

April 9, 1999

Mr. Theodore A. Sullivan
Vice President - Nuclear and Station Director
BEC Energy
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, Massachusetts 02360-5599

SUBJECT: PLANT PERFORMANCE REVIEW - PILGRIM NUCLEAR POWER STATION

Dear Mr. Sullivan:

On February 25, 1999, the NRC staff completed a Plant Performance Review (PPR) of Pilgrim Nuclear Power Station. The staff conducts these reviews for all operating nuclear power plants to develop an integrated understanding of safety performance. The results are used by NRC management to facilitate planning and allocation of inspection resources. PPRs provide NRC management with a current summary of licensee performance and serve as inputs to the NRC's senior management meeting (SMM) reviews. PPRs examine information since the last assessment of licensee performance to evaluate long term trends, but emphasize the last six months to ensure that the assessments reflect current performance. The PPR for Pilgrim involved the participation of all technical divisions in a detailed evaluation of inspection results and safety performance information for the period April 1998 to January 15, 1999, and a review of long term performance trends since your last Systematic Assessment of Licensee Performance (SALP). The NRC's most recent summary of licensee performance was provided in a letter of November 4, 1997, and was discussed in a public meeting with you on November 13, 1997.

As discussed in the NRC's Administrative Letter 98-07 of October 2, 1998, the PPR provides an assessment of licensee performance during an interim period that the NRC has suspended its SALP program. The NRC suspended its SALP program to complete a review of its processes for assessing performance at nuclear power plants. At the end of the review period, the NRC will decide whether to resume the SALP program or terminate it in favor of an improved process.

At the beginning of the current evaluation period, the Pilgrim plant was operating at full power. No forced shutdowns or reactor scrams occurred during this period. Power was reduced several times during the summer months to address fouling of the main condenser, to perform routine rod pattern adjustments, and to correct balance of plant equipment problems, including repair of a feedwater flow instrument line and repair of a feedwater heater.

Overall performance at Pilgrim was acceptable. Improving trends were observed in the maintenance and operations areas where there were no significant human performance related events. Overall, equipment and plant reliability improved. Engineering efforts continued to improve the plant design and licensing bases documentation and overall good performance was observed during the NRC-sponsored architect engineer (AE) team inspection. However,

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the cumulative effect of the engineering work backlog remains a challenge. Deficiencies were noted in both the security and fire protection areas early in the assessment that were promptly corrected. Also, a significant effort to reduce the internal contamination of the residual heat removal (RHR) system was satisfactorily accomplished during the period to further the licensee's plan for worker radiation dose reduction. Finally, the corrective action process and independent review groups functioned well with due regard to reactor safety.

In the operations area, the number and significance of operator errors declined and procedure quality and use improved. Also, NRC licensed operator candidates were well prepared and successfully passed the initial NRC license examination. Further, operators identified and responded effectively to equipment failures, such as a failed recirculation pump speed controller. As a result, no significant plant transients occurred. However, the NRC identified several examples of inadequate problem identification and tracking of degraded or inoperable equipment. In response, plant management initiated actions to effect more consistent operating-shift expectations. We plan to perform the normal core inspection program with emphasis on the handling of degraded equipment.

In the maintenance area, the number of human performance problems noted during maintenance and surveillance activities declined. A continued management focus on addressing equipment deficiencies resulted in improved material condition and plant reliability. Long term improvements made in the switchyard and intake structure equipment resulted in fewer equipment problems that adversely affected plant operation. Also, material condition upgrades were made to the reactor building quadrant and torus rooms to improve accessibility and lighting in these areas. The backlog of overall corrective maintenance, particularly control room deficiencies, has been increasing. This is largely a positive development as it stems primarily from a lower threshold for problem reporting. However, some staff turnover in the instrument and controls group also contributed to these backlogs. The NRC noted improvement in the quality and use of technical specification surveillance procedures; however, some examples of inadequate post-work test procedures were observed. We plan to perform the normal core inspection program with additional emphasis on post-work test procedure adequacy.

Effective management oversight was evident regarding engineering activities in support of safe plant operation. In general, timely engineering support was provided in the identification and resolution of technical problems and in control of the plant's design bases. Examples of this effort included resolution of adverse design conditions involving: a potential containment leakage path; potential hot short conditions; and incorrect seismic damping factors. However, occasional lapses in engineering support were observed. One example of this involved an emergency diesel generator trip that resulted from a poorly developed special engineering test procedure and inadequate test direction. Engineering evaluations adequately supported operability determinations for identified problems, and corrective actions were considered effective. The NRC sponsored AE team found that the RHR system was capable of performing its design and licensing basis functions under all design basis conditions. While the AE team identified some historical problems with the control of design calculations, new calculations were observed to be of good quality. Finally, the team identified some concerns that require additional inspection, such as the vulnerability of the ECCS room equipment drains to internal flooding events. Some improvement was noted in the evaluation of problem report action items and engineering management monitoring of the problem report backlog. However, the cumulative engineering work backlog was considered a challenge to the organization. This

backlog included: open operability evaluations and long-term corrective action development, resolution of design discrepancies from the design basis information program, and resolution of AE team findings. In addition to the normal core inspection program effort, two initiative inspections are planned to review the backlog of open operability evaluations, and resolution of both the AE team and licensee's design bases information program findings.

