condition reports generated within the last year to ensure adverse weather protection items were identified for corrective actions. References used during this review are identified in the attachment of this report. No actual hurricane conditions were experienced at the site during this inspection.

b. Findings

No findings of significance were identified.

2. Adverse Weather Protection

a. Inspection Scope (1 sample)

The inspector reviewed Entergy's response to tropical storms and other adverse weather conditions during the period of August - September 2004 to prepare the site for adverse conditions. The inspector reviewed Entergy's actions to implement compensatory measures to protect essential equipment using procedures 2.1.42, "Operation During Severe Weather," 5.2.2, "High Winds," and 2.1.37, "Coastal Storm - Preparations and Actions." The inspector toured the site, the intake structure and the emergency diesel generator areas to monitor the status of Entergy's preparations. None of the storms posed a significant impact on the site area. The inspector reviewed Entergy's actions to address the conditions described in Condition Report 200402752 to verify that Entergy was identifying weather and environmental related problems that

could affect the operation of mitigating equipment and that the issues were properly resolved.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope (4 samples)

Partial System Walkdowns. The inspector completed a partial review of risk significant plant systems during periods when the redundant system was out of service for scheduled maintenance and testing. The inspectors reviewed plant procedures, system drawings, and valve line-up procedures to walkdown and verify the correct system lineup. The Updated Final Safety Analysis Report and the Technical Specifications were reviewed to ascertain the required system configuration. The references used for this review are described in the attachment to this report. This inspection activity represented four samples:

- Standby Liquid Control System following surveillance testing on July 14, 2004
- High Pressure Coolant Injection during RCIC Maintenance on July 26, 2004
- B Standby Gas Treatment during maintenance on A train on August 10, 2004
- Reactor Core Isolation Cooling System During HPCI Testing on August 23-24, 2004

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope (11 samples)

The inspector toured selective areas of the plant to observe conditions related to: (1) transient combustibles and ignition sources; (2) the material condition and readiness of fire protection systems and equipment; and (3) the condition and status of readiness of fire barriers used to prevent fire damage or fire propagation. The inspector verified that any identified degraded conditions were compensated by compensatory measures until appropriate corrective actions could be taken. 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 inspector verified that Entergy was addressing fire protection related problems in the corrective action program. This inspection activity represented 11 samples:

- Fire Zone 1.5, RCIC pump quadrant

- Fire Zone 1.7, RCIC quadrant mezzanine
- Fire Zone 1.3, HPCI pump/turbine room
- Fire Zone 1.4, HPCI control panel room
- Fire Zone 1.10, RB 23 ft North and West HCUs
- Fire Zone 1.10C, Reactor Building Truck Lock
- Fire Zone 2.3, Battery Room A
- Fire Zone 2.4, Battery Room B
- Fire Zone 2.7, Turbine Lube Oil Reservoir
- Fire Zone 2.8, Condensate Pumps Area
- Fire Zone 2.8A, Condensate Demineralizer Areas

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope (1 sample)

Internal Flooding. The inspector conducted a walkdown of the reactor building to assess the effectiveness of internal flood control measures. The references used for this review are listed in the attachment to this report. The inspector reviewed control room panels and alarms, and interviewed operators and maintenance personnel. Special emphasis was placed on the flooding controls for the core spray, residual heat removal, reactor core isolation cooling and high pressure coolant injection systems due to the risk significance of those systems.

Items selected for review during the walkdowns included watertight doors and floor sump systems. Passive equipment such as curbing, hatch seals, and drains were inspected. The inspector compared Entergy's procedure controls with those described in the internal flood analysis in the Updated Final Safety Analysis Report Section 10.7.6. The inspector reviewed Entergy actions to address the conditions described in Condition Reports 200402484 and 200402760.

a. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

1. Licensed Operator Requalification Training (1 sample)

a. Inspection Scope

The inspector reviewed licensed operator requalification training activities during the period from June 28, 2004 - July 2, 2004. The inspector observed the performance of an operating crew during a simulator exam on June 28, 2004. The exam was

conducted per Scenario SES-400 as part of the licensed operator requalification program. The scenario involved security, operational transients and design basis events. The inspector verified that the crew met the training scenario objectives and performed the critical tasks. The inspector verified proper use of the emergency operating procedures and procedure 5.3.14, "Security Incidents." The inspector observed Entergy's actions to implement the emergency plan and to make event classifications and notifications. The inspector also verified that the post-scenario critique discussed any relevant lessons learned and that discrepancies were discussed with the crew to enhance future performance. The inspector observed the consistency between the simulator, plant design analyses, and the plant control room. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope (2 samples)

The inspector reviewed the follow-up actions for selected system, structure, or component (SSC) issues and reviewed the performance history of these SSCs to assess the effectiveness of PNPS's maintenance activities. The inspector reviewed PNPS's problem identification and resolution actions for these issues in accordance with PNPS's procedures and the requirements of 10 CFR 50.65(a)(1) and (a)(2), "Requirements for Monitoring the Effectiveness of Maintenance." In addition, the inspector reviewed selected SSC classification, performance criteria and goals, the system health reports, and the corrective actions that were taken or planned to verify whether the actions were reasonable and appropriate. This inspection activity represented two samples:

- Proper classification of equipment issues for the Salt Service Water (SSW) system. The inspector reviewed Entergy's basis for placing the SSW system in maintenance rule a(2) status.

- Proper classification of equipment issues for the Station Blackout (SBO) Diesel. The inspector reviewed Entergy's basis for placing the SBO Diesel in maintenance rule a(1) status.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope (4 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 verified that 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 4 samples:

- Planned maintenance and testing on A train of standby gas treatment (SBGT) on August 10, 2004
- MR 04111480, Emergent Maintenance on RCIC System Flow Controller FIC-1340-1, (CR 200402267)
- MR 04100614, Temporary Alteration on Shutdown Transformer (CR 200402176)
- MR 03102361, Maintenance on B Salt Service Water Pump (CR 200402754)

b. Findings

No findings of significance were identified.

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

a. Inspection Scope (3 samples)

The inspector assessed the control room operator performance during the following unplanned non-routine evolution. This inspection activity represented 3 samples.

- The inspector attended the pre-evolution brief and observed the manual operation of the B reactor recirculation motor generator scoop tube, an infrequently performed evolution effecting core reactivity, on July 15, 2004. The purpose of the inspection was to assess the operating crews performance with focus on procedure adherence, communications, command and control, and execution of the reactivity manipulation.

