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 RESIDENT INSPECTION REPORT 05000293/2005002

Dear Mr. Balduzzi:

On March 31, 2005, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Pilgrim reactor facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on April 6, 2005, 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 three findings of very low safety significance (Green), each which involved a violation of NRC requirements. However, because of the very low safety significance and because the issues have been entered into your corrective action program, the NRC is treating the issues as non-cited violations (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 enclosure 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/
Clifford Anderson, Chief
Projects Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 05000293/2005002
w/Attachment: Supplemental Information

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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
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No:	50-293
License No:	DPR-35
Report No:	05000293/2005002
Licensee:	Entergy Nuclear Operations, Inc.
Facility:	Pilgrim Nuclear Power Station
Location:	600 Rocky Hill Road Plymouth, MA 02360
Inspection Period:	January 1, 2005 - March 31, 2005
Inspectors:	W. Raymond, Senior Resident Inspector C. Welch, Resident Inspector A. Ziedonis, Reactor Engineer
Approved By:	Clifford Anderson, Chief Projects Branch 5 Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000293/2005002; 01/01/2005 - 03/31/2005; Pilgrim Nuclear Power Station; Adverse Weather Protection, Operator Work-Arounds, and Post Maintenance Testing.

The report covered a 13 week period of inspection by resident inspectors. Three Green non-cited violations were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green of be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, July 2000.

A. Inspector Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. A self-revealing finding of very low safety significance, that constitutes a non-cited violation of Technical Specification 5.4.1, was identified because Entergy did not develop adequate instructions for the operation of the station blackout diesel generator following a loss of power to auxiliary equipment. On January 23, 2005, during an actual loss of power to auxiliary equipment, when operators followed the instructions to manually start the station blackout diesel generator to ensure the availability of the station blackout diesel generator, the station blackout diesel generator did not start.

The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating System Cornerstone. The finding affects the cornerstone objective to ensure the availability and reliability of systems used to respond to initiating events to prevent undesirable consequences because the Station Blackout Diesel Generator (SBODG) was not available to provide electrical power to its buses when it failed to start. The finding is of very low safety significance because the station blackout diesel generator was unavailable for less than twenty-four hours and both emergency diesel generators and one off-site power supply remained available throughout the event. This finding has been entered into Entergy's corrective action program.

A contributing cause of the finding relates to corrective action subcategory of the cross-cutting area of problem identification and resolution. Specifically, the procedure changes made as a part of the licensee's corrective actions to address a failure of the station blackout diesel generator to start following a loss of power to auxiliary equipment in 1997, did not address the underlying cause identified, that being the failure of the shaft driven lube oil pump to re-pressurize the lube oil header to the required pressure within the required time. (Section 1R01)

Green. A self revealing finding of very low safety significance, that constituted a non-cited violation of Technical Specification 5.4.1, was identified because Entergy did not implement the requirements of procedure 2.3.1, "General Action For Alarm Response and Annunciator Control." In September 2004, Entergy did not implement compensatory measures as required by procedure 2.3.1 for a disabled annunciator associated with the SBODG lockout relay. The lack of a compensatory measure for the disabled annunciator

contributed to the operations staff not resetting the lockout relay following a trip of the SBODG on January 23, 2005, and led to the subsequent failure to start during a post maintenance test on January 24, 2005, unnecessarily increasing the unavailability of the SBODG.

The finding is more than minor because it is associated with the configuration control attribute of the Mitigating System cornerstone and affects the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance because the SBODG, a non-technical specification system was unavailable for less than 24 hours. Additionally both emergency diesel generators and one means of off-site power remained available. This finding has been entered into Entergy's corrective action program.

A contributing cause of the finding relates to organizational subcategory of the cross-cutting area of human performance. Entergy neither performed the work to correct the failed annunciator nor established a means to compensate for the failed annunciator until it could be repaired. (Section 1R16)

Green. A self-revealing finding of very low safety significance, that constituted a non-cited violation (NCV) of Technical Specification 5.4.1, was identified because operations personnel did not adequately implement surveillance procedure 8.9.1 during testing of the B emergency diesel generator. Operations personnel did not adequately perform a prerequisite step in the procedure to verify that no tag outs were in place which would prohibit performance of the surveillance. As a result, on January 29, 2005, a tag out in place on a portion of the air start system resulted in the trip of the B emergency diesel generator during the surveillance.

The finding is more than minor because it is associated with the human performance attribute - human error pre-event and affects the Mitigating System cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance because the emergency diesel generator was not inoperable for more than half the allowed outage time.

A contributing cause of the finding relates to the personnel subcategory of the cross cutting area of human performance. Operators did not adequately verify procedure prerequisite 7.(9) prior to commencing the surveillance test. (Section 1R19)

B. Licensee Identified Violations

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

REPORT DETAILS

Summary of Plant Status

Pilgrim Nuclear Power Station operated at 100% core thermal power for the majority of the inspection period, except for short periods of operation at reduced power for planned testing and maintenance. On March 11, 2005, the reactor began the coastdown phase of its operating cycle. During this phase, Pilgrim's reactor power output will gradually lower until Entergy begins the planned April refueling outage. At the end of this inspection period reactor power was at 93%.

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 performed walkdowns of plant systems during periods of extreme cold weather on January 18, 19, and 20, 2005. The inspector assessed Entergy's cold weather preparations and protection to verify 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 blackout diesel generator. 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 reviewed cold weather related issues to verify that Entergy was identifying the issues and entering them into its corrective action program. The inspector reviewed corrective actions to verify they were appropriate to resolve the issues. The references used in this review are listed in the attachment to this report. This activity represented one inspection sample.

b. Findings

No findings of significance were identified.

2. Adverse Weather Protection

a. Inspection Scope (2 samples)

The inspector reviewed Entergy's activities to protect plant systems during adverse winter weather conditions during the periods of January 22-28, 2005 (Blizzard Charles), and February 24 - March 1, 2005 (winter storms). The inspector assessed Entergy's adverse weather preparations and actions to mitigate the impact of the storms on the plant, plant personnel and key safety systems. The inspector reviewed the impact that

the 2005 blizzard had on the site, including the challenges to site access, resources, cooling water supplies, and power supplies. The review focused on the challenges to the 345KV system, the safety related 23 KV system, the station blackout diesel generator, the emergency diesel generators and the non-safety related portions of the 23 KV system and its backup supplies.

