January 24, 2001

Mr. Robert M. Bellamy
Site Vice President
Entergy Nuclear Generation Company
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, Massachusetts 02360-5599

SUBJECT: NRC's PILGRIM INSPECTION REPORT NO. 05000293/2000-010

Dear Mr. Bellamy:

On December 30, 2000, the NRC completed an inspection at your Pilgrim reactor facility. The enclosed report presents the results of that inspection. The results were discussed on January 11, 2001, with yourself and other members of your staff.

This inspection was an examination of 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. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

No findings of significance were identified.

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Sincerely,

/RA/

Robert Summers, Acting Chief
Projects Branch 6
Division of Reactor Projects

Docket No.: 05000293
License No.: DPR-35

Enclosure: Inspection Report 05000293/2000-010

cc w/encl:
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No:	50-293
License No:	DPR-35
Report No:	05000293/2000-010
Licensee:	Entergy Nuclear Generation Company
Facility:	Pilgrim Nuclear Power Station
Location:	600 Rocky Hill Road Plymouth, MA 02360
Inspection Period:	November 19, 2000, through December 30, 2000
Inspectors:	R. Laura, Senior Resident Inspector R. Arrighi, Resident Inspector J. Jang, Senior Health Physicist
Approved By:	Robert Summers, Acting Chief Projects Branch 6 Division of Reactor Projects

SUMMARY OF FINDINGS

IR05000293-2000-010; on 11/19-12/30/2000; Entergy Nuclear Generation Company; Pilgrim Nuclear Power Station.

The inspection was conducted by resident inspectors and a regional senior health physicist. The significance of most/all findings is indicated by the color (green, white, yellow, or red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). The significance of findings for which the SDP does not apply is indicated by "no color" or by the severity level of the applicable violation. A description of the NRC Reactor Oversight Process is enclosed as Attachment 1 of this report.

- There were no findings of significance identified during this inspection.

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Attachment 1 - NRC’s REVISED REACTOR OVERSIGHT PROCESS

Report Details

SUMMARY OF PLANT STATUS

Pilgrim Nuclear Power Station operated at 100 percent power for the entire report period.

1. REACTOR SAFETY
(Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity)

1R04 Equipment Alignment

a. Inspection Scope

The inspector performed a partial system walkdown of the reactor core isolation cooling (RCIC) and the salt service water systems after planned surveillance activities. The walkdown included verification of proper valve position by observing control room valve position indication and visual inspection of valves in the RCIC pump room and also at the intake structure to verify that the system was properly aligned to support normal and emergency plant operations. The inspector also inspected the equipment for any obvious degradation such as oil or pressure boundary leakage.

b. Findings

No significant findings were identified.

1R05 Fire Protection

a. Inspection Scope

The inspector toured selected plant areas important to safety in order to assess Pilgrim's control of transient combustibles and ignition sources, as well as the material condition and operational status of fire protection system equipment and barriers. The following areas were toured: (1) cable spreading room, (2) reactor core isolation cooling and (3) the high pressure coolant injection quadrant.

The inspection also consisted of a review of fire protection system valve line-up and the condition of the fire hoses and fire extinguishers.

b. Findings

No significant findings were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspector observed the performance of an operations crew in the simulator to ensure the crew met the event scenario objectives and performed the critical tasks. The scenario involved a significant primary leak that led to the need for emergency depressurization. The inspector verified proper use of the Emergency Plant and also

verified that the post scenario critique discussed any relevant lessons learned. The inspector verified that identified areas for improvement were discussed with the crew to enhance future performance.

b. Findings

No significant findings were identified.

1R12 Maintenance Rule

a. Inspection Scope

The inspector reviewed the implementation of the maintenance rule (10 CFR 50.65) as related to the following:

- Proper classification of equipment failures for the station black out (SBO) diesel generator during the previous 24 months. The SBO diesel generator was designated as an (a)(1) system due to the accumulation of two functional failures over the last 24 month period. Problem reports (PRs) reviewed included PR 98.9574 (burned lockout relay A801), PR 00.9302 (sparks from SBO ring gear), and 00.9385 (anchor bolts installed incorrectly).

