May 12, 2004

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

SUBJECT: PILGRIM NUCLEAR POWER STATION - NRC INTEGRATED INSPECTION REPORT 05000293/2004002.

Dear Mr. Balduzzi:

On March 31, 2004, the US Nuclear Regulatory Commission (NRC) completed an inspection at the Pilgrim Nuclear Power Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on April 8, 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.

This report documents two self-revealing findings of very low safety significance (Green) for which no violation of NRC requirements was identified. 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 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, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at Pilgrim.

Since the terrorist attacks on September 11, 2001, NRC has issued five Orders and several threat advisories to licensees of commercial power reactors to strengthen licensee capabilities, improve security force readiness, and enhance controls over access authorization. In addition to applicable baseline inspections, the NRC issued Temporary Instruction 2515/148, "Inspection of Nuclear Reactor Safeguards Interim Compensatory Measures," and its subsequent revision, to audit and inspect licensee implementation of the interim compensatory measures required by order. Phase one of TI 2515/148 was completed at all commercial power nuclear power plants during calender year '02 and the remaining inspection activities for the Pilgrim Nuclear Power Station were completed in July 2003. The NRC will continue to monitor overall safeguards and security controls at the Pilgrim Nuclear Power Station.

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

A. Randolph Blough, Director
Division of Reactor Projects

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

Enclosure: Inspection Report 05000293/2004002
w/Attachment: Supplemental Information

cc w/encl: G. J. Taylor, Chief Executive Officer, Entergy Operations
M. Kansler, President, Entergy Nuclear Operations, Inc.
J. T. Herron, Senior Vice President and Chief Operating Officer
S. J. Bethay, Director, Nuclear Assessment
D. L. Pace, Vice President, Engineering
B. O'Grady, Vice President, Operations Support
J. F. McCann, Director, Nuclear Safety Assurance
C. D. Faison, Manager, Licensing
M. J. Colomb, Director of Oversight, Entergy Nuclear Operations, Inc.
D. Tarantino, Nuclear Information Manager
B. S. Ford, Manager, Licensing, Entergy Nuclear Operations, Inc.
J. M. Fulton, Assistant General Counsel, Entergy Nuclear Operations, Inc.
S. Lousteau, Treasury Department, Entergy Services, Inc.
R. Walker, Department of Public Health, Commonwealth of Massachusetts
The Honorable Therese Murray
The Honorable Vincent deMacedo
Chairman, Plymouth Board of Selectmen
Chairman, Duxbury Board of Selectmen
Chairman, Nuclear Matters Committee
Plymouth Civil Defense Director
D. O'Connor, Massachusetts Secretary of Energy Resources
J. Miller, Senior Issues Manager
Office of the Commissioner, Massachusetts Department of Environmental Protection
Office of the Attorney General, Commonwealth of Massachusetts
Chairman, Citizens Urging Responsible Energy
S. McGrail, Director, Commonwealth of Massachusetts, SLO Designee
Electric Power Division

R. Shadis, New England Coalition Staff
J. Sniezek, PWR SRC Consultant
R. Toole, PWR SRC Consultant
Commonwealth of Massachusetts, Secretary of Public Safety

Distribution w/encl: H. Miller, RA/J. Wiggins, DRA
J. Jolicoeur, RI EDO Coordinator
C. Anderson, DRP
D. Florek, DRP
J. Clifford, NRR
T. Tate, PM, NRR
G. Wunder, Backup PM, NRR
W. Raymond, SRI - Pilgrim
C. Welch, RI - Pilgrim
A. Ford, Site Secretary - Pilgrim
Region I Docket Room (with concurrences)

DOCUMENT NAME: G:\BRANCH5\2-PG\PIL0402.wpd
After declaring this document "An Official Agency Record" it **will/will not** be released to the Public.
To receive a copy of this document, indicate in the box: "**C**" = Copy without attachment/enclosure "**E**" = Copy with attachment/enclosure "**N**" = No copy

OFFICE	RI/DRP		RI/DRP		RI/DRP					
NAME	DFlorek/DF		CAnderson/DF for		ABlough/AB					
DATE	05/12/04		05/12/04		05/12/04		05/ /04		05/ /04	

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No:	50-293
License No:	DPR-35
Report No:	05000293/2004002
Licensee:	Entergy Nuclear Operations, Inc.
Facility:	Pilgrim Nuclear Power Station
Location:	600 Rocky Hill Road Plymouth, MA 02360
Inspection Period:	January 1- March 31, 2004
Inspectors:	W. Raymond, Senior Resident Inspector C. Welch, Resident Inspector J. McFadden, Health Physicist J. Talieri, Reactor Engineer S. McCarver, Reactor Engineer D. Silk, Emergency Preparedness Specialist (in-office)
Approved by:	Clifford Anderson, Chief Projects Branch 5 Division of Reactor Projects

TABLE OF CONTENTS

SUMMARY OF FINDINGS

IR 05000293/2004002; 01/01/2004-03/31/2004; Pilgrim Nuclear Power Station; Personnel Performance During Non-routine Plant Evolutions and Events; Post Maintenance Testing.

The report covered a 13-week period of inspection by resident inspectors and regional specialists in engineering and health physics. Two self-revealing Green findings were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (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. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

Green. A self-revealing finding of very low safety significance was identified because maintenance workers conducting trouble shooting did not adequately evaluate the potential consequence of installing an electrical insulating blanket over exposed relays. This led to the inadvertent trip of a motor generator and plant transient on March 6, 2004.

The finding is greater than minor because it is associated with the human performance attribute of the initiating event cornerstone and adversely affects the cornerstone objective; it upset plant stability and caused a plant transient. The finding is of very low safety significance because the finding did not increase the likelihood of a primary or secondary loss of coolant accident, did not contribute to the likelihood of both a reactor trip and loss of mitigating equipment, and did not increase the frequency of a fire or flood. Additionally, the overpower condition remained within the safety analysis and was below the automatic reactor trip setpoint. No violation of regulatory requirements occurred

A contributing cause of this finding relates to the cross-cutting area of human performance in that maintenance workers during trouble shooting activities did not adequately evaluate the possible consequence of installing an electrical insulating blanket over the exposed relays. (1R14)

Cornerstone: Mitigating Systems

Green. A self-revealing finding of very low safety significance was identified because on December 5, 2003, plant personnel did not perform trouble shooting activities on a degraded residual heat removal system motor-operated valve (MO-1001-7D), in accordance with the station's trouble shooting procedure. Specifically, maintenance workers did not adequately consider potential latent failures and as a result did not adequately diagnose the extent of the valve's degraded condition. During post maintenance testing, significant additional damage to the valve's motor and associated thermal overload heaters occurred causing additional unnecessary unavailability for the D train of the residual heat removal system.

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating system cornerstone and adversely affects the cornerstone objective; it resulted in the valve being inoperable and unnecessarily increased the unavailability of the D train of the residual heat removal system. The finding is of very low safety significance because the residual heat removal system's safety functions were not lost and the D train was not inoperable for more than the Technical Specification allowed outage time. No violation of regulatory requirements occurred.