- The operator response per procedure 2.4.A.23 following the perturbations on the 23KV line on July 28, 2004 (Condition Report 200402237).

- The plant power reduction to 50% full power on July 30 to perform a thermal backwash on the main condenser and other maintenance and testing; the

inspector reviewed the plant maneuvering per procedure 2.1.14 and MAN.C15-17R1, and rod scram testing per procedure 9.9 (Condition Report 200402258).

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope (5 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, PNPS Procedure ENN-OP-104, "Operability Determinations," and the additional references listed in the attachment to this report for Section 1R22. This review covered 5 inspection samples:

- CR 200402036- Engineering Evaluations for 7/7/04 bistable vortex event
- CR 200402397- Standby Gas Treatment damper control air leakage 8/13/04
- CR 200402648- Primary Containment Isolation Valve EQ Service Life 9/7/04
- CR 200402754- B SSW Pump Mechanical Deficiencies, 9/15/04
- CR 200402631- Stack Flow Recorder, 9/5/04

b. Findings

Introduction. A self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control, of very low safety significance was identified because Entergy did not adequately translate design information, associated with the maximum allowable leak rate from the standby gas treatment (SBGT) control air system, into the station's operating and alarm response procedures. As a result, Entergy did not have information readily available to recognize that leakage from the "B" train SBGT control air system rendered the "B" train of SBGTS inoperable while the "A" train of SBGTS was removed from service for planned maintenance.

Description. Entergy did not adequately translate design information, associated with the maximum allowable leak rate from the SBGT control air system, into the station's operating and alarm response procedures. The SBGT system is a part of secondary containment and is required to establish and maintain a negative pressure in the reactor building. The system has a post accident mission time of 30 days. Design calculation M896, "Capacity Increase Evaluation for SBGT Receivers," determined a maximum leak rate (approximately <2 psi/day) from the control air system that would support a 30-day mission time. This critical information was not translated into station operating and alarm response procedures and contributed to the operators not recognizing that the "B" train of SBGTS was inoperable when operators responded to SBGTS trouble alarms on low accumulator pressure.

Entergy generated condition reports (CR) on August 5 and 7, in response to receiving SBGTS trouble alarms on low accumulator pressure on the “B” SBGT control air system. The operators took actions as indicated in the alarm response procedures on each occasion to restore air pressure to clear the alarm. The alarm response procedures did not contain information related to the maximum allowable leak rate from the SBGT control air system to consider whether the observed leakage rate could affect operability of the “B” train of the SBGTS. On August 9, Operations Management requested a review of the SBGT control air system. On August 10, the “A” SBGTS train was removed from service for planned maintenance. On August 11, Entergy determined that “B” SBGT control air leakage was in excess of 6 psi/day, and greater than the design limit of 1.99 psi/day (CR 2004-02377). On August 12, Entergy determined that both the “A” and “B” trains of SBGTS had been inoperable for about 14 hours on August 10, when the “A” train was out of service for maintenance and the air leak impacted the ability of the “B” train to operate for its 30-day mission time (Licensee Event Report 2004-05). On August 12, Entergy fixed an air leak on valve SV-L-67 that provides air to “B” train SBGTS damper AON-108.

Analysis. The issue is more than minor because it is associated with the Maintain Functionality of Containment-Design Control attribute and affected the Mitigating System cornerstone objective to provide reasonable assurance that the containment can protect the public from radio nuclide releases caused by accidents. Specifically, for approximately 14 hours, neither the “A” nor “B” train of SBGTS was able to perform its safety function for the required 30-day post accident mission time. When evaluated in accordance with IMC 0609, the issue screened to Green in phase one of the SDP. The issue was also evaluated by a phase II review per MC 0609 Appendix H where it also screened to Green as a Type B containment finding. The significance of the finding is also mitigated by the fact that the B train of SBGT was always available when the A train was removed for maintenance and could have functioned for a considerable portion of the 30-day mission time, the operability determination did not credit the installed nitrogen bottles which serve as a backup to the air accumulators as they are not seismically qualified, or operator action to recharge the accumulators as the air charging system is also not seismically qualified.

A contributing cause of this finding is related to the cross-cutting area of problem identification and resolution, in that Entergy did not generate a CR or perform a formal operability evaluation when station staff suspected a “B” train SBGT control air system leak prior to performing maintenance on the “A” train of SBGTS. Entergy procedures’ EN-LI-102, Corrective Actions, and ENN-OP-104, Operability Determinations, require plant staff to generate a CR for deficient/degraded conditions and evaluate operability. On August 9, station staff did not generate a CR or perform a formal operability evaluation when station staff suspected a “B” train SBGT control air system leak. Although the CRs generated on August 5 and August 7, did not mention a potential air leak or require an operability determination, an informal judgement of operability was made based on not having identified a significant air leak and the accumulator charging frequency being typical of past performance. The informal operability did not consider the maximum allowable leak rate from the SBGT control air system because it was not available in station operating or alarm response procedures.

Enforcement. 10 CFR 50, Appendix B, Criterion III, Design Control requires in part that design information be adequately translated into station procedures. Contrary to the above, design information for the allowable air leak rate from the SBGT control air system was not adequately translated into station operating and alarm response procedures. As a result, Entergy did not have information readily available to recognize that leakage from the "B" train SBGT control air system rendered the "B" train of SBSTS inoperable while the "A" train of SBGTS was removed from service for planned maintenance. Because the finding is of very low safety significance and has been entered into Entergy's Corrective Actions Program (CR 2004-02429), this violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy (**NCV 0500293/2004005-01).**

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope (3 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, test equipment was appropriate and controlled, 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 verified that systems were properly restored following testing and that discrepancies were appropriately documented in the corrective action process. References used for this review are listed in the attachment to this report. The inspection activity represented 3 samples of post-work testing:

- 8.E.13, PWT for MR 04111480 on RCIC FIC-1340-1 on 7/30/04
- 8.5.5.1, Functional Test of RCIC System 7/30/04 (Condition Report 200402267)
- MR P9800886, Test of breaker 1883 (MO-4010A), 8/5/04

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope (4 samples)