The safety systems, structures, and components reviewed included the fire water system, the condensate storage tanks, the A and B emergency diesel generators, the station blackout diesel generator, the 23 KV and 345KV electrical systems and the salt service water system. The references used during this review are included in the attachment and included: station procedures 8.C.40, "Cold Weather Surveillance," 2.1.37, "Coastal Storm Preparations," 2.1.42, "Operation During Severe Weather," and the Updated Final Safety Analysis Report Section 10.9.3.

The inspector reviewed weather related issues to verify that Entergy was identifying the issues and entering them into its corrective action program. The inspector reviewed corrective actions to verify they were appropriate to resolve the issues. The references used in this review are listed in the attachment to this report. This activity represented two inspection samples of specific events.

b. Findings

Introduction:

A self-revealing finding of very low safety significance (Green), that constitutes a non-cited violation of Technical Specification 5.4.1, was identified because Entergy did not develop adequate instructions for the operation of the station blackout diesel generator following a loss of power to auxiliary equipment. On January 23, 2005, during an actual loss of power to auxiliary equipment, when operators followed the instructions to manually start the station blackout diesel generator to ensure the availability of the station blackout diesel generator, the station blackout diesel generator did not start.

Description:

At 10:00 p.m. on January 23, 2005, during a severe snowstorm, auxiliary equipment for the station blackout diesel generator (SBODG) lost electrical power. Normal power for the auxiliary equipment was lost at about 12:10 a.m. and backup power was lost at 10:00 p.m.

Station procedures 2.4.16 and 2.2.146 instruct the operators to start the SBODG following a loss of normal and backup power to its auxiliary equipment when either the jacket water outlet temperature approached 80°F or starting air pressure approached 130 psig. At 11:00 p.m. on January 23, 2005, when jacket water temperature had dropped to approximately 80°F, operators took the actions required to start the SBODG. The SBODG tripped on low lube oil pressure approximately ten seconds into the start sequence and was declared inoperable (CR 2005-00256). The SBODG was returned to service at 1:17 p.m. on January 24.

In April 1997, the licensee added the instructions in procedures 2.2.16 and 2.2.146 to start the SBODG following a loss of power to its auxiliary equipment when either the jacket water outlet temperature approached 80°F or starting air pressure approached 130 psig. The procedure change was made after the SBODG failed to start following the loss of power to its auxiliary equipment during a March snowstorm (PR97.9182). The licensee determined that the SBODG failed to start because the shaft driven lube oil pump did not establish the required lube oil header pressure within ten seconds after the engine reached 220 rpm. With no electric power to the auxiliary equipment, lube oil from the keep warm system is not circulating in the SBODG and returns by gravity into the lube oil sump and may begin to cool down. As a result the shaft driven lube oil pump may be required to refill a portion of the lube oil system which will increase the time to develop the required lube oil header pressure.

The inspector determined that the licensee's instructions in procedures 2.2.16 and 2.2.146 were inadequate because the licensee did not develop sufficient information to ensure that the shaft driven lube oil pump would establish the lube oil pressure in the required time if the SBODG was started when the jacket water outlet temperature approached 80°F. A special test performed in 1997 verified the SBODG could meet its design basis and start ten minutes after a loss of power to its auxiliary equipment. The test did not verify that if jacket water temperature reached 80°F, the SBODG would successfully start. For this event, about 60 minutes elapsed from the loss of power to the auxiliaries until jacket water outlet temperature approached 80°F and the SBODG start was attempted. Interviews with Entergy personnel, identified the procedure criteria was based on the standby parameters contained in procedure 2.1.12.2, "Station Blackout Diesel Generator Daily Surveillance," for jacket water outlet temperature (80 - 130F) and starting air pressure (130-170 psig). As a result, the instructions were not adequate to ensure the SBODG would start following a loss of electrical power to the SBODG auxiliaries during the January 2005 blizzard.

Analysis

The finding is a performance deficiency because technical specifications require Entergy to have appropriate written procedures. The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating System Cornerstone. The finding affects the cornerstone objective to ensure the availability and reliability of systems used to respond to initiating events to prevent undesirable consequences because the SBODG was not available to provide electrical power to its buses when it failed to start on January 23, 2005. The finding, when analyzed per the significance determination process (MC-0609 Appendix A, "Significance Determination of Reactor Findings for At-Power Situations"), screened Green in phase one. The safety function of the SBODG, a non Technical Specification piece of equipment, was not lost for greater than twenty-four hours. Additionally, both emergency diesel generators and one off-site power supply remained available throughout the event.

A contributing cause of the finding relates to corrective action subcategory of the cross-cutting area of problem identification and resolution . Specifically, the procedure changes made as a part of the licensee's corrective actions in 1997 did not address the

underlying cause identified, that being the failure of the shaft driven lube oil pump to re-pressurize the lube oil header to the required pressure within 10 seconds of reaching 220 RPM.

Enforcement:

Technical Specification 5.4.1 and Regulatory Guide1.33, Revision 2, Appendix A, requires, in part, that Entergy develop and implement procedures for combating emergencies and other significant events such as loss of electrical power and/or degraded power sources. Contrary to the above requirement, Entergy did not develop adequate instructions in procedures 2.4.16, "Distribution Alignment Electrical System Malfunctions;" and 2.2.146, "Station Blackout Diesel Generator" to ensure the SBODG would remain available following a loss of power to its auxiliary equipment. The instructions provided were inadequate because, on January 23, 2005, when operators performed the instructions following a loss of power to the SBODG auxiliary equipment, the SBODG failed to start. This issue was documented in Condition Reports 20050256 and 200500392.

Because the finding is of very low safety significance and has been entered into Entergy's Corrective Action Program, this violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy **(NCV 05000293/2005002-01 Instructions Were Not Adequate to Maintain the SBODG Operable After a Loss of Power to Its Auxiliary Equipment).**

1R04 Equipment Alignment (71111.04)

1. Partial System Walkdowns

a. Inspection Scope (4 samples)

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

- A train of Residual Heat Removal (RHR) on January 6, 2005, during maintenance on the B train
- Electrical System Distribution (345KV, 23KV, 4KV) during line outages on January 23-25, 2005
- A and B trains of Core Spray on February 2, 2005, following maintenance
- Electrical System Distribution (345KV, 23KV, 4KV) during line outages on March 3, 2005

b. Findings

No findings of significance were identified.