A contributing cause of the finding relates to the human performance cross-cutting area in that plant personnel conducting trouble shooting did not adequately consider potential latent failures during trouble shooting activities as prescribed in the station's trouble shooting procedure. (1R19)

B. Licensee Identified Violations

Violations of very low safety significance, which were identified by the Entergy, have been reviewed by the inspectors. Corrective actions taken or planned by Entergy have been entered into Entergy's corrective action program. These 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 for the majority of the inspection period at 100 percent (%) core thermal power, except for short periods of planned operation at reduced power for routine testing and maintenance.

An unplanned power change occurred the morning of March 6, 2004, while operating at 100% power. Power increased to about 3.5% above the full power value after an inadvertent trip of a vital motor generator set caused an increase in the speed of the reactor recirculation pumps. Control room operators reduced power to 95% within six minutes of the onset of the power increase.

A reduction in power to 50% commenced at 8:00 a.m. on March 22, 2004, to support thermal backwash of the main condenser and was followed by a planned outage to replace the pilot valves for safety relief valves RV-203-3A and 3D. The unit was removed from the electrical grid at 9:00 p.m. on March 22 and entered cold shutdown at 8:55 a.m. on March 23.

The reactor was taken critical at 10:15 p.m. on March 24 and the plant synchronized to the electrical grid at 11:05 a.m. on March 25. Full power, 2028 MWt, was obtained at 11:58 a.m. on March 26. Minor power reductions for rod pattern adjustments occurred on March 26 and 27. Power was reduced to 50% on March 29 to establish the final target rod pattern and full power was reached on March 30 at 2:00 a.m..

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope (2 samples)

The inspector performed walkdowns of plant systems during periods of extended cold weather during the weeks of January 12, 19, and 26, 2004. The inspector assessed Entergy's cold weather preparations and verified that the cold conditions did not render key safety systems inoperable. The safety systems, structures, and components focused on during the inspection included the fire water storage tanks, the condensate tanks, the A and B emergency diesel generators, the station blackout diesel generator, and the salt service water pumps. Completed copies of station procedure 8.C.40, "Cold Weather Surveillance," were reviewed. The Updated Final Safety Analysis Report section 10.9.3 and Table 10.9-1 "Design Temperatures (Winter)," were used as references during the inspection.

The inspector verified the EDG ventilation systems were aligned for winter operation and the ethylene glycol levels were greater than 40% as required in the winter lineup section of procedure 2.2.108, "Diesel Generator Cooling and Ventilation System." The inspector reviewed the system health report and outstanding maintenance items for the heating ventilation and air conditioning (HVAC) system and discussed the systems overall health

with the system engineer. The condition report (CR) database was searched for CRs associated with cold weather / freezing conditions for years 2001 through 2003 to verify Entergy was identifying cold weather related issues and had taken effective corrective actions. This inspection activity represented one sample of Entergy's preparations for cold weather.

The inspector performed walkdowns of plant systems during periods of extreme cold weather on January 14, 15, 19, 20 and 26, 2004. The inspector assessed Entergy's cold weather protection and verified that the cold conditions did not render key safety systems inoperable. The safety systems reviewed during the inspection included the emergency diesel generators, the salt service water pumps, and the facilities and components used in the emergency plan.

The inspector verified that Entergy was identifying cold weather related issues and had taken effective corrective actions (reference Condition Reports 20040110, 20040158, 20040169). For the condition described in Condition Report 20040110, the inspector reviewed Entergy's actions to address the effect of cold temperature on the public alert and notification system (PANS), along with the actions to implement compensatory measure and to restore the PANS to full operability. Following Entergy's discovery on January 15, 2004, that 87 of the 112 emergency planning sirens were degraded, with the majority inoperable due to cold weather conditions, the inspectors verified that Entergy put into effect route alerting plans as a compensatory measure. Entergy restored all but two sirens to a fully functional status on January 19, with the two outstanding sirens disabled for unrelated reasons (car accident and road construction). The PANS function became degraded when outside temperatures dropped below 8 degrees Fahrenheit because of a manufacturing error in the new siren controllers installed during the summer 2003. Other references used during this review are described in the attachment to this report. This inspection activity represented one sample of the protection of plant systems for specific cold weather related conditions.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

1. Partial System Walkdowns

a. Inspection Scope (4 samples)

The inspector completed a partial review of risk significant plant systems during periods when the redundant system was out of service for scheduled preventive 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.

- A EDG System walkdown during B EDG Testing on February 24, 2004
- A Core Spray system on February 2, 2004
- RCIC System during the HPCI Outage on 2/25-27/04
- Core Spray system March 23, 2004, while shutdown in an elevated risk condition for decay heat removal.

b. Findings

No findings of significance were identified.

2. Full System Walkdown

a. Inspection Scope (1 Sample)

The inspector performed a full system review of the reactor building closed cooling water (RBCCW) system. Proper alignment of key valves and breakers was verified by walkdown of accessible portions of the system and observation of main control board indications and plant computer information. Procedures 2.2.30, "Reactor Building Closed Cooling Water (RBCCW) System," and 8.C.43, "Monthly System Valve Lineup Surveillance," were reviewed along with plant drawing M215 "P&ID Cooling Water System Reactor Building," to determine the required configuration. The Updated Final Safety Analysis Report (UFSAR), Technical Specifications, and system training manual were also reviewed.

The material condition of the RBCCW system was assessed through visual inspection of the accessible portions of the system, and a review of condition reports (January 2001-February 2004), outstanding maintenance requests, the fourth quarter 2003 system health report, maintenance rule information, and discussion with the system engineer.

The inspector sampled Entergy's corrective action program records to verify that Entergy was identifying and correcting equipment alignment problems at an appropriate threshold.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

1. Quarterly Fire Protection Inspection

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. This inspection activity represented eleven samples.

- Fire Zone 2.7, Turbine Lube Oil Reservoir
- Fire Zone 2.5, Clean and Dirty Lube Oil Storage
- Fire Zones 2.11, 2.11A, 2.12, 2.12A, comprising the 51 ft main turbine deck area
- Fire Zone 1.28, Reactor Recirculation Pump Motor Generator Sets Room
- Fire Zone 5.1, A Train Service Water Pump Room
- Fire Zone 1.11, Reactor Building 51 ft Elevation East
- Fire Zone 1.12, Reactor Building 51 ft Elevation West
- Fire Zone 2.3, A Battery Room Turbine Building 37 ft Elevation

b. Findings

No findings of significance were identified.