The inspector reviewed and/or observed surveillance testing to verify that the test acceptance criteria was consistent with Technical Specifications, ASME Code inservice test requirements, and Updated Final Safety Analysis Report requirements. Also, that the test was performed in accordance with the written procedure, the test data was complete and met procedural requirements, and the system was properly returned to service following testing. The inspector observed pre-job briefs for the test activities. The inspection activity represented 4 inspection samples:

- 8.4.1, Standby Liquid Control Pump Quarterly and Biennial Capacity and Flow Rate performed on 7/14/04
- 9.35, Recirculation System Bistable Vortexing Evaluation, 7/13/04
- 8.5.3.1, RBCCW Pump Operability and Flow Rate Test (D pump only), 8/3/04
- 8.5.4.1-1, HPCI Simulated Automatic Actuation and Cold Quick Start Test, 8/24/04

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope (1 sample)

The inspector reviewed a temporary modification to verify that the licensing bases and performance capability of the associated risk significant system had not been degraded through the modification. The temporary modification reviewed was:

- Temporary Alteration 04-1-036 to install shorting blocks on the unit auxiliary transformer current transformers 12, 11, 12 and 13. The inspector also reviewed Entergy's actions to address the issue in MR 04110882 and as described in Condition Reports 200402176 and 200401755.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope (1 Sample)

The inspector observed training of licensed operators on June 28, 2004, to evaluate the operators' ability to properly classify plant events in accordance with the Emergency Action Levels and complete the required notifications for plant events. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

a. Inspection Scope (10 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 ten (10) samples relative to this inspection area (i.e., inspection procedure sections 02.02.a thru d and f, 02.04.a thru c, 02.05.c, and 02.07.a) in partial fulfillment of the annual inspection requirements.

Plant Walkdowns and RWP Reviews (02.02.a thru d and f). During the inspection on the week of June 28, 2004, 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 millirem (committed effective dose equivalent). The inspector focused on work areas with a history of, or the potential for, airborne transuranic radioactivity. Also, the inspector examined 's physical and programmatic controls for highly activated or contaminated materials (non-fuel) stored within spent fuel and other storage pools.

During the inspection week of August 2, 2004 and during the previous inspections in 2004, 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 R/hr), or airborne radioactivity areas in the plant. For selected exposure significant work areas, the inspector reviewed Entergy's associated controls and surveys of these areas to determine if controls (e.g., surveys, postings, barricades) were acceptable. When possible, the inspector, with a survey instrument, walked down these areas or their perimeters to determine whether prescribed RWP, procedure, and engineering controls were in place, whether Entergy's surveys and postings were complete and accurate, and whether air samplers were properly located. The inspector reviewed the RWPs 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 setpoints (both integrated dose and dose rate) for conformity with survey indications and plant policy. The inspector verified that workers knew what actions were required when their EPD noticeably malfunctions or alarms.

Job-In-Progress Reviews (02.04.a thru c). During the inspection week of August 2, 2004 and during the previous inspections in 2004, the inspector reviewed and observed work activities on, when possible, several RWPs including No. 04-0044 (Rev. 03, Dry well general inspection tasks), No. 04-0050 (Rev. 01, Replace fan motor for VAC 206A2, including shielding work, in dry well (9 foot elevation)), No. 04-0058 (Rev. 00,

Repair/replace MSRVs (A0-203 A & D), including support work and shielding, in the dry well (41 foot elevation)), and No. 04-0032 (Rev. 00, Inspections in reactor building (elevation 51-foot) in reactor water clean-up heat exchanger room). The inspector reviewed all radiological job requirements (RWP requirements and work procedure requirements) and, when practical, attended RWP job briefings. During these reviews, the inspector determined that radiological conditions in the work area were being adequately communicated to workers through briefings and postings. The inspector verified the adequacy of radiological controls including surveys, radiation protection job coverage, contamination controls, and consideration of dosimetry for high radiation work areas with significant dose rate gradients.

High Risk Significant, High Dose Rate High Radiation Area, and Very High Radiation Area Controls (02.05.c)

During the inspection on the week of June 28, 2004, the inspector selectively verified the adequacy of the posting and locking of entrances to the high-dose-rate high radiation areas and very high radiation areas. The inspector accomplished this during tours of the reactor, radioactive waste, and turbine buildings.

Radiation Protection Technician Proficiency (02.07.a)

During job performance observations by the inspector during the inspection on the week of June 28, 2004, the inspector observed radiation protection technician performance with respect to all radiation protection work requirements. The inspector determined that these technicians were aware of the radiological conditions in their workplace and the controls/limits of the respective radiation work permits.

Related Activities

On July 29, the inspector observed a pre-job briefing for work on radiation work permit no. 04-0032. The work scope included inspection and the taking of measurements in the reactor water clean-up heat exchanger room. The briefing covered the permit controls and limits and the ALARA requirements.

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.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope (5 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 five (5) samples relative to this inspection area (i.e., inspection procedure sections 02.01.c and d, 02.03.c, 02.05.a, and 02.07) in partial fulfillment of the biennial inspection requirements.

Inspection Planning (02.01.c & d)

During the inspection on the week of June 28, 2004, the inspector examined the site specific procedures associated with maintaining occupational exposures ALARA. This examination included a review of processes used to estimate and track work-activity-specific exposures. The subject procedures are listed in the List of Documents Reviewed section.

During the inspection week of August 2, 2004 and during the previous inspections in 2004, the inspector examined the annual collective dose and refueling outage dose for the year of 1992 through 2003. The inspector also reviewed measurements of the contact dose rate with reactor coolant piping during forced and refueling outages since late 1997. The inspector also reviewed the site's three-year-rolling average for the annual collective dose since 1995 and its comparison with other boiling water reactors.

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

During the inspection week of August 2, 2004 and during the previous inspections in 2004, the inspector reviewed Entergy's exposure tracking system. The inspector examined the level of exposure tracking detail, exposure report timeliness, and exposure report distribution to determine that it was sufficient to support control of collective exposures. The inspector determined that Entergy management was aware of the exposure status of ongoing work and was prepared to intervene if exposure trends should increase beyond exposure estimates.

Source Term Reduction and Control (02.05.a)

In addition to a review of the measurements of the contact dose rate with reactor coolant piping during forced and refueling outages since late 1997, the inspector reviewed the documentation that Entergy uses to track the location of elevated radiation areas for remediation. The inspector reviewed Entergy's five-year ALARA plan for 2004 through 2008. The ALARA initiatives included numerous applications of shielding, process change, or source elimination to lower outage and on-line dose.