- Proper classification of an equipment failure for the failure of a reactor building-to-torus vacuum breaker as documented in problem report PR 00.00.9404.

- Proper classification of plant level performance which was considered (a)(1) status due to unplanned generation loss of more than 235,000 megawatts hours annually having been exceeded. Plant outages were required for repair of the isophase system, repair of a recirculation pump low oil condition, cleaning of the main condenser water boxes and repair of the 5A feed water heater. The licensee was in the process of developing a corrective action plan.

- Proper classification of equipment issues in the reactor water clean-up (RWCU) system during the previous 12 months of plant operation. The system was considered a(2) but had an outstanding MR (19900405) against pump P-204B related to extending the service life of the RWCU pump mechanical seals.

The inspector also reviewed the appropriateness of the associated a(1) or a(2) classification and the applicable a(1) action plan.

b. Findings

No significant findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspector reviewed on-line work plans/activities to assess the adequacy of the licencee's risk assessment process. The inspector reviewed the plans using the criteria contained in licensee procedure 1.5.21, "Integrated Scheduling Guidelines," and 1.5.22, "Risk Assessment Process." The inspection also included a review of the risk assessments and contingencies established, and verification that the increase in risk was conveyed during the licensee's morning meeting and during shift turnover. The following on-line work plans were reviewed:

- Planned preventive maintenance on the "A" control rod drive pump, P-209B coupling and subsequent emergent maintenance rework to correct excessive oil bearing leakage.

- Replace the "A" spent fuel pool pump motor per MR 19802757

- Install eight new and upgraded feed water heater controllers per Test Procedure (TP) 00-022, "Feed water Heater Controller Replacement and Filter Installation", and TP 00-024, "4th Point "A" Heater Controller Replacement".

b. Findings

No significant findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspector reviewed open operability evaluations (OE) to verify that continued operability was justified. The Pilgrim Updated Safety Analysis Report (UFSAR), technical specifications, and licensee procedure 1.3.34.5, "Operability Evaluations," were used as references to assess the adequacy of operability evaluations. The inspector also verified the corrective actions to ameliorate the degraded conditions were adequate and either completed or scheduled to be completed in the licensee's work control process. The following OEs were selected for review:

- OE 00-40. Body-to-bonnet steam leak on the RCIC System Steam Supply Isolation Valve, MO-1301-17 , located in the TIP room. The inspector reviewed the related engineering evaluation. This OE was rated as "Yellow" (Medium) risk by the licensee due to the risk importance of the RCIC system which is a single train safety system. The valve is required to open during a LPCI injection and is required to close during a containment isolation signal. The licensee determined the steam leak should not interfere with valve operation in either direction. Also, the steam leak is isolated when the valve goes closed which assures that the containment integrity is maintained. Lastly, an upper ambient temperature limit of 105 degrees Fahrenheit was established inside the TIP room to ensure equipment qualification of electrical components remained within analyzed

temperature profiles. A remote monitoring camera was installed to allow routine inspection of the size and impact of the steam leak. Corrective maintenance was planned during RFO13.

- OE 00-50. Safety Relief Valve (SRV) “3B” leakage as indicated by increased tailpipe temperature. The Pilgrim plant utilizes two-stage safety relief valves manufactured by Target Rock Corporation. The SRV tail pipe temperature trend indicated that the leakage is most probably due to pilot assembly leakage. The inspector reviewed the associated engineering evaluation that concluded that the set point of SRV “3B” remained operable provided tail pipe temperature did not exceed 235 degrees Fahrenheit over a 24 hour period or an instantaneous temperature of 250 degrees Fahrenheit. These temperature limits were based on test data from General Electric and Target Rock Corporation. This operability evaluation was designated as a White (low) risk condition.