2. Annual Fire Drill Observation

a. Inspection Scope (1 Sample)

The inspector monitored the performance of fire brigade training drills conducted on January 14, and March 3, 2004. The drills involved a simulated fire in the Technical Support Center diesel room (January 14) and the A station battery room (March 3). For the March 3 drill, the inspector observed fire brigade personnel performance, and verified that Entergy's pre-planned drill scenario was followed and that the drill objectives were met. The inspector verified that proper protective clothing and breathing apparatus were donned, that sufficient fire fighting equipment was brought to the scene, and fire protection personnel entered the fire area in a controlled manner. The inspector also verified that adequate fire fighting equipment specified in procedure PNPS 5.5.2, "Special Fire Procedure," was properly staged for the area.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

1. Bi-Annual Review

a. Inspection Scope (4 Samples)

The inspectors reviewed Entergy's programs and processes to ensure that the system components listed below could perform their design functions as intended. This inspection activity represented four samples.

- Reactor Building Component Cooling Water (RBCCW) Heat Exchangers (E-209A/B)
- Emergency Diesel Generator (EDG) A/B Radiators

The RBCCW heat exchangers transfer heat from various systems in the reactor building and from the Residual Heat Removal (RHR) heat exchangers to the Salt Service Water (SSW) system, which is the ultimate heat sink. The EDGs are cooled by a fan and radiator arrangement which draws outside air through a system of ducts and dampers to direct flow. The EDG Jacket Water pump circulates engine coolant through the radiator tubes where it transfers engine heat to the air.

To ensure compatibility with commitments made in response to Generic Letter 89-13, "Service Water System Problems Affecting Safety Related Equipment," the inspectors reviewed Entergy's inspection, cleaning, and performance monitoring methods and frequency. The inspectors compared surveillance test and inspection data to the established acceptance criteria to verify that the results were acceptable and that operation was consistent with design.

The inspectors reviewed Entergy's methods for controlling biotic fouling, such as sodium hypochlorite injection and monitoring for mussel growth, to verify that they were implemented effectively. Additionally, the inspectors walked down the selected heat exchangers, the sodium hypochlorite system, the EDG rooms and the SSW system to assess the material condition of these areas.

The inspector also reviewed a sample of Condition Reports (CR) related to the selected systems. This review was done to ensure that Entergy was appropriately identifying, characterizing, and correcting problems related to these components.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

1. Licensed Operator Requalification Training (1 sample)

The inspector observed the performance of a staff crew during a simulator exam on January 30, 2004. The exam was performed in accordance with Scenario SES-134. The scenario involved 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 system operating procedures and emergency operating procedures. 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 use of industry operating experience, and the consistency between the simulator and the plant control room.

b. Findings

No findings of significance were identified.

1R12 Maintenance Implementation (71111.12)

a. Inspection Scope (3 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. The inspector attended meetings and reviewed Entergy's plans to address the 8 systems in maintenance rule a(1) status as of January 19, 2004. This inspection activity represented three samples:

- Proper classification of equipment issues for the high pressure coolant injection (HPCI) system. The inspector reviewed Entergy's actions regarding the ramp generator termination box, the overspeed trip device, the injection valve control power, the turbine trip valve and the use of incorrect performance criteria. Additional references used in this review are listed in the attachment to this report. The inspector reviewed Entergy's basis for placing the HPCI system in maintenance rule a(1) status during this period.

- Proper classification of equipment issues for the reactor core isolation cooling (RCIC) system. Additional references used in this review are listed in the attachment to this report. The inspector reviewed Entergy's basis for placing the RCIC system in maintenance rule a(2) status.

- Proper classification of equipment issues for the reactor building closed cooling water (RBCCW) system. Additional references used in this review are listed in the attachment to this report. The inspector reviewed Entergy's basis for placing the RBCCW system in maintenance rule a(1) status. This review covered one sample.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (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 effect 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. This inspection activity represented six samples:

- Planned maintenance activities the week of January 25, including an in-depth review for the elevated "Yellow" risk condition on Tuesday, January 27.
- Emergent Work on D Salt Service Water Discharge Pipe for corrosion per MR 04100606 (CR 200400391).
- Emergent work on the HPCI Gland Seal Condensate Pump P-220 on February 26 per MR 04102939.
- Planned maintenance activities the week of February 23, including an in-depth review for the elevated "Yellow" risk condition on February 25 and 26 for the planned HPCI outage (MRs 03116717, 02116212, P9800669, 03119413, 04100143).
- Planned maintenance activities on Thursday, March 18, including review of established compensatory measures for the degraded condition of the electric fire pump.

- Planned maintenance resulting in an elevated “Yellow” risk condition for decay heat removal on March 23, to replace salt service water valve 29-HO-3834.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope (2 Samples)

The inspector responded to the site on March 6, 2004, in response to a transient that occurred at 10:22 a.m. following the inadvertent trip of the vital motor generator set. The inspection focused on personnel performance and was accomplished through an interview of station personnel, observation of the work site and fact-finding meeting, and reviews of operator logs, plant computer information, alarm printouts, and station drawings and procedures. Operator response to the transient was compared to station procedures to determine if the response was appropriate to the event and in accordance with procedures and training. The plant equipment response was reviewed and verified acceptable or captured in the corrective action program. The inspector also observed portions of the control room activities to restore power to 100%. This inspection activity represented one sample.

On March 12, 2004, the inspector observed control room operators perform a dead bus transfer to restore vital bus Y-2 back to the vital motor generator set. This infrequently performed evolution was accomplished in accordance with Attachment 7 of procedure 2.2.16, “120/240V AC Vital Services Instrument Power Supply (Y-2).” The inspector also observed just in-time training performed earlier that morning. The inspection focused on communications, command and control, and procedure adherence. This inspection activity represented one sample.

b. Findings

Introduction

Green. A self-revealing finding of very low safety significance was identified because maintenance workers conducting trouble shooting did not adequately evaluate the potential consequence of installing an electrical insulating blanket over exposed relays. This led to the inadvertent trip of a motor generator and plant transient on March 6, 2004.

Description

During trouble shooting activities inside the vital motor generator (MG) control cabinet, plant personnel inadvertently tripped the MG causing a momentary loss of electrical power to vital bus Y-2, a plant transient, and a small power increase. This MG is not safety related. Reactor power increased to about 3.5% above full power. Control room operators immediately recognized the power increase and reduced power to 95% within 6 minutes of the onset of the overpower condition.

Maintenance workers did not adequately evaluate the potential to adversely effect exposed equipment mounted on the inner door of the control cabinet prior to the installation of a protective rubber insulating blanket. Trouble Shooting procedure 3.M.1-34, states in part that an important consideration prior to trouble shooting is identification of the possible undesirable consequences on the plant from the planned troubleshooting activities. Workers installed the insulating blanket after they noted that exposed capacitors mounted on the bottom of the inner door could potentially strike the backside of the outer door and short. The workers supported the blanket from the top of the inner door and allowed it to rest on the exposed relays mounted on the upper portion of the inner door. Prior to the use of the blanket, the workers did not consider the consequence of movement of the insulating blanket over the exposed relays. Subsequent movement of the blanket during the maintenance activity applied a sufficient force on the under voltage relay wires, on which the blanket rested, to cause the contacts to open. As a result, the supply breaker to the AC motor tripped. Eighteen seconds later, the generator output breaker tripped and Y-2 momentarily de-energized before transferring to its backup power supply, bus B-15.