2. Full System Walkdown

a. Inspection Scope (1 sample)

The inspectors performed a full system review of the Standby Liquid Control (SLC) System to verify the system was properly aligned and capable of performing its safety function. To ascertain the required system configuration, the inspectors reviewed plant procedures, system drawings, the Updated Final Safety Analysis Report, and the Technical Specifications. A walkdown of the accessible portions of the system was performed to assess the material condition of the system and the following attributes:

- valves were correctly positioned and did not exhibit leakage that would impact the function(s) of any given valve
- electrical power was available and properly aligned
- major system components were properly labeled
- hangers and supports were correctly installed and functional
- essential support systems (heat tracing) were operational
- ancillary equipment or debris did not interfere with system performance
- valves were locked as required by the locked valve program

Chemistry data for the SLC storage tank boron concentration was reviewed and compared to technical specification requirements, for the period January 2004 - January 2005. Inservice test (IST) results acquired in January 2005 per procedure 8.4.1, "Standby Liquid Control Pump Quarterly and Biennial Capacity and Flow Rate Test"; were reviewed and compared to acceptance criteria and technical specification requirements. The A and B train manual initiation test results, obtained per procedure 8.4.6, "Manual Initiation Test of the SLC System"; were also reviewed. The system's material condition was further assessed based upon discussion with the system engineer and review of the following documents:

- 2003 3rd quarter system health report
- condition reports for the SLC system issued in 2003 and 2004
- maintenance rule information
- open work requests

The inspector sampled the corrective action program to verify that Entergy was identifying equipment alignment issues at an appropriate threshold and to evaluate Entergy's resolution. This activity represented one inspection sample.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05AQ)

1. Quarterly Fire Protection Inspection

a. Inspection Scope (10 samples)

The inspector toured selective areas of the plant to observe conditions related to: (1) transient combustibles and ignition sources; (2) fire detection systems; (3) manual firefighting equipment and capability; and (4) passive fire protection features. The inspector verified adequate material condition of active and passive fire protection systems features and their operational lineup and readiness. 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. Smoke detector testing was observed in Fire Zones 1.15 and 1.17. Testing was successful and all detectors passed. The references used for this review are described in the attachment to this report. Overall inspection activity represented ten samples.

- Fire Zone 1.15 Standby Liquid Control Pumps and Equipment
- Fire Zone 1.17 Clothing Change Area (Reactor Building 91')
- Fire Zone 2.1 B Switchgear Room and Load Center
- Fire Zone 3.2 Cable Spreading Room
- Fire Zone 1.1 A Residual Heat Removal and Core Spray Pumps Quad
- Fire Zone 1.26 Auxiliary Boiler Room
- Fire Zone 3.10 Air Compressor Room
- Fire Zone 5.2 B Train Service Water Pump Room
- Fire Zone 5.5 Diesel Fire Pump Day Tank Room
- Fire Zone 5.6 Electric Fire Pump Area and Open Areas of Intake

b. Findings

No findings of significance were identified.

2. Annual Fire Drill Observation

a. Inspection Scope (1 sample)

The inspector monitored performance of the fire brigade training drill conducted on January 6, 2005. The drill involved a simulated fire in the Augmented Off-Gas (AOG) Building 23' elevation. The inspector observed fire brigade personnel performance, to verify that Entergy's fire fighting pre-plan strategies were utilized, the pre-planned drill scenario was followed, drill objectives were met, proper protective clothing and breathing apparatus were donned, sufficient fire fighting equipment was brought to the scene, directions by the fire brigade leader were appropriate, and communications with the plant operators and between fire brigade members were efficient and effective. The references used for this review are described in the attachment to this report. This activity represented one inspection sample.

b. 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 February 11 - 15, 2005, and observed the performance of an operating crew during a simulator exam on February 14, 2005. The exam was conducted per Scenario SES-090 as part of the licensed operator requalification program. The scenario involved operational transients and design basis events. The inspector determined whether the crew met the training scenario objectives, performed the critical tasks, and properly used emergency operating procedures EOP-01, "RPV Control" and EOP-03, "Primary Containment Control". The inspector observed Entergy's actions to implement the emergency plan and to make event classifications and notifications. The inspector also observed the post-scenario critique to determine whether the crew discussed any relevant lessons learned and discrepancies to enhance future performance. The inspector observed the consistency between the simulator, plant design analyses, and the plant control room.

The inspector reviewed operator training related issues to verify that Entergy was identifying them in its corrective action program and that the issues were properly resolved. The inspector reviewed the actions to resolve the deficiencies identified in Condition Reports 200403994 and 200404010. This activity represented one inspection sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule (71111.12)

a. Inspection Scope (4 samples)

The inspector reviewed follow-up actions for issues relating to the selected system and reviewed the performance history of this system to assess the effectiveness of Entergy's maintenance activities. The inspector reviewed Entergy's problem identification and resolution actions for these issues in accordance with 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 system classification, performance criteria and goals, system health reports, and corrective actions that were taken or planned to verify whether the actions were reasonable and appropriate. The references

used for this review are described in the attachment to this report. These inspection activities represented four samples:

- Proper classification of equipment issues for the System 46L - Technical Support Center Uninterruptible Power Supply System. The inspector reviewed Entergy's basis for placing the system in maintenance rule a(2) status.
- Proper classification of equipment issues for the System 46B - 23 KV system including the Shutdown Transformer. The inspector reviewed Entergy's basis for placing the system in maintenance rule a(2) status.
- Proper classification of equipment issues for System 61 - Station Blackout Diesel Generator system. The inspector reviewed Entergy's basis for returning the system to maintenance rule a(2) status.
- Proper classification of equipment issues for System 11 - Standby Liquid Control system. The inspector reviewed Entergy's basis for placing the system in maintenance rule a(2) status.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope (7 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 reviewed these areas to verify 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 seven samples:

- MR 04114390, Emergent Maintenance on Cable Spreading Room Halon System, (CR 200500167)
- MR 05101235, ACB 102 Failed to Reclose due to Fault (CR 200500243)
- MR05102941, Elevated risk (Yellow) the week of 21 February for planned HPCI maintenance including emergent work to inspect HPCI relays on February 24 (CR20050608)
- MR 05102473, Leak at CAVs Panel 2/14/05 (CR 20050504)
- 8.9.1, B EDG trouble shooting following surveillance (CR 20050309, 20050334)
- MR 05101371, E-105B Extraction Steam Leak (CR 20050298, 20050505)
- MR 05103672, Feedwater Level Controller Malfunction (CR 20050742)

b. Findings

No findings of significance were identified.