Declared Pregnant Workers (02.07)

During the inspection on the week of June 28, 2004, the inspector reviewed the exposure results and monitoring controls employed by Entergy with respect to requirements of 10 CFR 20.1208 (dose equivalent to an embryo/fetus). The inspector determined if there had been any declared pregnant workers during the current assessment period. The inspector examined the most recent exposure results and monitoring controls employed by Entergy with respect to these requirements.

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 procedures.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

a. Inspection Scope (3 samples)

The inspector reviewed the program for installed radiation monitoring systems and for health physics instrumentation to determine the accuracy and operability of the instrumentation. This inspection activity represents the completion of three (3) samples relative to this inspection area (i.e., inspection procedure sections 02.01, 02.02, and 02.03) in partial fulfillment of the biennial inspection requirements.

Inspection Planning (02.01)

During the inspection on the week of June 28, 2004, the inspector reviewed the plant Updated Final Safety Analysis Report to identify applicable radiation monitors associated with transient high and very high radiation areas including those used in remote emergency assessment. The inspector discussed the status of the installed process and area radiation monitoring systems with the responsible system engineer. Also, the inspector interviewed the health physics instrumentation supervisor concerning continuous air monitors and the portable radiation instruments that are used to identify changing radiological conditions such that actions to prevent an overexposure may be taken.

Identify Additional Radiation Monitoring Instrumentation (02.02)

During the inspection week of August 2, 2004, the inspector identified the types of portable radiation detection instrumentation used for job coverage for high radiation area work, for temporary area radiation monitors currently used in the plant, and for continuous air monitors. The inspector also determined the types of radiation detection instruments utilized for personnel release from the radiologically controlled area.

Verify Calibration, Operability, and Alarm Set Point (if applicable) of Several Types of Instruments and Equipment (02.03)

During the inspection week of August 2, 2004, the inspector reviewed calibration records, operability, and alarm set points, if applicable, for installed radiation monitors and for portable and fixed health physics instrumentation. The inspector also observed the health physics calibration facility and counting rooms. Calibration records for selected installed process and area radiation monitors were examined. The types of portable and fixed health physics instrumentation, for which calibration records were inspected, included personnel alarming dosimeters, personnel contamination monitors, personnel radiation monitors, portable radiation and contamination survey instruments, continuous air monitors, low-volume air samplers, high-volume air samplers, air sampler flow gauges, and alpha and beta counting equipment.

Related Activities

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.

Cornerstone: Public Radiation Safety (PS)

2PS1 Radioactive Gaseous And Liquid Effluent Treatment and Monitoring Systems (71122.01)

a. Inspection Scope (10 samples)

The inspector reviewed radioactive effluent treatment and monitoring equipment, work activities, 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 radioactive gaseous and liquid effluent treatment and monitoring systems with respect to public exposure. This inspection activity represents the completion of 10 samples relative to this inspection area (i.e., inspection procedure sections 02.01.a thru d(1), 02.02.a thru k(8), and 02.03.a thru c(1)) in complete fulfillment of the biennial inspection requirements.

Inspection Planning and In-Office Inspection (02.01.a thru d)

The inspector selectively reviewed the Annual Radiological Effluent Release Report for 2003 to verify that the program was implemented as described in Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual (RETS/ODCM). The inspector selectively examined the report for significant changes to the ODCM and to radioactive waste system design and operation, for technical justification and documentation, and for dose consequence to the public. The inspector also selectively reviewed the Updated Final Safety Analysis Report (UFSAR) description of the radioactive waste systems.

Onsite Inspection (02.02.a thru k)

On September 21 and 23, the inspector walked down the radiation and flow monitors of the gaseous and liquid release systems to observe current system configuration with respect to the description in the UFSAR, ongoing activities, and equipment material condition. On September 23, the inspector observed the change-out of the particulate and charcoal filters and the noble gas grab sampling for the reactor building vent (RBV) and main stack gaseous effluent release radiation monitors. During this inspection, the inspector examined several radioactive liquid waste release permits, records of continuous gaseous releases, and dose calculations, including monthly, quarterly, and annual doses to members of the public.

The inspector selectively reviewed air cleaning system surveillance test results, records of instrument calibrations performed since the last inspection for point-of-discharge effluent radiation monitors, and calibration records for flow measurement devices. The inspector examined calibration records for counting-room radiation measurement instrumentation associated with effluent monitoring and release activities and the associated quality control records. The inspector also reviewed the results from Entergy's most recent quality assurance audit and surveillances to determine if Entergy met the requirements of the RETS/ODCM.

Identification and Resolution of Problems (02.03.a thru c)

For a description of the inspection activity in this area, see Section 4OA2 of this report.

Related Activities

The inspector performed a selective examination of documents (as listed in the List of Documents Reviewed section) to evaluate the effectiveness of Pilgrim's radioactive gaseous and liquid effluent treatment and monitoring systems with respect to public exposure. The review in this area was against criteria contained in Subpart D of 10 CFR 20 and Appendices A (Criteria 60 and 64), E, and I to 10 CFR 50, the Radiological Effluent Technical Specifications, the Offsite Dose Calculation Manual, and the UFSAR.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

1. Mitigating Systems Cornerstone

a. Inspection Scope (2 samples)

Mitigating systems cornerstone performance indicator (PI) data for Safety System Unavailability was reviewed to assess the completeness and accuracy of the reported information. The inspector reviewed condition reports, maintenance rule records, and NRC Inspection Reports. The inspector verified that Entergy had classified equipment unavailability in accordance with NRC endorsed criteria contained in NEI 99-02, "Regulator Assessment of Performance Indicator Guideline." This inspection activity represented two samples:

- Emergency AC Power System Unavailability from the third quarter of 2003 to the second quarter of 2004.
- Residual Heat Removal System Unavailability from the second quarter of 2003 to the second quarter of 2004.

b. Findings

No findings of significance were identified.

2. Public Radiation Safety cornerstone

a. Inspection Scope (2 samples)

Occupation Exposure Control Effectiveness (OECE)(02.01)

The inspector selectively examined records used by Entergy to identify occurrences involving high radiation areas, very high radiation areas, and unplanned personnel exposures for the time period from October 2003 through August of 2004 during this inspection and during previous inspections in 2004. The reviewed records included selected corrective action program records and Pilgrim's quarterly/monthly PI data records for this PI. This review was conducted against the applicable criteria specified in Nuclear Energy Institute's (NEI) Regulatory Assessment Performance Indicator Guideline No. 99-02 (Revision 2 with an effective date of November 19, 2001).