The drop in Y-2 voltage and frequency, as the motor-generator coast-down, adversely affected the two reactor recirculation pumps speed control circuits, which falsely sensed a decreasing pump speed with no corresponding change in demand signal. In response, the control circuits raised each recirculation pump's speed to match its demand signal, increasing core flow and reactor power to approximately 103.5%. When the generator output breaker tripped and Y-2 de-energized, the recirculation pump speed control circuits locked up preventing any further speed changes. Operators properly responded to the transient and lowered reactor power to 95% within 6 minutes of the onset of the overpower transient.

Analysis

The finding is greater than minor because it is associated with the human performance attribute of the initiating event cornerstone and adversely affects the cornerstone objective; it upset plant stability and caused a plant transient. The finding, in phase one of the at power SDP, screened to Green under the initiating event cornerstone. The finding did not increase the likelihood of a primary or secondary loss of coolant accident, did not contribute to the likelihood of both a reactor trip and loss of mitigating equipment, and did not increase the frequency of a fire or flood. Additionally, the overpower condition remained within the safety analysis and was below the automatic reactor trip

setpoint. **FIN 05000293/2004002-01 Maintenance Workers Did Not Adequately Evaluate Use of an Electrical Insulating Blanket Over Exposed Relays**

A contributing cause of this finding relates to the cross-cutting area of human performance in that maintenance workers during trouble shooting activities did not adequately evaluate the possible consequence of installing an electrical insulating blanket over the exposed relays as prescribed in the station's trouble shooting procedure.

Enforcement

No violation of regulatory requirements occurred. License condition 3.A, Maximum Power Level; states the facility may be operated at a steady state power level not to exceed 2028 MWt. On March 6, 2004, the facility operated for less than 6 minutes at approximately 2100 MWt, or roughly 103.5% of rated thermal power. This overpower condition constituted a transient condition, not steady state operation, was below the analyzed transient overpower condition, and was promptly and properly corrected by the operators within the time requirements of Technical Specification 3.11.D.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope (4 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 and PNPS Procedures 1.3.34.5, "Operability Evaluations," and ENN-OP-104, "Operability Determinations," as references. This inspection activity represented four samples.

- EE 04100767 for OE 03-022, RB Truck Lock Pass Door (CR 200301413)
- REO for CR 200400285, Spent Fuel Rack Boron Surveillance
- REO and Engineering Evaluation dated 2/6/04 for D Service Water Pump Corrosion (CR 20040391)
- OE for CR 200400742, Potential common cause failure of safety related pumps due to fouling of pump recirculation line flow orifices (NRC IN 2004-001).

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope (1 sample)

The inspector selected a risk-significant plant modification package for review to verify that the design bases, licensing bases, and performance capability of the risk significant system had not been degraded through the modification. The modification selected for review was PDC 03-083, Control Room Beta Annunciator System Upgrade.

For the selected modification, the inspector reviewed the design inputs, assumptions, and validations to determine the design adequacy. In addition, the inspector reviewed the associated 10 CFR 50.59 safety evaluation to verify that the safety issue pertinent to the changes were properly resolved or adequately addressed. The inspector also reviewed: (1) field implementation of the changes to the annunciator system logic cards, scanner cards and alarm controllers; (2) post-modification functional testing to determine the readiness for operations; and, (3) compensatory measures used during periods when the annunciators were not functional. The inspector reviewed the associated drawings to independently verify the changes and post-work test methods were appropriate. The inspector reviewed Entergy's actions to disposition discrepancies identified during the modification (reference condition reports 20040783, 20040784, 20040785, 20040786 and 20040792). The inspector walked-down portions of the modification in the control room and observed installation and testing activities in progress. The inspector monitored the performance of the annunciator system during periodic reviews of plant operations. References used during this review as listed in the attachment to this report. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope (11 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 eleven samples of post-work testing.

- MR 04100126, Raise SRV Alarm Setpoints to 230 degrees F, 01/26/04
- MR 03120762, Jumper for Turbine Stop Valve Alarm Relay, 1/22/4
- MR 02111327, D RBCCW pump coupling lube and oil change, 1/27/04.

- MR 02120149, Modifications to Plant Annunciator Logic per PDC 03-083
- MR 04103529, Upgrade Annunciator Power Supply per PDC 03-083
- MR 04101562, Partial Repack of MSIV AO-203-2A
- MR 03101432, RV-203-3D Remove/Replace valve to correct leakage
- MR 03101431, RV-203-3A Remove/Replace valve to correct leakage
- MR 03111036, MO-1001-43B limit and torque switch inspection
- MR P9800859, MO-1001-43C EQ BKR PM
- MR P9800895, MO-1001-7C EQ BKR PM

b. Findings

Introduction

Green. A self-revealing finding of very low safety significance was identified because on December 5, 2003, plant personnel did not perform trouble shooting activities on a degraded residual heat removal system motor-operated valve (MO-1001-7D), in accordance with the station's trouble shooting procedure. Specifically, maintenance workers did not adequately consider potential latent failures and as a result did not adequately diagnose the extent of the valve's degraded condition. During post maintenance testing, significant additional damage to the valve's motor and associated thermal overload heaters occurred causing additional unnecessary unavailability for the D train of the residual heat removal system.

Description

On December 1, 2003, during installation of the actuator cover for torus suction valve MO-1001-7D, maintenance workers unintentionally pinched a motor lead between the actuator housing and its cover plate. The damaged lead shorted to ground during subsequent valve operation on December 4 and energized main control board alarm "RHR B Valves Overload" a few seconds into the fifth valve stroke. Plant personnel conducted troubleshooting activities per 3.M.1-34, "Generic Trouble Shooting and Maintenance Procedure," and identified the damaged motor lead, signs of arcing, and that the motor was in good condition. However, the trouble shooting was narrowly focused and did not adequately consider potential latent failures, as specified in 3.M.1-34, due to the known short. As a result, plant personnel did not identify that one of three thermal overload heaters located in the breaker cubicle had failed. On December 5, following repair of the damaged lead, maintenance workers conducted a post maintenance test. During the test the overload alarm was received almost immediately upon energizing the motor and the valve did not move. Entergy's subsequent investigation found all three overload heaters and the motor had been damaged (CR200304424). Entergy completed the necessary repairs and restored the train to service on December 6. The additional unavailability from December 5 to December 6 could have been avoided had adequate troubleshooting been conducted on December 4 and 5.

Analysis

The finding is greater than minor because it is associated with the equipment performance attribute of the mitigating system cornerstone and adversely affects the cornerstone objective; it resulted in the valve being inoperable and unnecessarily increased the unavailability of one train of the residual heat removal system. The finding, in phase one of the at power SDP, screened to Green under the mitigating system cornerstone. The RHR system' safety functions were not lost and the D train was not inoperable for more than the allowed 7-day outage time. **FIN 05000293/2004002-02 Plant Personnel Did Not Perform Adequate Trouble Shooting Activities on a Degraded Residual Heat Removal System Motor-Operated Valve.**

A contributing cause of the finding relates to the human performance cross-cutting area in that plant personnel conducting trouble shooting did not adequately consider potential latent failures during trouble shooting activities as prescribed in the station's trouble shooting procedure.