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

a. Inspection Scope (4 samples)

The inspector assessed the control room operator performance during the following planned non-routine evolutions and for the January 2005 blizzard. The inspector evaluated personnel performance during the power maneuver (i.e., adequacy of personnel performance, procedure compliance, use of the corrective action process, etc.) against the requirements contained in station procedures 2.4.11 and 2.2.87. The inspectors evaluated personnel performance for the 05 blizzard based on review of operator logs, alarm response procedures, operating procedures, and interviews. This review covered four inspection samples.

- the plant power reduction to 70% full power on January 6 per procedure 2.1.14 to perform a control rod pattern exchange and to exercise control rods 26-51 and 14-47. The inspector also used power maneuvering plan MAN.C15-21R1 as a reference for this review. (Condition Report 20050069, 20050071).
- the plant power reduction to 64% full power on February 17 per procedure 2.1.14 to perform a control rod pattern exchange and power suppression testing per procedure 9.32, “Power Suppression Testing”. The inspector also used power maneuvering plan MAN.C15-29 as a reference for this review. (Condition Report 20050183).
- the operator response per procedure 2.4.49 to a feedwater system malfunction on March 4, 2004, and the actions to stabilize and control vessel water level (CR 20050745).
- the severe adverse weather conditions encountered during the January 2005 blizzard which challenged a number of electrical systems including: the off-site power supplies and switch yard, the emergency diesel generators, and the blackout diesel generator (CR 200500243, 200500244. 200500245, 200500248, 200500249, 200500254, 200500256).

b. Findings

No findings of significance were identified. Refer to section 1R01, Adverse Weather Protection, regarding the operator alarm response for the Station Blackout Diesel generator trip on January 23, 2005.

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 and PNPS Procedures 1.3.34.5, "Operability Evaluations," and ENN-OP-104, "Operability Determinations," as references. This review covered five inspection samples.

- CR 200500655, HPCI Gland Seal Pump Discharge Valves
- CR 200500514 and 20050517, Fuse Failures in HPCI and TBCCW Valves
- CR 200500341, Elevated piping temperature on the B RHR loop
- CR 200500319, Three unidentified 2" piping butt welds located in the SBLC system are not in the ISI program
- Operating Experience on Electrical Distribution System Single Failure Vulnerability

The inspectors reviewed Entergy's evaluation for a potential single failure vulnerability in the electrical protection and metering systems that was identified at other nuclear sites in January 2005. The vulnerability, if damaged, could trip and electrically lockout redundant safety buses preventing them from being re-energized from both off-site power and the emergency diesel generators. The inspection was accomplished by interviews with design engineering personnel and review of electrical schematics, the Final Safety Analysis Report, and system description manuals for the related electrical systems.

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds (71111.16)

a. Inspection Scope (4 samples)

The inspector reviewed identified operator compensatory measures (i.e. work-arounds) and condition report. The inspector reviewed the deficiencies to determine if the functional capability of the system or human reliability in responding to an initiating event was affected. Specifically, the inspector evaluated the effect of the deficiency on the operator's ability to implement abnormal and emergency operating procedures. The inspector also determined whether Entergy was evaluating equipment deficiencies for potential impact as operator workarounds and was entering them into the corrective action process. The inspector reviewed the planned maintenance activities to correct the identified operational deficiencies. This activity represented four inspection samples. The inspector reviewed the following operator compensatory measures and condition report:

- #312, Reactor Core Isolation Cooling quad leakage alarm out-of-service
- #331, thru wall leak on 29-HO-50A

- #340, B Emergency Diesel Generator bussman fuse checks
- CR 2004-02678

b. Findings

Introduction:

A self revealing finding of very low safety significance, that constitutes a non-cited violation of Technical Specification 5.4.1, was identified because Entergy did not implement the requirements of procedure 2.3.1, "General Action For Alarm Response and Annunciator Control." In September 2004, Entergy did not implement compensatory measures as required by procedure 2.3.1 for a disabled annunciator associated with the station blackout diesel generator (SBODG) lockout relay. The lack of a compensatory measure for the disabled annunciator contributed to the operations staff not resetting the lockout relay following a trip of the SBODG on January 23, 2005, and led to the subsequent failure to start during a post maintenance test on January 24, 2005, unnecessarily increasing the unavailability of the SBODG.

Description:

On September 8, 2004, Entergy identified that Alarm panel C-190 A4 annunciator, "SBO DIESEL GEN BKR TRIP/INOP OR LO RELAY TRIP," had failed. Entergy generated a condition report (CR2004-02678) and administratively closed the condition report and transferred the item to the work control process (WRT 089759) on September 13, 2004. Procedure 2.3.1, "General Action For Alarm Response and Annunciator Control" requires that Entergy evaluate a failed annunciator and provide a means to compensate for the failed annunciator until it is repaired. However, as of January 23, 2005, Entergy neither performed the work to correct the failed annunciator nor established a means to compensate for the failed annunciator until it could be repaired.

At 11:00 p.m. on January 23, 2005; the SBODG tripped on low oil pressure approximately ten seconds into a start sequence (CR 2005-00256). At the time of the SBODG trip, two annunciators were received on the local alarm panel C -190) and reported to the control room, A1 annunciator, "Low Oil Press Shutdown" and A2 annunciator, "Low Oil Press Alarm." A third annunciator, A4 "SBO Diesel Gen BKR TRIP/INOP OR LO Relay Trip" should also have lit but did not because of the September 2004 failure (CR2005-00449). At the request of the control room supervisor, the field operator checked the status of the lockout relay and reported that the relay had tripped. Although the control room supervisor and field operator were aware that the lockout relay had tripped, neither took further action to reset the relay or inform the on-coming crew during shift turnover. At approximately 10:00 a.m. on January 24 operators attempted to start the SBODG, but the SBODG did not start. Entergy's investigation determined the SBODG failed to start because the lockout relay was in the trip condition and had not been reset following the SBODG trip on January 23, 2005 (CR 2005-00311). Operators subsequently reset the lockout relay, started the SBODG, and restored the SBODG to an operable condition at 1:17 p.m. on January 24, 2005.