This review and examination did not identify any problems with the PI accuracy or completeness and thus verified this performance indicator. This inspection activity represents the completion of one (1) sample relative to this inspection area (i.e., inspection procedure section 02.01) for one performance indicator (i.e., OECE).

Radiological Effluent Technical Specification/Offsite Dose Calculation Manual Radiological Effluent Occurrences (RETS/ODCM REOs)(02.01)

The inspector selectively examined records used by Entergy to identify any occurrences involving gaseous or liquid effluent releases. The reviewed record types included selected corrective action program records and Pilgrim's quarterly/monthly PI data records for this PI. The inspector reviewed records covering the time period from October 2003 through August of 2004 during this inspection and during previous inspections in 2004. This review was conducted against the applicable criteria specified in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 2 (effective date of November 19, 2001).

This review and examination did not identify any problems with the PI accuracy or completeness and thus verified this performance indicator. This inspection activity represents the completion of one (1) sample relative to this inspection area (i.e., inspection procedure section 02.01) for one performance indicator (i.e., RETS/ODCM REOs).

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Reactor Safety Cornerstone

1. 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. Identification and Resolution of Problems - Occupational Radiation Safety

a. Inspection Scope

During the weeks of June 28, 2004 and of August 2, 2004, the inspector selected eight issues/condition reports (CRs) identified in the Corrective Action Program (CAP) for

detailed review (i.e., CR-PNP-2003-04672 and 2004-00925, -00932, -01056, -01582, -01646, -01824, and -01952). The issues were associated with revision of an administrative procedure, contamination control boundaries, an accumulated dose alarm, a liquid radioactive waste system draining evolution, a contaminated area posting deficiency, floor contamination found in a previously clean area, record dosimetry results exceeding the electronic dosimetry results, and channel spiking on process radiation monitors.

The documented reports for the issues were reviewed to determine whether the full extent of the conditions were identified, appropriate evaluations were performed, and appropriate corrective actions were specified and prioritized.

b. Findings

No findings of significance were identified.

3. Identification and Resolution of Problems - Public Radiation Safety

a. Inspection Scope

During this inspection, the inspector reviewed Entergy's most recent quality assurance audit and surveillances to determine if identified problems, related to the radioactive effluent treatment and monitoring program, were entered into the corrective action program for resolution. The inspector reviewed selected corrective action reports, related to the radioactive effluent treatment and monitoring program, and discussed these reports with cognizant personnel to determine if the follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk. Entergy indicated that there had been no self-assessment activities in this area since the last inspection in this area.

The inspector selected six issues/condition reports (CRs) identified in the Corrective Action Program (CAP) for review (i.e., CRs 2002-10520, 2003-02061, -03119, -03975, -04585, and 2004-01372). The issues were associated with process air flow being coincident with filter testing, inoperability of a reactor building vent (RBV) high-range effluent monitor, low indication on RBV process flow, meteorological tower data recovery, surveillance records for ventilation system testing, and correction of volume and curie data in a report.

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.

4OA3 Event Follow-up (71153)

1. Licensee Event Report Review and Closeout (4 samples)

a. (Closed) LER 50-293/2004-01, 2004-03: Target Rock Relief Valve Test Pressures Exceed Technical Specification Tolerance Limit. The inspector reviewed Entergy's actions associated with Licensee Event Reports (LERs) 50-293/2004-01 and 2004-03. The reports describe setpoint drift in the Target Rock, two-stage main steam safety relief valves. The as-found popping pressures would have exceeded the Technical Specification allowable setpoints, but would not have resulted in exceeding the code allowable pressure for the reactor vessel. The root cause was determined to be oxidation (corrosion bonding) of the pilot valve seats and discs, with loose insulation as a contributing cause. The corrective actions included installing certified tested pilot assemblies and refitting loose insulation. Based on industry experience, Entergy had already replaced the disc materials and installed a different type of insulation to improve performance. Corrective actions were described in Condition Reports 20040143 and 20041368. A violation of Technical Specification 3.6.D.1 is described in Section 4OA7 of this report. The LERs provided an accurate description of the event and followup actions. These LERs are closed.

b. (Closed) LER 50-293/2004-04: RCIC System Declared inoperable During Surveillance Testing due to Flow Controller Potentiometer Oxidation. The inspector reviewed Entergy's actions associated with LER 50-293/2004-04. The report described that the reactor core isolation cooling (RCIC) system was inoperable due to the failure of flow controller FIC-1340-1, which had a bad potentiometer in the flow limiter circuit. The equipment failure condition was identified during the quarterly RCIC surveillance per procedure 8.5.5.1. The equipment malfunction was not identified during the RCIC flow controller calibration per procedure 8.E.13, which was satisfactorily completed on July 26, 2004. Entergy documented the issue in the corrective action program as Condition Report 200402267. Entergy identified the need to revise 8.E.13 to better exercise potentiometers to preclude similar events. The inspector reviewed the issue and concluded the calibration and work control processes performed appropriately. The NRC review of this event is also described in Section 1R13 of this report. The LER provided an accurate description of the event and followup actions. This LER is closed.

c. (Closed) LER 50-293/2001-02-01, CRHEAFs Unable to Maintain Control Room Positive Pressure at One Location. The inspector reviewed Entergy's actions associated with Licensee Event Report (LER) 50-293/2001-02-01. Entergy's actions were addressed in Condition Report 200109082. This event was also described in Report 2001-07. The LER provided an accurate description of the event and followup actions. This LER is closed.

4OA4 References to Cross Cutting Issues

Section 1R15 describes a finding in which an inadequate corrective action impacted the operability of the standby Gas Treatment System. The finding was an example of a contributing cause in the cross cutting area of problem resolution.

4OA5 Other Activities

1. Operator Inattentiveness in the Control Room

a. Inspection Scope

On August 26, 2004, the NRC referred to Entergy information related to a June 29, 2004, incident in which a senior reactor operator was asleep in the control room. Entergy took immediate actions to initiate an investigation, relieve members of the subject operator crew from duty, and to address the extent of condition. Entergy took actions to reaffirm responsibilities related to the fitness for duty program and to bring forth concerns. While Entergy's corrective actions continue at the end of the inspection period, Entergy determined that the incident was an isolated event. The NRC initiated a review of the incident and Entergy's corrective actions. This matter is unresolved pending the completion of the NRC review of the event (**URI 05000293/2004005-02**).

b. Findings

No findings of significance were identified.