Enforcement

No violation of regulatory requirements occurred.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope (1 Sample)

Review of Outage Plan

The inspector reviewed the work scope and risk assessment for the planned outage conducted on March 22-26, 2004, to verify Entergy addressed the outage's impact on defense-in-depth for the five shutdown critical safety functions; electrical power availability, inventory control, decay heat removal, reactivity control, and containment. Compensatory measures established for the elevated "Yellow" risk condition due to reduced shutdown cooling capability during maintenance on salt service water valve 3834 were reviewed and verified on a sampling basis.

Monitoring of Shutdown Activities

The inspector observed periods of 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"; and to place the plant in a cold shutdown condition. The inspector reviewed the reactor vessel cool down rate, recorded per 2.1.7, "Vessel Heat up and cool down," to determine whether it was within technical specification requirements.

Reactor Coolant System Instrumentation & Decay Heat Removal Monitoring

Periodic walkdowns of the main control boards were performed to assess operation of the residual heat removal system and to verify indicated plant parameters for reactor coolant level, temperature, and pressure.

Monitoring of Heatup and Startup Activities

The inspector observed portions of the startup activities on March 24-26 and 29. The inspection was performed by periodic control room observations and reviews of operator logs, plant computer information, and station procedures 2.1.1, Startup from Shutdown and 2.1.14, Station Power Changes. Reactor vessel heatup data, recorded per 2.1.7, Vessel Heat up and cool down, was reviewed to verify whether it was within technical specification requirements. The brief and special test of the safety relief valve pilot valves, accomplished per 8.5.6.2, Special Test for ADS System Manual Opening of Relief Valves, were observed by the inspector.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope (7 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, 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 seven inspection samples:

- 8.5.5.1, “RCIC Pump Operability Flow Rate and Valve Test At Approximately 1000 psig,” and 8.A.17, “RCIC System Integrity Surveillance.”
- 8.5.5.4, “RCIC Motor Operated Valve Quarterly Operability Test.”
- 8.5.1.1 Attachment 2B, “Core Spray System Operability - Pump Quarterly and Biennial Comprehensive Flow Rate Tests and Valve Tests,” (B pump).
- 8.5.4.1, “High Pressure Coolant Injection (HPCI) System Pump and Valve Quarterly Operability.”
- 8.E.23.1, “HPCI Turbine Speed Control Calibration,” Attachments 2 and 4.
- 9.9, “Control Rod Scram Insertion Time Evaluation.”
- 8.5.6.2, “Special Test for ADS System Manual Opening of Relief Valves.”

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope (3 samples)

The inspector reviewed two temporary modifications to verify that the licensing bases and performance capability of the associated risk significant systems had not been degraded through the modifications. The temporary modifications reviewed were:

- Temporary Alteration 03-1-082 to reset the alarm from relay 5A-K10B which was affected by a problem with turbine stop valve limit switch SVOS-1A(5). The temporary modification provided for allowing alarms from any other turbine stop valve. The inspector also reviewed Entergy's actions to address the issues described in Condition Report 200400241.

- Temporary Alteration 04-01-002 to reconfigure the tailpipe temperature alarms for safety relief valves SRV-3A and SRV-3D. The temporary modification provided new alarm setpoints above the current tailpipe temperatures for the leaking valves to assure the operators are alerted to degrading leakage conditions.

The inspector reviewed the design and licensing basis assumptions and the administrative controls to determine the adequacy of the temporary modification. In addition, the inspector reviewed the associated safety evaluation screening to verify that the safety issue pertinent to the changes were properly addressed. The inspector also reviewed the post-installation testing plans to verify the tests would assure the affected components were ready for operations. The inspector reviewed the control room logs to verify that selected temporary modifications were properly recorded. The inspector reviewed condition reports (CRs) related to temporary modifications to verify that identified problems were appropriately resolved. Additional references used in this review are identified in the attachment to this report.

The inspector also reviewed the installation of Temporary Alteration 04-1-005, to disable the reactor feed pumps seal water/cooling water low flow trip. The temporary alteration was chosen as a sample because of its potential to initiate a plant transient. The temporary alteration lifted leads in the main control board per Attachment 8 of procedure 2.2.31.1, "On-line Isolation of E-122A/E-122B TBCCW Heat Exchangers," to disable the low flow trip while maintaining the low flow alarm operational. The inspector reviewed the temporary alteration, applicable schematics, the maintenance risk assessment, the lifted lead and jumper log, and the alarm response procedure and verified placement of the temporary alteration tags.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope (1 sample)

An in-office inspection that reviewed recent changes to emergency plan implementing procedures was conducted on February 18-23, 2004. A thorough review was conducted for documents related to the risk significant planning standards (RSPS) and a general review was completed for non-RSPS documents. The review verified the changes, satisfied the standards of 10 CFR 50.54(q), 10 CFR 50.47(b), the requirements of 10 CFR 50 Appendix E, the intent of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" and that the changes did not decrease the effectiveness of the plan. However, these changes are subject to future NRC inspections to ensure that as a result of these changes the emergency plan continues to meet NRC regulations.

b. Findings

No findings of significance were identified.

EP6 Drill Evaluation (71114.06)

a. Inspection Scope (3 Samples)

The inspector observed portions of the February 5 and March 10, 2004, emergency planning drills to assess Entergy's ability to identify and classify plant events in accordance with the Emergency Action Levels and complete the required notifications in a timely manner. Operator response, communications, and command and control in the simulator control room, technical support center and emergency operations facility were also assessed during periods of observation. The drill critique was reviewed to verify the Entergy was identifying areas for improvement. This inspection activity represented two samples.

The inspectors observed training of licensed operators on January 30, 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.

The inspector also verified Entergy was identifying drill and emergency preparedness related deficiencies and addressing these issues in the corrective action process. The inspector reviewed Entergy's actions for the following condition reports: 20040110 and 20040818.

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)

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 (7) samples relative to this inspection area (i.e., inspection procedure sections 02.01, 02.03.a, b, c, and d, and 02.05.a and b) in partial fulfillment of the annual inspection requirements.

Inspection Planning (02.01)

The inspector verified that there were no Entergy Performance Indicator events for the Occupational Exposure Cornerstone which required follow-up.

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

During this week of inspection, 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 discussed the corrective action reports with several members of the radiological protection staff to determine that the follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk. The self-assessments, conducted since the last inspection, did not cover health physics access controls directly but one self-assessment did address the human performance aspect of this activity in the Radiation Protection Department. This self-assessment did address one type of deficiency identified in the corrective action reports. As noted above, there were no Entergy Performance Indicator events or Entergy 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 this week of inspection, the inspector met at various times with the Radiation Protection Manager and a Radiation Protection (RP) Specialist 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 verify that the level of worker protection was adequate.