The inspectors noted that Entergy had not established a means, as required by procedure 2.3.1, to compensate for A4 annunciator while it was failed. As a result, on the morning of January 24, unaware that the A4 alarm failed and unaware that the lockout relay was in a tripped condition, an on-coming shift operator attempted to start the SBODG after verifying that no off-normal condition(s) were indicated on the local alarm panel that would have prevented the engine from starting. Had the alarm been functioning or a means to compensate for the annunciator failure been established, such as the caution tag hung on the start switch that Entergy added following the inspector's review, or had the operator been provided information during the shift turnover, the operator attempting to start the SBODG would have recognized the abnormal condition and reset the lockout relay prior to attempting to start the SBODG.

Because Entergy did not have a means to compensate for the failed A4 annunciator, operations personnel did not reset the SBODG prior to starting the SBODG and this caused an unnecessary extension of SBODG's unavailability. Entergy established a means to compensate for the failed A4 annunciator on February 8, 2005, but the means was not fully evaluated and processed per 2.3.1 until prompted by the inspector (CR2005-01285).

Analysis:

The finding is a performance deficiency because technical specifications require Entergy to properly implement its operating procedures. The finding is more than minor because it is associated with the configuration control attribute of the Mitigating System cornerstone and affects the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance (GREEN) when screened in accordance with phase one the significance determination process (MC-0609 Appendix A, "Significance Determination of Reactor Findings for At-Power Situations"). The SBODG, a non-technical specification system was unavailable for less than 24 hours, additionally both emergency diesel generators and one means of off-site power remained available.

A contributing cause of the finding relates to organizational subcategory of the cross-cutting area of human performance. Entergy neither performed the work to correct the failed annunciator nor established a means to compensate for the failed annunciator until it could be repaired.

Enforcement:

Technical Specification 5.4.1 and Regulatory Guide1.33, Revision 2, Appendix A, requires, in part, Entergy develop and implement procedures including administrative procedures. Administrative procedure 2.3.1, "General Action For Alarm Response and Annunciator Control," requires Entergy to evaluate a failed annunciator to provide a means to compensate for the failed annunciator until it is repaired. Contrary to the above requirement, Entergy did not implement procedure 2.3.1 and did not evaluate a failed

annunciator alarm for the station blackout diesel generator for the need to establish a compensatory measure when discovered in September 2004.

Because the finding is of very low safety significance and has been entered into Entergy's Corrective Action Program, this violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy **(NCV 05000293/2005002-02 Entergy did not implement procedure for a disabled annunciator for the SBODG)**

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope (1 sample)

The inspector selected a plant modification package for review to verify that the design bases and performance capability of the risk significant system had not been degraded through the modification. The modification selected for review was PDC 02-165, Feedwater Level Controller System Upgrade.

For the selected modification, the inspector reviewed the design inputs to determine the design adequacy. In addition, the inspector reviewed the associated 10 CFR 50.59 safety evaluation to verify that the safety issues pertinent to the changes were properly resolved or adequately addressed. The inspector also reviewed: (1) field implementation of the changes to the feedwater level controller; (2) post-modification functional testing to determine the readiness for operations; and, (3) compensatory measures used during periods when the controller was not functioning as designed. The inspector reviewed the associated design to verify the changes and post-work test methods were appropriate. The inspector reviewed Entergy's actions to disposition potential manufacturing deficiencies for NUS PID900 controllers (reference LO-OEN-2003-0032). The inspector walked-down portions of the modification in the control room and the final post-installation configuration. The inspector monitored the performance of the feedwater master controller 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.

IR19 Post-Maintenance Testing (71111.19)

a. Inspection Scope (7 samples)

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

- Post Work Test for MR04114390 for CSR Halon System, 1/14/05
- 8.B.22, PWT for MR 05100898 on CSR Halon System, 1/17/05 (CR200500176)
- Post Work Test for MR 03112939 CAVs Filter X-241 (CR 20050504)
- Post work test for MR05101448 trouble shooting B EDG crankcase over pressure trip (CR 200500309)
- Post Work Test for MR 02119765 Feedwater Level Controller Replacement
- Post Work Test for MR P9403334 SBODG After-Cooler heater breaker (52M-403E)
- Post Work Test for MR P9403508 SBODG Air-Compressor breaker (52M-402C)

The inspector reviewed selected issues to verify that Entergy was identifying them in its corrective action program, and that corrective actions taken were appropriate. In particular, for Condition Report 20050504, the inspector reviewed Entergy's corrective actions for the failure to adequately complete the Post-Work Test (PWT) for MR 03112939 following replacement of filter X-241 at the CAVs panel. Additional references for this review are identified in the attachment to this report.

b. Findings

Introduction:

Green. A self-revealing finding of very low safety significance, that constitutes a non-cited violation (NCV) of Technical Specification 5.4.1, was identified because operations personnel did not adequately implement surveillance procedure 8.9.1 during testing of the B emergency diesel generator (EDG). Operations personnel did not adequately perform a prerequisite step in the procedure to verify that no tag outs were in place which would prohibit performance of the surveillance. As a result, on January 29, 2005, a tag out in place on a portion of the air start system resulted in the trip of the B EDG during the surveillance.

Description:

On January 29, 2005, during performance of surveillance procedure 8.9.1, the B EDG tripped on over-crank. The condition resulted from the operators selection of the air start motors associated with the tagged out air receiver during the initial test lineup.

Maintenance on a pressure relieve valve for starting air receiver T-146D, authorized earlier in the shift, required the air supply from the T-146D receiver be isolated to the M1 and M3 air start motors. The operators did not recognize the condition when they completed prerequisite 7.(9), which required verification that no tagouts or test procedures were in progress that would prevent performance of the surveillance. The B EDG remained inoperable until the trip was reset approximately 20 minutes later.

Analysis

The finding is a performance deficiency because technical specifications require Entergy to properly implement its operating procedures. The finding is more than minor because it is associated with the human performance attribute - human error pre-event and affects the Mitigating System cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance because the emergency diesel generator was not inoperable for more than half the allowed outage time and therefore screened (GREEN) in phase one the significance determination process (MC-0609 Appendix A, "Significance Determination of Reactor Findings for At-Power Situations").

A contributing cause of the finding relates to the personnel subcategory of the cross cutting area of human performance. Operators did not adequately verify procedure prerequisite 7.(9) prior to commencing the surveillance test.