2. Strike Contingency Planning (92709)

a. Inspection Scope (1 sample)

Entergy developed the PNPS Staffing Contingency Plan (SCP) to provide a sufficient number of qualified personnel to continue Pilgrim Station operations assuming union personnel engaged in a job action. Using the guidance of Inspection Procedure 92709, *Licensee Strike Contingency Plans*, the inspector reviewed Entergy's preparations to verify that:

- the plans addressed normal plant operations, emergency operations including emergency preparedness and fire protection, and physical security
- the plan was reviewed by Entergy management and the safety committees
- the staffing requirements specified in the facility license were maintained
- the emergency response organization could staff and activate the Emergency Response Facilities
- adequate numbers of qualified personnel would be provided by the Pilgrim Station staff, supplemented by personnel from other Entergy sites
- additional training was provided as needed to operations, emergency preparedness, maintenance, and technical staff

- the use of overtime was considered to ensure it would remain within the guidelines in the facility licensee commitments (reference Entergy Letter 2.04.056 to NRC dated July 8, 2004)
- the operational experience and qualification of PNPS SRO personnel
- personnel qualification and use of the PNPS Master Equipment List

On July 13, 2004, the inspector observed one simulator training scenario to assess operator performance and training effectiveness for one of replacement staff crews. The scenario involved normal plant operations, a weekly control rod exercise, several system anomalies, and a plant transient. The inspectors assessed simulator fidelity and observed the simulator instructor's critique of operator performance.

The inspector reviewed the documents listed below related to the July 13 training:

C Strike Contingency Super Crew Just In Time Training Session 1, Rev. 0
C Control Rod Exercise (Procedure No. 8.3.2), Rev. 41
C CRD System Malfunctions (Procedure No. 2.4.11.1), Rev. 15
C Reactor Scram (Procedure No. 2.1.6), Rev. 55
C RPV Control (EOP-01), Rev. 8

Other references used in this review are described in the attachment to this report. Entergy completed negotiations and achieved new contracts with all three of the unions: Local 369 on July 15, Local 590 on August 27, and Local 369 Technical on September 24, 2004.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On July 9, 2004, the NRC Region I Deputy Director of the Division of Reactor Safety toured the Pilgrim site and met with Entergy personnel.

For the inspections in the Radiation Safety Area during the inspection period, the inspector presented the inspection results to Entergy management on July 2, August 5 and September 24, 2004.

At the conclusion of the inspection, the inspector presented the inspection results to Mr. Michael Balduzzi and other members of the plant staff on September 29, 2004. The inspector confirmed that no proprietary information was disclosed in the inspection results.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by Entergy and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as Non-cited Violations.

1. Technical Specification 3.6.D.1 specifies the opening pressure of main steam safety relief valves to be within 1% of the nominal setpoint range. Contrary to the above, Entergy determined through routine testing that main steam safety relief valves had lift pressures that exceeded the TS limit, as follows: on 1/16/2004, three relief valves having serial numbers 1040, 1207 and 1025 (licensee event report LER 2004-01); and, on May 6, 2004, two relief valves having serial numbers 1049 and 1054 (LER 2004-03). The licensee addressed this matter, including immediate and long term corrective actions, along with actions to prevent recurrence, in Condition Reports 20040143 and 200401368. This item is also discussed in section 4OA3 above.

2. 10 CFR 50 Appendix E (in Section III, The Final Safety Analysis Report (FSAR)) requires that the FSAR contain the plans for coping with emergencies, including in Section IV.E.2, information needed to demonstrate compliance with emergency facilities and equipment which includes equipment for determining the magnitude of and for continuously assessing the impact of the release of radioactive materials to the environment. Section 2.3 of the Updated Final Safety Analysis Report (UFSAR) states that the licensee will maintain the onsite Meteorological Monitoring Program as specified in Regulatory Guide 1.23. Regulatory Guide 1.23 states that meteorological instruments should be inspected and serviced at a frequency which will assure at least 90% data recovery. Contrary to the above, the licensee's data recovery for the entire year of 2003 was about 79% for the 33-ft level and about 67% for the 220-ft level of the meteorological tower. The licensee reported this failure in the 2003 Radiological Effluent and Waste Disposal Report as required by the TS/ODCM. The licensee had identified and documented corrective actions for this issue (i.e., CR-PNP-2002-11881, -2003-02688, -2003-03975, and -2004-00137 and Meteorological Tower System Reliability Improvement Plan). A project plan is in place, and a bid specification has been issued to place new meteorological instrumentation on the current primary 220-ft tower and on a different secondary 160-ft tower (use of the current secondary 160-ft meteorological tower will be discontinued). This project plan showed that the work is to be completed by early 2005. This violation is of very low safety significance because, even though the licensee's ability to assess environmental impact was impaired due to some missing meteorological data, the licensee was able to reasonably assess the environmental impact by the use of other means, including the effective use of historical meteorological data.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Entergy personnel:

R. Bowen, Chemistry Technician
W. Carroll, Senior Engineer (Nuclear)
W. Coady, ALARA Specialist
S. Beneduc, System Engineer-Installed Radiation Monitors
R. Daverio, Supervisor, Engineering
P. Dietrich, General Manager, Plant Operations
D. Ellis, Sr. Engineer (Nuclear)
R. Emmitt, Radiation Protection Specialist-Support
B. Ford, Manager, Licensing
J. Gaedtke, Sr. Engineer (Nuclear)
M. Gatslick, Licensing Specialist
P. Gavin, I&C Supervisor
R. Helms, Supervisor, Mechanical
J. Hurley, Radiation Protection Support Supervisor
G. James, Supt., Reactor Engineering
K. Kampschneider, Sr. Engineer (Nuclear)
J. Keene, Sr. Engineer (Nuclear)
M. Landry, Sr. Engineer (Nuclear)
P. Leavitt, Chemistry Engineer
W. Lobo, Licensing Specialist
W. Mauro, ALARA Supervisor
J. McClellan, Quality Specialist-Quality Assessment
P. McNulty, Chemistry Superintendent
C. McMorrow, Sr. Engineer (Nuclear)
F. Mogolesko, Senior Project Manager
E. Olson, Manager, Operations
D. Perry, Radiation Protection Manager
R. Reilly, Field Chemistry Supervisor
M. Santiago, Supt., Nuclear
M. Santos, Chemistry Technician
K. Sejkora, Senior HP/Chemistry Specialist
R. Sullivan, Supervisor, Electrical
J. Tedeschi, Senior Engineer
E. Varmette, Radiation Protection Technician
G. Zavaski, Radiation Protection Specialist, Projects