Related Activities

On March 23 and 25, the inspector observed Radiologically-Controlled Area (RCA) entries and exits being made by radiation workers at the primary RCA access control point to verify compliance 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 reactor, auxiliary, and radioactive waste buildings inside the primary RCA to verify the adequacy of the radiological controls which were being implemented. 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. In addition, on March 24, the inspector observed radiological controls being implemented in the drywell during a maintenance outage. Also, on March 25, the inspector examined satellite RCAs including the locations of the warehouse where the respiratory protection maintenance facility was located, the trash compaction facility, the low level radioactive waste storage facility, the retube building, and the off-gas retention building.

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 (2 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 two (2) samples relative to this inspection area (i.e., inspection procedure sections 02.01.a and 02.03.a) in partial fulfillment of the biennial inspection requirements.

Inspection Planning (02.01.a)

Prior to and during this inspection, the inspector reviewed pertinent information regarding plant collective exposure history, current exposure trends, and ongoing or planned activities in order to assess current performance and exposure challenges. The inspector determined the plant's three-year rolling average collective exposure through the end of 2002. The inspector also reviewed the site's collective exposure for 2003 and the preliminary three-year rolling average collective exposure through the end of 2003.

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

On March 23, the inspector met with an ALARA Specialist. During this meeting, the inspector reviewed the assumptions and basis for the current annual collective exposure estimate for 2004 for an anticipated year of normal operations with contingencies for emergent work. The inspector also reviewed the applicable ALARA procedures used to determine the methodology for estimating work activity-specific exposures and the intended dose outcome.

Related Activities

Also, on March 23, the inspector discussed the ALARA activities in support of the current maintenance outage with an ALARA specialist. The inspector reviewed the pre-job reviews and estimates for the RWPs for this maintenance outage.

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 (1 sample)

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 one (1) sample relative to this inspection area (i.e., inspection procedure section 02.04.a) in partial fulfillment of the biennial inspection requirements.

Problem Identification and Resolution (02.04.a)

The inspector reviewed Entergy self-assessments and Condition Reports since the last inspection in this area to focus on radiological incidents that involved personnel-contamination-monitor alarms due to personnel internal exposures. The reviewed documents did not identify any significant recordable internal exposures.

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.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope (3 samples)

The initiating event cornerstone performance indicator (PI) data for unplanned scrams per 7,000 critical hours; unplanned scrams with loss of normal heat removal; and unplanned power changes per 7,000 critical hours were reviewed to assess the completeness and accuracy of the reported information. Specifically, PI data for the year 2003 was reviewed and compared to information contained in NRC inspection reports, Licensee Event Reports, and the Pilgrim monthly operating reports. This inspection activity represented three samples.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Reactor Safety Cornerstone

1. Routine Quarterly 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 the 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.

The inspector noted an apparent trend over the past year with main control board alarms from safety related breaker thermal overloads. To ensure a more significant safety issue did not exist, the inspectors reviewed the related condition reports listed below, interviewed engineering personnel, and reviewed station drawings, design documents, and procedures.

- CR 2003-01715 dated April 29, 2003; MO-1400-4A overload alarm came in during the fourth full stroke out of five.
- CR 2003-01750 dated April 30, 2003; Received RHR A Valves overload Alarm while stroking MO-1001-43A closed from ALT shutdown panel, and related CR 2003-01774.
- CR 2003-03281 dated August 28, 2003; HPCI overload came in while starting HPCI gland seal blower.
- CR 2003-04424 dated December 4, 2003; During PWT of MO-1001-7D received overload alarm on the second open stroke.
- CR 2004-00200 dated January 21, 2004; During PWT of MO-1001-7C received overload alarm on second stroke.

b. Findings

No findings of significance were identified.

Radiation Safety Cornerstone

2. Annual Sample of Corrective Action Program Issues

a. Inspection Scope (1 sample)

The inspector selected ten issues identified in the Corrective Action Program (CAP) for detailed review (Condition Report Nos. CR-PNP-2003-03754, -03775, -03997, -04019, -04079, -04189, -04531, and -04672 and CR-PNP-2004-00899 and -00292). The issues were associated with the use of bubble suits for respiratory protection, allowable dose alarm set points, use of an unapproved radioactive material storage area, contaminated materials found in a clean area, a backlog of health physics instruments for repair, failure

to follow an air sampling procedure, the calibration of a liquid radioactive waste process monitor, failure to update a radiological effluent program document, failure of an ion chamber instrument in the field, and failure to document a survey reading. The documented reports for the issues were reviewed to ensure that the full extent of the issues was identified, an appropriate evaluation was 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 (1 sample)

a. (Closed) LER 50-293/2003-005: HPCI and RCIC Inoperable due to De-energized Bus Caused by Breaker Malfunction. The inspector reviewed Entergy's actions associated with Licensee Event Report (LER) 50-293/2003-005. Corrective actions were described in Condition Report 200303394. This event was also described in Section 4OA3 of NRC Report 2003-07. The LER provided an accurate description of the event and followup actions. The inspector noted that Entergy's root cause and equipment failure evaluations had identified that the current transformer had failed causing the breaker to malfunction. There had been no other similar failures noted at Pilgrim. This LER is closed.

4OA5 Other Activities

a. Inspection Scope (2515/TI-154)

Temporary Instruction 2515/TI-154, "Spent Fuel Material Control and Accounting at Nuclear Power Plants." Phase I and Phase II of the inspection was completed during this inspection period. Appropriate documentation was provided to NRC management as required.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On April 8, 2004, the inspectors presented the inspection results to Mr. Michael Balduzzi, and other members of his staff. The inspectors confirmed that no proprietary information was provided or examined during the inspection.

4OA7 Licensee-Identified Violation

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

- 10 CFR 50.65 requires Entergy to monitor certain plant systems and to initiate appropriate corrective actions when system performance does not meet Entergy established goals. Contrary to the above, on January 19, 2004, Entergy determined that the high pressure coolant injection (HPCI) system had exceeded the Pilgrim Station Maintenance Rule program performance criteria for functional failures in August 2003, but no action had been taken to initiate the appropriate corrective actions because the wrong criteria had been in use to trend HPCI performance. This item was captured in CR 200400168.

- Contrary to 10 CFR 50, Appendix B, Criterion XVI, Entergy's actions were ineffective to prevent corrosion induced loss of wall thickness on the discharge pipes for the safety-related salt service water pumps. Specifically, Entergy identified in November 2000 that chronic wetting conditions and corrosion had caused loss of wall thickness on pipe spool piece JF29-15-9 on the discharge of the D salt service water pump. Subsequent actions and monitoring were ineffective to preclude continued exterior corrosion of the pipe spool piece, resulting in significant additional pipe wall loss as noted during maintenance activities in January 2004. This item was captured in CR 20040391.