Enforcement:

Technical Specification 5.4.1 requires, in part, Entergy develop and implement surveillance procedures. As such, Entergy developed procedure 8.9.1, "Emergency Diesel Generator and Associated Emergency Bus Surveillance." Contrary to the above requirement, on January 29, 2005, plant operators conducting a surveillance test of the B EDG did not properly implement surveillance procedure 8.9.1. Specifically, the plant operators did not verify that no tag outs were in place which would have prevented performance of the surveillance activity. A tag out was in place which prevented performance of the surveillance test and caused the B EDG to trip during the test and become inoperable. This issue was documented in Condition Report 200500334.

Because the finding is of very low safety significance and has been entered into Entergy's Corrective Action Program, this violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy **(NCV 05000293/2005002-03 Plant Operators Did Not Adequately Perform a Prerequisite in a EDG Surveillance Procedure)**.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope (1 sample)

The inspector reviewed activities associated with the preparations for the refueling outage scheduled to begin in April 2005. The inspector observed Entergy's activities to receive and inspect new fuel for operating cycle 16, install fuel channels and store the fuel in the spent fuel pool. The inspector used the following references for the review: procedure 4.1, "Receiving and Handling of Unirradiated Fuel Assemblies," procedure 4.2, "Inspection and Channeling of Nuclear Fuel," Technical Specifications 3.7 "Containment Systems" and Updated Final Safety Analysis Report Section 10.3, "Spent Fuel Storage".

The inspector reviewed Entergy's plans to inspect and sip fuel during the outage to identify bundles containing failed pins (reference CR 20050183). The inspector also monitored Entergy's activities during the period to assess and identify the location of the failed fuel. The inspector monitored fuel performance and plant effluents during the period to verify the proper operation of the effluent processing systems and compliance with the license effluent release limits.

The inspector reviewed selected issues to verify that Entergy was identifying them in its corrective action program, and that corrective actions taken were appropriate. Additional references for this review are identified in the attachment to this report.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope (6 samples)

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

- Procedure 8.M.2-2.10.1-5, "Core Spray System B Logic Functional Test"
- Procedure 8.4.1, "Standby Liquid Control Pump Quarterly and Biennial Capacity and Flow Rate Test" (Quarterly for A and B pumps.)
- Procedure 8.M.2-1.5.8.3, "Logic Functional Test of Standby Gas Treatment Initiation, Reactor Building Isolation and Inboard Drywell Isolation Valves", 2/9/05
- Power Suppression Testing per Procedure 9.32 on 2/17/05 and Monitoring of Fuel Performance Using Radiochemistry Analysis and the Process Radiation Monitors
- Procedure 8.B.22, "Halon 1301 System - Cable Spreading Room Periodic Test per UFSAR 10.8.4.4.2," 1/17/05

- Procedure 8.9.16.1, “Manually Start and Load Blackout Diesel Via The Shutdown Transformer”

The inspector reviewed the following condition reports to determine whether Entergy was identifying surveillance testing problems, entering them into the corrective action program, and was taking or planning appropriate corrective actions for the issues.

- CR 20050167 concerning the incorrect actuator configuration in the Halon 1301 system in the cable spreading room
- CR 20050292 concerning the quarterly functional testing of plant instrumentation per Technical Specifications 4.2.A and 4.2.B.
- CR 200500822 concerning aborting blackout diesel generator surveillance due to abnormal load and governor oil level indications.

The references used in this review are listed in the attachment to this report.

b. Findings

Licensee identified violations were identified and are described in Section 4OA7 of this report.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

1. Event Classification During Operator Simulator Training

a. Inspection Scope (1 sample)

The inspector observed training of licensed operators on February 14, 2005 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. Combined Functional Drill

a. Inspection Scope (1 sample)

The inspectors reviewed the drill scenario for the March 10, 2005, combined functional drill and observed portions of the drill at technical support center (TSC), the emergency operation facility (EOF), and the simulator control room. The inspection focused on the ability of Entergy personnel to properly conduct classification, notification, and protective action recommendation (PAR) activities and on the evaluators ability to identify observed

weaknesses and/or deficiencies within these areas. The inspectors attended the players and senior evaluators post drill critiques to compare identified weaknesses and deficiencies against Entergy's identified findings to determine whether Entergy was properly identifying failures in these areas.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

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. Findings with a cross-cutting aspect in problem identification and resolution:

1R01 A contributing cause of the finding relates to corrective action subcategory of the cross-cutting area of problem identification and resolution . Specifically, the procedure changes made as a part of the licensee's corrective actions for a trip of the station blackout diesel generator in a 1997 snowstorm did not address the underlying cause identified, that being the failure of the shaft driven lube oil pump to re-pressurize the lube oil header to the required pressure within 10 seconds of reaching 220 RPM. As a result the corrective actions in 1997 were not adequate to prevent a trip of the station blackout diesel during a January 2005 blizzard.

4OA4 Cross Cutting Aspects of Findings

1R16 The contributing cause of the finding relates to organizational subcategory of the cross-cutting area of human performance. Entergy neither performed the work to correct the failed annunciator nor established a means to compensate for the failed annunciator until it could be repaired.

1R19 The contributing cause of the finding relates to the personnel subcategory of the cross cutting area of human performance. Operators did not adequately verify procedure prerequisite 7.(9) prior to commencing the surveillance test.

4OA5 Other Activities:

Closed URI 05000293/2003011-02 : Reporting of Residual Heat Removal Safety System Unavailability in accordance with NEI 99-02. The inspector reviewed Entergy's corrective actions for CR 2004-00036, the revised Performance Indicator (PI) data for residual heat removal safety system unavailability submitted in conjunction with the 2nd quarter 2004 PI data, and newly issued guidance for acquiring PI data contained in System Engineering Guide SEG-04, "NRC Performance Indicator Reporting." The inspector verified the residual heat removal safety system unavailability threshold was not challenged or exceeded as a result of the revised PI data.

4OA6 Meetings, Including Exit

Inspection Exit

On April 6, 2005, the inspector presented a summary of the inspection results to Mr. Michael Balduzzi and other members of the plant staff. The inspector confirmed that no proprietary information was disclosed in the inspection results.

Annual Assessment Meeting

On March 24, 2005, the NRC conducted its Annual Assessment Meeting with Entergy. During the meeting the NRC discussed its assessment of the safety performance of the Pilgrim Nuclear Power Station for the period January 1, 2004 - December 31, 2004. The meeting was open for public observation. The assessment letter and copy of the slides used during the meeting can be found in ADAMS (Accession Numbers ML050610156 and ML051090355 respectively).