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Open and Closed

0500293/2004005-01	NCV	Design Information on Standby Gas Treatment System Not Translated into Operating Procedures
50-293/2001-02-01	LER	CRHEAFs Unable to Maintain Control Room Pressure
50-293/2004-01	LER	SRV Setpoints in Excess of TS Limit (3 Valves)
50-293/2004-03	LER	SRV Setpoint in Excess of TS Limit (2 Valves)

Open

05000293/2004005-02	URI	Operator Inattentive in the Control Room

LIST OF DOCUMENTS REVIEWED

Section 1R01, Adverse Weather Protection
Procedure 5.2.2, High Winds (Hurricane)
Procedure 2.1.37, Coastal Storms - Preparations and Actions
UFSAR Section 2.2, 2.3 and 2.4.4
Condition Reports 20040136, 20040447, 20040819, 20041333, 20041391, 20042336, 20040169, 20040535, 20041107, 20041171, 20042484, 200402809 and 200402816

Section 1R04, Partial Equipment Alignment
Procedure 2.2.24, Standby Liquid Control System
P&ID M249, Standby Liquid Control System
Procedure 2.2.50, Standby Gas Treatment
P&ID M245, RCIC System
P&ID M243, HPCI System

Section 1R05, Fire Protection
PNPS Fire Hazards Analysis
8.B.4.9, Fire Panel C223, Water Treatment Are, Functional Test
Plant Ventilation Diagram M287 Rev. E37
Surveillance Procedure 8.B.17.1
Condition Report 200402943
ESR 87-060, Battery Room A and B Ventilation Flow Switches
SE Related to License Amendment 123

Section 1R06, Flood Protection
PNPS Updated Final Safety Analysis 10.7.6
PNPS IPE for Internal Events per GL 88-20, Section 3.1.2.2 and Appendix C.4.5
PNPS PRA IPE Update April 2003, Appendix E, Internal Flood Analysis
Calculation S&SA 61-0, Flood Level Calculations

Condition Report 200402484, Lack of Seal on RB Floor Hatches
3.M.4-96, Floor Plug and Vault Hatch Seals
Procedure 8.C.42, Subcompartment Barrier Control Surveillance

Section 1R12, Maintenance Effectiveness
System Health Reports SSW System and SBO Diesel
SBO Unavailability Data
Procedure ENN-DC-178, System Walkdowns
Condition Reports 200300572, 200300990, 200304536, 200400391, 200400928, 200402932
Temporary Alteration 04-1-031, Drill Through Disc of 29-HO-3B
Resolution of Walkdown Inspection Findings, Screenhouse and Auxiliary Bays A and B, 8/16/04 Per Procedure 1.3.108
MR 04109733, Perform External Visual Inspection of SSW Spool
PM Deferral of Rep. Task P005291

Section 1R13, Maintenance Risk and Emergent Work
Condition Reports 200402267, 200402753, 200402754, 200402763, 200402771
MR 04111480, RCIC FIC-1340-1
procedure 8.E.13 completed on 7/26/4 and 7/30/4
3.M.1-34 for MR 04111480
LCO-ACT-1-04-0074
LCO-ACT-1-04-0081
Schematic Diagrams
Technical Specification
UFSAR Section

Section 1R14, Personnel Performance During Non-Routine Plant Evolutions
Procedure 2.2.84, Reactor Recirculation System, section 7.9
Procedure 2.4.A.23, Loss of 23 KV System

Section 1R15, Operability Evaluations
2.2.50 Standby Gas Treatment
UFSAR section 5.3.3.4
P&ID M294 Heating Ventilation and Air Conditioning Gas Treatment System Control Diagram
Condition Reports 200402648, 200401375, 200402934
TS LCO-ACT-04-106
Technical Specification 3.7.A.2.b
Drawings M252 and M241
Condition Reports 200402036 and 200402533 for bistable vortex events
UFSAR Chapter 14, Appendix R, Section R.2.6
Procedure 9.35, Recirculation System Bistable Vortexing Evaluation
Safety Evaluation Report MDE-47-0383 (GE Letter G-HK-5-171) dated 12/2/85
ALDEN report 74-02/M701F dated March 2002
Problem Report 200104741, Hydraulic Model Study of Bistable Flow Swirl
NRC Information Notice 86-110
GE SIL 467, Recircuilation System Bistable Flow in Jet Pump BWRs dated 7/28/88
Dual Bistable Vortex Discussion Paper dated February 2002

Safety Evaluation 1928 dated 3/5/86

Section 1R19, Post-Maintenance Testing
8.Q.3.3, 480V AC motor control center testing and maintenance.
8.5.3.8, RBCCW Pump & Valve Alternate Shutdown Panel Test (MO-4010A only)
8.5.3.10, RBCCW Motor Operated Valve Operability Test (MO-4010A only)
MR 03119611, Pretest breaker IAW 8.Q.3-3 for B1883 (MO-4010A)
procedures 1.13.1, Postwork Test Matricies and Guidelines
procedure 3.M.1-30, Postwork Testing Guidance
procedure 1.5.20, Work Control Process

Section 1R22, Surveilance Testing
Procedure 9.35, Recirculation System Bistable Vortexing Evaluation dated 7/13/04
IEN 86-110 dated 12/31/86
GE SIL 467 dated 7/28/88
BECo Safety Evaluation 1928 dated 1988
GE Safety Evaluation Report GHK-5-313 dated 12/2/85
GE Report NEDE-33056P dated February 2002
ALDEN Research Laboratory Report dated March 2002, "Hydraulic Model Study of Bi-Stable Flow Swirl Reactor Recirculation System Pilgrim Nuclear Power Station."
Entergy Evaluation Paper on Bistable Vortexing dated 3/5/02

Section 2OS1, Access Control to Radiologically Significant Areas:

RWP No. 04-0044, Rev. 03, Dry well general inspection tasks
RWP No. 04-0050, Rev. 01, Replace fan motor for VAC 206A2, including shielding work, in dry well (9 foot elevation)
RWP No. 04-0058, Rev. 00, Repair/replace MSRVs (A0-203 A & D), including support work and shielding, in dry well (41 foot elevation)
RWP No. 04-0032, Rev. 00, Inspections in reactor building (elevation 51-foot) in reactor water clean-up heat exchanger room
Cumulative TEDE dose summary report for individuals for June 29, 2004
Procedure No. 1.3.114, Rev. 19, Conduct of radiological operations
Procedure No. 1.16.1, Rev. 7, Spent fuel pool non-SNM inventory control
Procedure No. 6.1-002, Rev. 17, Radiological in-processing
Procedure No. 6.1-009, Rev. 8, Radiological controls for handling highly radioactive objects and refuel floor activities
Procedure No. 6.1-014, Rev. 15, High radiation area control
Procedure No. 6.1-031, Rev. 17, Radiation work permits
Procedure No. 6.2-008, Rev. 14, Internal dose tracking program
Standard RP-STD-20, Rev. 1, ALARA standards for RWP estimates and ALARA planning
Standard RP-STD-21, Rev. 6, Pre-job briefings
Standard RP-STD-22, Rev. 1, Radiation protection technician resume review
Standard RP-STD-40, Rev. 1, RWP standardization and use of ProRad RWP program
Station radiological performance indicator summary for May 2004
Memorandum dated February 20, 2002 and titled as annual prospective evaluation of the need for internal monitoring

T1 Look Ahead Schedule of work activities for the week of August 2, 2004
Self-assessment of contamination control, May 17 - 21, 2004

Section 2OS2, ALARA Planning and Controls:

ALARA requirements sheet for RWP No. 04-0032, Rev. 00, Inspections in reactor building (elevation 51-foot) in reactor water clean-up heat exchanger room
Daily dose reports for June 28, 29, and 30 and for July 1 and 2, 2004
Dose evaluation report no. 03-0087 for a declared pregnant worker
Memorandum dated October 9, 2003 titled UAT outage BRAC point survey results
Procedure No. NOP83RC1, Rev. 16, ALARA program
Procedure No. 6.10-020, Rev. 9, ALARA work reviews
Procedure No. 6.10-021, Rev. 6, Station ALARA performance
Draft five-year ALARA plan for 2004 thru 2008
ALARA committee meeting minutes for April, May, and June 2004
ALARA oversight committee meeting minutes for March 30, April 8, and April 9, 2004
ALARA outage report for the planned outage for safety relief valves on March 22 to March 25, 2004
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1705-16 (outside air to control room), February 10, 2004
1815-2A (main control room), February 17, 2004
1815-2B (outside tip room), February 10, 2004
1815-2C (radwaste shipping lock), February 17, 2004
1815-2D (reactor building, southeast access), February 10, 2004

1815-3A (turbine building, condensate pumps, stairway), February 10, 2004
1815-3B (radwaste corridor), February 17, 2004
1815-3D (reactor building, elevation 117, new fuel vault), February 10, 2004
1815-3E (reactor building, elevation 117, shield plug area), February 10, 2004
1815-3F (spent fuel pool area), February 10, 2004
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Procedure No. 6.5-003, Rev. 8, Radiation protection instrumentation calibration frequency
Procedure No. 6.5-021, Rev. 3, Calibration of lapel air samplers using the BIOS DC-1 flow calibrator
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Procedure No. 6.5-160, Rev. 23, Calibration of the area radiation monitoring system
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Procedure No. 6.5-302, Rev. 11, Calibration of Graetz extender 2000W
Procedure No. 6.5-307, Rev. 13, Calibration of the Eberline RO-2/RO-2A or RO-20 ion chamber
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Procedure No. 7.3.31, Rev. 16, Tritium sampling
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Procedure No. 7.3.63, Rev. 2, Process radiation monitor setpoints
Procedure No. 7.4.24, Rev. 32, RBCCW process radiation monitors
Procedure No. 7.4.42, Rev. 18, Calibration of the NUMAC gaseous process radiation monitors
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Monthly and quarterly data for total off-site dose assessments for 2003
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B Control room, September 11 and 12, 2002
Meteorological tower re-instrument project schedule (February 2, 2004 - February 2, 2005)
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Selected measurement QC data for 2003 and 2004
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No. 02-065, Meteorological tower, December 10 - 12, 2002 and January 27 and 29, 2003
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Section 4OA5, Other Activities
PNPS Staffing Contingency Plan (SCP)
SCP Attachment 3, Operations Staff Manning Schedule
SCP Attachment 4, Training and Qualification Plan
SCP Attachment 18, Contingency Transitin and Mobilization Plan
Licensed Operator Training Program Results for 2003-2004
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Operations Individual Training Plans
Explanation of PNPS Contingency Emergency Response Organization Staffing Plan
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PNPS Master Equipment List and Personnel Qualification
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Technical Specification 5.0, Administrative controls
QA Surveillance Report QS-2004-PNP-022

LIST OF ACRONYMS

ALARA	As Low As Reasonable Achievable
BECo	Boston Edison Company
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report
CRD	Control Rod Drive
EOP	Emergency Operating Procedure
EPD	Electronic-Personal-Dosimeter
GE	General Electric
HPCI	High-Pressure Coolant Injection
HRA	High Radiation Area
IEN	IE (Office of Inspection and Enforcement) Notice
IR	Inspection Report
LER	Licensee Event Report
LHRA	Locked High Radiation Area
NEI	Nuclear Energy Institute
OA	Other Activities
ODCM	Offsite Dose Calculation Manual
OECE	Occupational Exposure Control Effectiveness
OS	Occupational Radiation Safety
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PNPS	Pilgrim Nuclear Power Station
PS	Public Radiation Safety
QASR	Quality Assurance Surveillance Report
RBCCW	Reactor Building Closed-Cooling Water
RBV	Reactor Building Vent
RCIC	Reactor Core Isolation Coolant
REO	Radiological Effluent Occurrences
RETS	Radiological Effluent Technical Specifications
RPV	Reactor Pressure Vessel
RWP	Radiation Work Permit
SBGT	Standby Gas Treatment
SCP	Staffing Contingency Plan
SDP	Significant Determination Process
UAT	Unit Auxillary Transformer
UFSAR	Updated Final Safety Analysis Report
VHRA	Very High Radiation Area