- Contrary to 10 CFR 50, Appendix B, Criterion XVI, on March 2, 2003, Entergy failed to enter into the corrective action program unexpected chemistry results obtained for the B train of reactor building closed cooling water. The results indicated a potential dilution event had occurred and were symptomatic of an ongoing leak. Investigation into CR 200400733, documenting additional degraded chemistry results on March 9, identified the B RBCCW loop had been inoperable for approximately 2 days (CR 200400818) as a result of system leakage through a maintenance boundary that exceeded allowable values. This item was captured in CR 200400818.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Entergy personnel:

M. Balduzzi	Site Vice President
P. Dietrich	General Manager
E.Olson	Operations Manager
T. White	Director of Engineering
S. Bethay	Director Safety Assessment
V.Fallacara	Training Manager
G. Choquette	Senior Engineer
D. Ellis	Licensing
J. Gaetdke	Senior Engineer
M. Gatslick	Licensing
P. Harizi	Senior Lead Engineer
J. Keene	Senior Engineer
P. Smalley	Senior HP/Chemistry Specialist
W. Coady	ALARA Specialist
R. Hartnett	Lead Radiation Protection Technician
P. Leavitt	Chemist
W. Lobo	Licensing Engineer
D. Perry	Radiation Protection Manager
R. Reilly	Chemist
T. Tetzlaff	Supervisor, Radiological Operations
G. Zavaski	Radiation Protection Specialist, Projects

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000293/2004002-01 FIN	Maintenance Workers Did Not Adequately Evaluate Use of an Electrical Insulating Blanket Over Exposed Relays
05000293/2004002-02 FIN	Plant Personnel Did Not Perform Adequate Trouble Shooting Activities on a Degraded Residual Heat Removal System Motor-Operated Valve.

Closed

05000293/2003-005 LER	HPCI and RCIC Inoperable due to De-energized Bus Caused by Breaker Malfunction

LIST OF DOCUMENTS REVIEWED

References for Section 1R01

Condition Report 20040158, EOF Damage Caused by Frozen Water Pipe
Condition Report 20040110, 87 of 112 PANS Sirens Degraded
Entergy Letter to Federal signal dated 12/31/02 (Contract # 4500520037)
Federal Signal Corporation Contract # 4500520037 for Upgrades Siren System
Federal Signal RFQ NPP00121 Prompt Alert Siren System
UltraVoice Electronic Siren Controller Product Specification
Federal Signal Root Cause Analysis of Model UV400 dated 2/9/04
Operating Experience Report OE176113 dated 1/16/04
Federal Signal Announcement dated 1/23/04
Monthly Siren Testing Summary for January 2004

References for Section 1R04

2.2.22, Reactor Core Isolation Cooling System
M245, RCIC System
2.1.12.1, Emergency Diesel Generator Daily Surveillance
EOOS Plant Risk Estimate and Protected Equipment for 2/25/04
M242, Core Spray
2.2.20, Core Spray

References for Section 1R05

Drawing M218, Fire Protection System
USAR Section 10.8-1, Fire Protection System
Report 89XM-1-ER-Q, Updated Fire Hazards Analysis
Procedure NOP83FP1, Fire Protection Plan
Procedure 8.B.11, Fire Valve Operability
Transient Combustible Evaluation OE-91 and 93, Turbine Building 51 Ft Elevation
Procedure 8.B.4.14, Fire Panel C95 Turbine Building Functional Test
Procedure 8.B.4.15, Fire Panel C96 Recirc Pump MG Set Room Functional Test
Procedure 2.2.29, Smoke and Heat Detection System
Procedure 5.5.2, Special Fire Procedure
Procedure 8.B.39.1, Fire Extinguisher Quick Checks

References for Section 1R07

1.3.34, Conduct of Operations
2.2.95, Chlorination System, Rev. 49
7.2.40, Intake Canal, Discharge Canal & Screenwell Sampling and TRC Analysis, Rev. 9
7.3.4, Salt Service Water Discharge Headers Sampling and Analysis, Rev. 19
7.8.1, Water Quality Limits, Rev. 31
7.8.7, Recording and Trending of Chemistry Data, Rev. 1
8.5.3.14.1, RBCCW Heat Exchanger Thermal Performance Test, Rev. 3, dated April 21, 2001
8.5.3.14.1, RBCCW Heat Exchanger Thermal Performance Test, Rev. 4, dated April 20, 2003
8.5.3.14/2, RHR Heat Exchanger Thermal Performance Test, Rev. 1, dated April 21, 2001
8.5.3.14.2, RHR Heat Exchanger Thermal Performance Test, Rev. 2, dated April 20, 2001

TP 98-050, Special Testing for Emergency Diesel Generator Ventilation and Damper Testing, Rev. 7

GL 89-13 Program and Design Basis Documents

Response to NRC Generic Letter 89-13, Service Water System Problems Affecting Safety Related Equipment, dated April 2, 1990, updated September 18, 1997
Long Term Program Semi-Annual Report, dated February 28, 1999
NOP02E1 Service Water Inspections, Maintenance, and Testing In Response To Generic Letter 89-13, Rev 0
Emergency Diesel Generator, SDBD-61
Reactor Building Closed Cooling Water, SDBD-30B
Salt Service Water, SDBD-29
M-641, RBCCW Heat Exchanger Performance, Rev. 0 M-664, Containment Heat Removal, Rev. 1
M-710, Heat Exchanger Performance Testing, Rev. 0
Updated Final Safety Analysis Report Sections 10.5, 10.7, 10.9, 14.5.3

Miscellaneous

PD04413.02, Record of Eddy Current and Visual Inspection of Reactor Building Component Cooling Water Heat Exchanger E-209B, April 2001
PD04538.02, Record of Eddy Current and Visual Inspection of Reactor Building Component Cooling Water Heat Exchanger E-209A, April 2003
Emergency Diesel Generator System Health Report - 3Q2003
Reactor Building Closed Cooling Water System Health Report - 3Q2003
Salt Service Water System Health Report - 3Q2003

Corrective Action Documents

2002-00173	2002-12883	2003-02503	2003-03165
2002-09114	2002-12888	2003-02717	2003-03360
2002-10026	2003-00005	2003-02820	2003-03495
2002-10273	2003-00043	2003-02836	2003-03722
2002-10580	2003-00646	2003-02885	2003-03801
2002-10758	2003-00999	2003-02886	2003-03853
2002-11829	2003-01118	2003-02895	2003-03935
2002-12032	2003-01708	2003-02963	2003-04022
2002-12156	2003-01916	2003-02967	2003-12920
2002-12223	2003-01981	2003-03087	2004-00007
2002-12291	2003-01985	2003-03090	2004-00105