4OA7 Licensee-Identified Violations

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 non-cited violations.

1. Technical Specification 5.4.1 and Regulatory Guide 1.33, Revision 2, Appendix A, requires the licensee to implement procedures to perform tests and maintenance on systems

important to safety. Entergy developed procedure 8.B.22 "Halon 1301 System-Cable Spreading Room," to perform a periodic test to assure the continued operability of the Halon 1301 system in the cable spreading room, a system important to safety. Contrary to the above, procedure 8.B.22 did not have sufficient detail to properly restore the halon actuator configuration following testing. Entergy determined on January 15, 2005, that following performance of 8.B.22 in 1999, Entergy did not properly reconfigure the halon actuator configuration on the extended discharge cylinder. NRC review of this issue is also described in Section 1R22 above. This issue and the immediate and long term corrective actions were documented in Condition Report 20050167.

2. Pilgrim Technical Specification 4.2.A and 4.2.B requires that functional testing be completed to prove the operability of safety-related instrumentation that isolate certain safety-related equipment. Procedures 8.M.2-2.6.3 (RCIC steam line high temperature), 8.M.2-2.5.3 (HPCI steam line high temperature), 8.M.2-1.4.1 (Main steam line high temperature), 8.M.2-2.2.9 (Safeguards area high temperature) and 8.M.2-1.2.2 (RWCU high temperature) were developed pursuant to the above to verify the isolation channels were operable by periodic verification on a quarterly basis. Contrary to the above, on January 26, 2005, Entergy determined that the subject tests had not been completed on a quarterly basis as required. Instead, during the processing of License Amendment 198 in April 2003, the test frequencies were inadvertently changed to once per operating cycle. Upon discovery, Entergy entered the action statement for Technical Specification 4.0.3 and completed the functional test for all the affected channels satisfactorily within 24 hours. NRC review of this issue is also described in Section 1R22 above. This issue and the immediate and long term corrective actions were documented in Condition Report 20050292.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Entergy personnel:

F. Clifford	Shift Manager
J. Couto	Control Room Supervisor
P. Dietrich	General Manager - Plant Operations
P. Doody	Sr. Lead Engineer (Nuc)
D. Ellis	Sr. Engineer, Regulatory & Industry Affairs
B. Ford	Manager, Nuclear Licensing
J. Keene	Sr. Engineer (Nuc), Systems Engineering
J. Keyes	Corrective Actions & Assessment Supt., Nuclear
M. Landry	Engineering Support, Sr. Engineer (Nuc)
W. Lobo	Licensing Specialist
D. Noyes	Assistant Operations Manager
E. Olson	Operations Manager
D. Perry	Radiation Protection Manager
M. Santiago	Manager, Licensed Operator Training
J. Scheffer	Environmental Protection Superintendent
T. Sowdon	Manager, Emergency Preparedness
B. Sullivan	Assistant Operations Manager
J. Taylor	Shift Manager
J. Veglia	Manager, Programs and Components
J. Whalley	Operations/Radioactive Waste Supervisor
D. Willoughby	Operations Training Supervisor

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Open and Closed

05000293/2005002-01 NCV	Instructions provided to maintain the SBODG operable after a loss of power to its auxiliary equipment were not adequate. (Section 1R01)
05000293/2005002-02 NCV	Entergy did not implement procedure for a disabled annunciator for the SBODG. (Section 1R16)
05000293/2005002-03 NCV	Plant Operators Did Not Adequately Perform a Prerequisite in a EDG Surveillance Procedure. (Section 1R19)

Closed

05000293/2003011-02 URI	Reporting of RHR SSU in accordance with NEI 99-02. (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

References for Section 1R01

8.C.40, Cold Weather Surveillance
2.1.37, Coastal Storm Preparations
2.1.42, Operation During Severe Weather
EP-IP-100, Emergency Classification and Notifications
EP-AD-600, EAL Design Basis Document
Updated Final Safety Analysis Report Section 10.9.3, Station Ventilation Systems
2.4.16, Distribution Alignment Electrical System Malfunctions
2.2.146, Station Blackout Diesel Generator
1.4.4, New England Power Grid Operations / Interfaces
Equipment Failure Analysis for CR 200500243
Conditions Reports in 2004 related to adverse weather protection: 20040127, 138, 3033, 3146, 3460, 3494, 3967, 4079
Conditions Reports in 2005 related to adverse weather: 2005-257, 263, 314, 316, 573, 672, 713, 765, 815
Condition Reports related to the Blizzard of 2005: 2005-243, 245, 249, 261, 256 and 262

References for Section 1R04

2.2.19 Residual Heat Removal System
M241 RHR System
M242 Core Spray System
2.2.20 Core Spray System
2.4.A.23, Loss of 23 KV Line
2.2.8, Standby AC Power Systems (Diesel Generators)
2.2.146, Station Blackout Diesel Generator
2.2.1, 345 KV System
2.2.5, 23 KV Shutdown Transformer
Condition Reports 200500243, 200500245

References for Section 1R05

Nuclear Organization Procedure (NOP) NOP83FP1: Fire Protection Plan
ENN-DC-161: Entergy Transient Combustible Program (supercedes PNPS Procedure 1.4.3)
PNPS Procedure 8.B.4 11 Rev 6: Panel C225 Zones 5C2, 5C3, 5D1, and 5D2 Functional tests
PNPS Procedure 1.4.23, Rev 22: Fire Brigade Training Drill
PNPN Procedure 5.5.2, Rev 28: Special Fire Procedure - Att. 6 and Att. 30
Updated Fire Hazards Analysis Report Number 89XM-1-ER-Q
FSAR Vol. 4 Section 10.8: Fire Protection
IP 71111.05AQ: Fire Protection (Annual / Quarterly)

References for Section 1R12

CR 200400928, SBO DG has exceeded its Maintenance Rule unavailability hours
Maintenance Rule SSC Basis Document systems 61 and 11
Health Report for System 46
Health Report for System 46B
Maintenance Requests for Systems 46 and 46L for 2004-2005