The licensee carefully followed TS 3.6.D that requires an engineering evaluation whenever an SRV tail pipe temperature exceeds 212 degrees for a 24 hour period. Additionally, in accordance with TS 3.6.D, the licensee submitted the engineering evaluation to the NRC for approval prior to exceeding 90 days of continued operation with SRV tail pipe temperature in excess of 212 degrees Fahrenheit. Corrective actions are planned to replace the pilot assembly on SRV “3B”.

In each of the last three operating cycles SRV ”3B” has developed pilot valve leakage which indicates the potential for a unique problem associated with SRV ”3B” and/or the “B” main steam line. The inspector questioned what efforts were underway to further evaluate the root cause of a repetitive problem with SRV ”3B” . The system engineer later informed the inspector that the same main body of SRV ”3B” has remained in place during the last few refueling outages and only the pilot assemblies have been replaced. Further, the system engineer indicated that an in depth engineering study was started to identify any unique physical or operating differences between the “B” main steam line and the other three steam lines. An additional problem report was subsequently initiated by the system engineer to document, evaluate and correct the repetitive nature of pilot valve leakage in SRV ”3B” .

b. Findings

No significant findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspector reviewed and observed portions of the following post maintenance tests to ensure that the test activities were adequate to verify operability and functional capability of the system/component following maintenance:

- MR 10002419, Repair reactor water cleanup high flow sensor, DPIS-1244
- MR 19802757, Replace the “A” fuel pool cooling pump motor and overhaul pump

b. Findings

No significant findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspector reviewed the following surveillance tests:

- 8.5.2.3 "LPCI and Containment Cooling Motor-Operated Valve Operability Test"
- 8.M.2-2.6.4 "RCIC Steam Line Low Pressure"

The inspector verified that the systems requirements were correctly incorporated into the test procedures and that the test acceptance criteria were consistent with the technical specifications, the licensee's Inservice Testing Program and the Updated Final Safety Analysis Report requirements. The review also included an evaluation of the completed surveillance test data to verify that the selected systems and components were capable of performing their intended safety functions and operational readiness.

b. Findings

No significant findings were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspector reviewed the following temporary plant modifications (TM) to ensure they do not affect the safety function of important safety systems. The inspection included reviewing the temporary modification and associated preliminary evaluation checklist (10 CFR 50.59 screening) against the Updated Final Safety Analysis Report and plant technical specifications. The inspector also verified the configuration control of the modification was adequate by verifying that referenced drawings and procedures were properly updated.

- TM 00-29, Removal of reactor pressure boundary leak detection system (C19A/B) sample pump motorized bypass valves

b. Findings

No significant findings were identified.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety

2PS1 Gaseous and Liquid Effluents

a. Inspection Scope

The inspector reviewed the following documents and conducted the following activities to evaluate the effectiveness of the licensee's radioactive gaseous and liquid effluent control programs. The inspector observed that the licensee reviews and updates the ODCM regularly to improve its content based on NUREG-1302, ODCM Guidance: Standard Radiological Effluent Controls for Boiling Water Reactors. The requirements of the radioactive effluent controls are specified in the Technical Specifications/Offsite Dose Calculation Manual (TS/ODCM).

- 1999 Radiological Annual Effluent Release Reports and Radiation Dose Assessment Reports
- ODCM, (Revision 8, August 27, 1998) technical justifications and 10CFR50.59 evaluations for ODCM changes
- technical justification to add the reactor building component cooling water radiation monitoring system to the ODCM Revision 9
- analytical results for charcoal cartridge, particulate filter, and noble gas samples
- implementation of the compensatory sampling and analysis program when the effluent radiation monitoring system (RMS) is out of service
- walkdown for determining the availability and the material condition of radioactive liquid/gaseous effluent RMS and standby gas treatment system
- 10 radioactive liquid release permits
- associated effluent control procedures, including sampling and analytical laboratory procedures
- calibration records for laboratory measurement equipment
- implementation of quality control programs (split/spike/blank samples and measurement instrumentation) by the licensee measurement laboratory and a contractor laboratory, including interlaboratory comparisons
- measurement instrumentation
- 2000 self-assessment
- 2000 QA Audit (QA-00-053) and QA Surveillance Reports (99-126, 00-027, 00-084, 00-087, and 00-107) for the radiological effluent control/ODCM implementations
- licensee's response letters (November 22, 1999 and November 21, 2000) to the NRC Generic Letter 99-02, Laboratory Testing of Nuclear-Grade Activated Charcoal
- most recent effluent RMS channel calibration and flow monitor calibration results listed in Table 4.1-1 and 4.1-2 of the ODCM and accident RMS