References for Section 1R12

HPCI System Health Reports for 2nd, 3rd and 4th Quarter 2003
RCIC System Health Reports for 4th Quarter 2003
Condition Reports involving HPCI issued in the period from January 2003 to January 2004
Condition Reports involving RCIC issued in the period from January 2003 to January 2004
Maintenance Rule Documents - HPCI System Performance History as of 1/28/04
Maintenance Rule Documents - RCIC System Performance History as of 1/28/04
Maintenance Rule Performance Criteria
Maintenance Rule Documentation - HPCI Performance Measures and Criteria
Condition Report 200303302, Failure of the HPCI Turbine Stop Valve on 8/29/03
Condition Report 200400168, Incorrect HPCI Maintenance Rule Performance Criteria
Condition Report 200210824, Inoperable Control Circuit for HPCI Injection Valve on 7/7/02
Condition Report 200303321, HPCI Ramp Generator Terminal Strip
Condition Report 200303381, HPCI Gland Seal Blower Overload
Condition Report 200302203, HPCI Overspeed Trip Device Malfunction on 8/29/03
Condition Report 199909539, RCIC Inoperable above 150 psi Reactor Pressure
HPCI System Maintenance Requests Open as of 1/30/04
RCIC System Maintenance Requests Open as of 1/30/04
ENN-DC-171 Rev. 0, Maintenance Rule Monitoring
ENN-DC-121, Rev. 1, Maintenance Rule
RBCCW System Health Report, 4th Quarter 2003
Condition Reports involving RBCCW issued in the period from May 2001 to March 2004
Maintenance Rule Documents - RBCCW System Performance History as of
Maintenance Rule Basis Document - RBCCW System Performance Criteria
RBCCW System Maintenance Requests Open as of February 2004
RBCCW a(1) action plan CR-2002-13003
Condition Report 200400821, RBCCW pump train exceeded MR performance Criteria
Condition Report 200400676, RBCCW pump F discharge check valve 30-CK-424 not fully seating

References for Section 1R13

UT Inspection Report dated 2/8/04 for SSW Spool JF-29-15-9
Maintenance Request 10002359 dated 11/17/00
UT Inspection Report 01-0027 dated 1/30/01 for SSW Spool JF-29-15-9
Problem Report 200009448, D SSW Pipe Corrosion
Condition Report 200400391, D SSW Pipe Corrosion
Specification M591, SSW Piping Inspection, Maintenance and Testing Requirements

References for Section 1R14

5.3.6, Loss of Vital AC (Y2)
2.4.13, Unexplained Rapid Increase In Reactor Power
Applicable Alarm Response Procedures
CR 200400705

References for Section 1R17

Plant Modification PDC03-083, Annunciator Firmware Upgrade and Power supply Replacement Implementation Maintenance Request MR 02120149, Beta Annunciator Upgrade
Procedure 2.4.155, Loss of Annunciator System
Procedure 2.3.1, General Action for Alarm Response and Annunciator Control
Procedure 3.M.3-51, Electrical Termination Procedure
Plant Operations Daily Station Logs
Drawings E119, Sheet 2; M227-132; E226, Sheet 113; and, E226, Sheet 32
Change Notice ACN 03-83-01 and 03-83-02, Mounting Angle Bolts
FRN 03-83-01, Changes to PWT, Power Supply Connections and Voltage Changes
10 CFR 50.59 Screen Control Review dated 12/3/03
Updated Final Safety Analysis Report Sections 7.2, 7.3 and 8.6

References for Section 1R19

Wyle Laboratories certification test report (50525-2) for pilot assembly 1040
Wyle Laboratories certification test report (50525-1) for pilot assembly 1208
3.M.4-6, Removal, Installation, test, Disassembly, Inspection, and Reassembly of Main Steam Relief Valves
8.M.3-12, Safety and Relief Valves Acoustic Monitoring and Tailpipe Temperature Monitoring Test

References for Section 2OS1

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)
Airborne radioactivity sample record for initial entry in dry well (March 23, 2004)
Airborne radioactivity sample record for removal of pilot valve in dry well (41 foot elevation)(March 23, 2004)
Individual Committed Effective Dose Equivalent (CEDE) assignments for 2003
Procedure No. 6.1-014, High radiation area control
Procedure No. 6.1-031, Radiation work permits
Procedure No. 6.3-061, Radiological survey techniques
Self-assessment of human performance in the Radiation Protection Department, November 17 - 21, 2003

References for Section 2OS2

Pre-job ALARA estimate for RWP No. 04-004040, Repair/replace valves and controls in condenser bay
Pre-job ALARA estimate for RWP No. 04-004041, Drywell initial entry and closeout inspections
Pre-job ALARA estimate for RWP No. 04-004042, RP coverage in dry well
Pre-job ALARA estimate for RWP No. 04-004043, Ops tag outs, venting, draining, and surveillances
Pre-job ALARA estimate for RWP No. 04-004044, Drywell, general inspections
Pre-job ALARA estimate for RWP No. 04-004045, Inspections, adjustments, and repairs during power reduction and ascension
Pre-job ALARA estimate for RWP No. 04-004046, Remove/replace dry well airlock strong backs, PM airlocks interlocks, remove/replace equipment hatch, LLRT doors/relamp, CCTV
Pre-job ALARA estimate for RWP No. 04-004047, Leak repair of jacking bolt hole at recirc pump flanges during power ascension, insulation removal
Pre-job ALARA estimate for RWP No. 04-004048, Low radiation impact minor maintenance
Pre-job ALARA estimate for RWP No. 04-004050, Troubleshoot/repair VAC 206-A2/install shielding
Pre-job ALARA estimate for RWP No. 04-004058, Main steam relief valve repair/shielding
Pre-job ALARA estimate for RWP No. 04-004066, Walkdown inspections and mockups for RFO 15 recirc pump replacement
Procedure No. NOP83RC1, Rev. 16, ALARA program
Procedure No. 6.10-020, Rev. 8, ALARA work reviews
Procedure No. 6.10-021, Rev. 6, Station ALARA performance
ALARA committee meeting minutes for October 20, November 10, and December 16, 2003 and for January 12 and February 12, 2004

References for Section 2OS3

Procedure No. 6.4-331, Rev. 15, Operation of common radiation detectors and air samplers
Office Memorandum, Use of the PM-7 for passive whole body monitoring in lieu of the entrance and exit whole body counts, with addendum, April 20, 1999
Focused self-assessment of respiratory protection, October 20 - 24, 2003

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access & Management System
ALARA	As Low As Reasonable Achievable
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Reports
EDG	Emergency Diesel Generator
EP	Emergency Preparedness
HRA	High Radiation Area
IR	Inspection Report
MR	Maintenance Request
NRC	Nuclear Regulatory Commission
OA	Other Activities
OS	Occupational Radiation Safety
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PNPS	Pilgrim Nuclear Power Station
RBCCW	Reactor Building Component Cooling Water
RCA	Radiologically Controlled Area
RP	Radiation Protection
RHR	Residual Heat Removal
RWP	Radiation Work Permit
SDP	Significant Determination Process
SRV	Safety Relief Valve
SSC	Selected System, Structure, or Component
SSW	Salt Service Water
VHRA	Very High Radiation Area