Condition Reports for Systems 46 and 46L for 2004-2005

References for Section 1R13
Condition Report 20050504
Fact Finding Report for CR 20050504
Radiological Survey Forms Map #51 2/11/05 (pre / post decon)
Drawings M256, M247, M252
Procedure 10.7.6, CAVs Sample Panel
MR 03112393 and MR 03112936
MR 05103672, FWMLC is Not Controlling Level as Designed 3/4/5
3.M.1-34 for MR 051037672 Troubleshooting FWLC operation

References for Section 1R15
NRC Event Notifications: 41362, 41366, 41369, 41370, 41374, and 41377.
Emergency AC Distribution Reference Text
4160 Volt Distribution System Reference Text
E-33, Schematic Diagram 4160V System Diesel Generator Lockout Relay
E-17 (sheet1), Schematic Meter & Relay Diagram 4160 Volt System
E-16 (sheet1), Schematic Meter & Relay Diagram Generator & Auxiliary Transformers
E-34, Schematic Diagram 4160V System Protection Relays
E-47, Schematic Diagram Turbine Generator Lockout & Turbine Protection Systems
E-40, Schematic Diagram 4160V System Breakers 152-509 & 152-609
Procedure 8.5.2.10, RHR Piping Temperature and Pressure Monitoring
CR 200109542, RI identified RHR Loop B Injection Piping Noisy and Warm to Touch

References for Section 1R17
PDC/FRN 02-165, Replacement of Feedwater Level Control Module, 2/3/03
PDC/FRN 02-165-03, Revision for Testing Controller LIC-640-18
MR 02119765, Replace Feedwater Master Level Controller with Updated Unit 3/4/5
MR 04116210, Controller Bench Calibration per 3.M.2-7.2
MR 04116211, Controller Burn in and Bench Calibration, 2/28/05
3.M.2-7.2, LIC-640-18 Record of Calibration, 1/13/05
10 CFR 50.59 Screens per ENN-LI-100, Attachment 9.1 dated 1/30/03 and 3/4/5
NOP83E1 Turnover/Closeout Traveler for PDC 02-165
NUS Letter NUS-JS-03-002 dated 1/21/03 (Evaluation of Defect Under Part 21)
Condition Report CR-JAF-2002-03102

References for Section 1R19
3.M.1-34, Generic Troubleshooting and Maintenance Procedure
3.M.3-61.5, Emergency Diesel Generator Two-Year Overhaul Preventive Maintenance (Attachment 2D only).
8.F.38.1, Diesel Generator Instrument Calibration and Function Test (Attachment 6A only).
8.9.1, Emergency Diesel Generator and Associated Emergency Bus Surveillance

References for Section 1R20
4.0, SNM Inventory and Transfer Control
4.1, Receiving and Handling of Unirradiated Fuel Assemblies

4.2, Inspection and Channeling of New Fuel
4.3, Fuel Handling Attachment 5, OPER-13, Daily Refueling Checklist
4.3, Fuel Handling Attachment 6, OPER-14, Shift Refueling Checklist
4.3, Fuel Handling Attachment 7, OPER-25, Fuel Handling in the SFP Checklist
4.3, Fuel Handling Attachment 8, Bridge Unattended Checklist
MR 03121857, New Fuel Receipt Inspection for RFO 15
Technical Specification 3.10, Refueling
procedure 9.32, Power Suppression Testing, 2/18/05
RFO 15 Fuel Sipping Recommendations
EOC 15 Analysis for Positioning Center Rod 26-27
Condition Reports 20050183, 20050410, 20050434, 20050451, 20050494, 20050506, 20050549, 20050591,20050662, 20050663, 20050682, 20050693, 20050699, 20050766, 20050819.

References for Section 1R22

M1K3-15 Elementary Diagram Core Spray System (sh 1/6)
M1K4-11 Elementary Diagram Core Spray System (sh 2/6)
M1K5-11 Elementary Diagram Core Spray System (sh 3/6)
M1K6-8 Elementary Diagram Core Spray System (sh 4/6)
M1K7-7 Elementary Diagram Core Spray System (sh 5/6)
M1K16 Elementary Diagram Core Spray System (sh 6/6)
M1R4-10 Elementary Diagram Automatic Blowdown System (sh 1/2)
Condition Report 20050167, Incorrect Halon system Actuator Connection
Industry Event number 41327, Halon System Actuator Connection Error
Vendor Manual V-0636, Model B Halon 1301 System
Maintenance Requests MR 19701757 and 04114390
Procedure 8.B.22, Halon 1301 System - Cable Spreading Room
License Amendment No. 84 dated 11/27/84
Procedure 8.B.35, Halon Systems - Initiating Device Functional Testing
Drawing M45B-1 Sheet 2 (412010736)
Drawing M45B-1 Sheet 1 (412009740)
Operating Experience Daily Screening of Events for 1/17/05 (Events 41326, 41327)
Condition Report 200500292
Fact Finding Report for CR 200500292
Technical Specification Active LCO 1-05-102, 1-05-013, 1-05-014 and 1-05-015
8.M.2-2.5.3, HPCI Steam Line High Temp Functional Test Attachment 1, 01/26/05
8.M.2- 1.4.1, MSL High Temp Functional Attachment.1, 01/26/05
8.M.2-2.6.3, RCI Steam Line High Temp Functional Attachment 1, 01/27/05
8.M.2-1.2.2, RWCU High Temp Functional, 01/27/05

LIST OF ACRONYMS

AOG	Augmented Off-Gas
CFR	Code of Federal Regulations
CR	Condition Report
EDG	Emergency Diesel Generator
EOC	End of Cycle
EOF	Emergency Operation Facility
FSAR	Final Safety Analysis Report
FWLC	Feedwater Level Control System
HPCI	High-Pressure Coolant Injection
ISI	Inservice Inspection
IST	Inservice Test
IR	Inspection Report
NCV	Non-Cited Violation
NOP	Nuclear Organization Procedure
NRC	Nuclear Regulatory Commission
NUS	Nuclear Utilities Service
OA	Other Activities
PAR	Protective Action Recommendation
PARS	Publicly Available Records
PDC	Permanent Design Change
PNPS	Pilgrim Nuclear Power Station
PWT	Post-Work Test
RHR	Residual Heat Removal
RWCU	Reactor Water Cleanup
SBODG	Station Blackout Diesel Generator
SDP	Significant Determination Process
SLC	Standby Liquid Control
SNM	Special Nuclear Material
TBCCW	Turbine Building Closed-Cooling Water
TSC	Technical Support Center
UFSAR	Updated Final Safety Analysis Report