    - Liquid Radwaste Effluent Line RMS (11-9-00)
    - Liquid Radwaste Effluent Line Flow Monitor (2-12-99)
    - Reactor Building Closed Cooling Water RMS (9-2-00)
    - Main Stack Noble Gas Monitor (Normal Range, 8-30-00)
    - Main Stack Noble Gas Monitor (High Range, 5-10-99)
    - Main Stack Flow Monitor (8-26-99)
    - Reactor Building Vent Noble Gas Monitor (Normal Range, 8-30-00)
    - Reactor Building Vent Noble Gas Monitor (High Range, 5-8-99)
    - Reactor Building Vent Flow Rate Monitor (1-1-00)
    - Turbine Building High Range Monitor (5-9-99)

- Steam Jet Air Ejector Noble Gas Monitor (5-10-99)

b. Findings

No significant findings were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

.1 RETS/ODCM Radiological Effluent Occurrences

a. Inspection Scope

The inspector reviewed the following documents to ensure the licensee met all requirements for the performance indicator from the third quarter 1999 to the second quarter 2000 (4 quarters):

- monthly projected dose assessment results due to radioactive liquid and gaseous effluent releases; and
- quarterly projected dose assessment results due to radioactive liquid and gaseous effluent releases.

b. Findings

No significant findings were identified.

.2 RCS Specific Activity (Dose Equivalent Iodine-131)

a. Inspection Scope

The inspector noted that the determination of the dose equivalent iodine-131 (DEI) is not required by the Technical Specification (TS), although it is required as a performance indicator. Instead, determination of the total iodine activity in a reactor coolant sample is required by the TS. The inspector discussed with the Chemistry staff regarding the TS requirement change from total iodine activity to the DEI, as provided in Standard TS.

The inspector reviewed the following documents to ensure the licensee met all requirements (total iodine activity and DEI) of the performance indicator from the third quarter 1999 to the second quarter 2000 (4 quarters):

- Measurement results for total iodine activity in reactor coolant samples;
- converting technique from the total iodine activity to DEI;
- monthly total iodine activity measurement and DEI results; and
- quarterly total iodine activity measurement and DEI results.

b. Findings

No significant findings were identified.

.3 RCS Leak Rate

a. Inspection Scope

The inspector reviewed the following documents to ensure the licensee met all requirements (total iodine activity and DEI) of the performance indicator from the third quarter 1999 to the second quarter 2000 (4 quarters):

- monthly and quarterly leak rates; and
- Procedure No. 2.1.15, Daily Surveillance Log (TS and Regulatory Agencies)

b. Findings

No significant findings were identified.

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. R. Bellamy, VP Operations, and other members of licensee management at the conclusion of the inspection on January 11, 2001. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered propriety. No propriety information was identified.

ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
DEI	Dose Equivalent Iodine-131
DPIS	Differential Pressure Indicating Switch
ECCS	Emergency Core Cooling System
EE	Engineering Evaluation
HPCI	High Pressure Coolant Injection
LPCI	Low Pressure Coolant Injection
MR	Maintenance Request
ODCM	Offsite Dose Calculation Manual
PR	Problem Report
QA	Quality Assurance
QC	Quality Control
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RETS	Radiological Effluent Technical Specifications
RMS	Radiation Monitoring System
SBO	Station Black Out
SDP	Significance Determination Process
SRV	Safety Relief Valve
TIP	Transfer In-core Probe
TM	Temporary Modification
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report

ATTACHMENT 1

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	**Radiation Safety**	**Safeguards**
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.