Radiation protection activities were effectively implemented and maintained, including occupational exposure control, and effluent and environmental monitoring. The chemical decontamination of the RHR system loops was a significant effort in lowering the source term to reduce worker radiation dose and to improve access to these areas. The plant security and protection program was effectively implemented and maintained. Protected area assessment equipment deficiencies, identified by the NRC early in the period, were promptly corrected. In addition, excellent capability was demonstrated during an Operational Safeguards Response Evaluation. The emergency preparedness program was effective and well maintained, and good performance was demonstrated during emergency response exercises. Several fire protection deficiencies were identified by the NRC; however, prompt and effective corrective actions were taken. We plan to perform the normal core inspection program.

Enclosure 1 contains a historical listing of plant issues, referred to as the Plant Issues Matrix (PIM), that were considered during this PPR process to arrive at an integrated view of licensee performance trends. The PIM includes items summarized from inspection reports or other docketed correspondence between the NRC and BEC Energy. The NRC does not attempt to document all aspects of licensee programs and performance that may be functioning appropriately. Rather, the NRC only documents issues that the NRC believes warrant management attention or represent noteworthy aspects of performance. In addition, the PPR may also have considered some predecisional and draft material that does not appear in the attached PIM, including observations from events and inspections that had occurred since the last NRC inspection report was issued, but had not yet received full review and consideration. This material will be placed in the PDR as part of the normal issuance of NRC inspection reports and other correspondence.

This letter advises you of our planned inspection effort resulting from the Pilgrim PPR review. It is provided to minimize the resource impact on your staff and to allow for scheduling conflicts and personnel availability to be resolved in advance of inspector arrival onsite. Enclosure 2 details our inspection plan through January 2000. The rationale or basis for each inspection outside the core inspection program is provided so that you are aware of the reason for emphasis in these program areas. Resident inspections are not listed due to their ongoing and continuous nature.

Because of the anticipated changes to the inspection program and other initiatives, this inspection schedule is subject to revision. Any changes to the schedule will be discussed promptly with your staff. If you have any questions, please contact me at 610-337-5227.

Sincerely,

ORIGINAL SIGNED BY:

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

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

Enclosures:

1. Plant Issues Matrix
2. Inspection Plan

cc w/encls:

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ENCLOSURE 1

PLANT ISSUES MATRIX

PILGRIM PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
2/19/99	Positive	IR 98-11	N	OPS	3A	Operators completed operational activities well including the recording and evaluation of technical specification readings. Members of plant management were periodically observed touring the control room and plant areas.
2/19/99	Negative	IR 98-11	N	OPS	3A	Two instances of minor weaknesses in the identification and initiation of corrective action for degraded equipment conditions in the control room were identified by the NRC. Also, two minor instances were noted where relevant operational information was not recorded in the NOS log or daily morning report. These conditions reflect lapses in operator awareness.
2/19/99	Negative	IR 98-11	N	OPS	2B	A weakness in the cold weather program was evident when temperatures in the intake structure went below an UFSAR specified design value of 60 degrees Fahrenheit.
2/19/99	Positive	IR 98-11	N	OPS	1C	The high pressure coolant injection system was properly configured to support system operability. No operability concerns were identified during the walkdown of the system.
2/19/99	Negative	IR 98-11	N	OPS	4B	The licensee developed an alternate HPCI test method using a 1991 engineering evaluation but did not update the technical specifications to reflect the change. This item is unresolved pending further NRR review.
2/19/99	Negative	IR 98-11 URI 98-11-01	N	OPS	4B	The inspector questioned the licensee regarding the validity of testing the HPCI system at less than 4250 GPM at a reactor pressure of 150 psig without prior NRC review and approval. A review of the reactor core isolation cooling system revealed a similar concern. As a result of the inspectors question, the licensee generated problem report 98.9636. The implementation of technical specification surveillance requirement for system flow test at a reactor pressure of 150 psig remains unresolved pending NRR review.
2/19/99	Negative NCV	IR 98-11 NCV 98-11-02 LER 98-19	N	OPS	5C	The inspector conducted an on-site review of the LER and verified that the leaking fitting was repaired, and found the licensee's proposed corrective actions to be appropriate.
12/22/98	Positive	IR 98-10	N	OPS	1A	The conduct of routine operations was professional and safety-conscious. An initiative to require newly licensed operators to serve under instruction watches prior to assuming full licensed duties was positive.
12/22/98	Positive	IR 98-10	N	OPS	1B	Reactor engineers prepared a thorough power maneuver plan to support a planned down power to 70% reactor power. Reactor fuel vendor recommendations were followed to minimize the chance to develop a reactor fuel leak.

PILGRIM PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
12/22/98	Positive	IR 98-10	N	OPS	1B	Operators maneuvered the plant and performed individual control rod scram time testing in a competent manner. Test anomalies were promptly evaluated prior to proceeding.
12/22/985 22	Negative	IR 98-10	N	OPS	1A	Operators were slow to declare the "B" SBG T train inoperable. Operators troubleshot the cause of the "B" SBG T fan trip for one hour prior to entering the applicable technical specification action statement.
12/22/98	Negative NCV	IR 98-10 LER 97-28 NCV 98-10-01	L	OPS	1A	Screen house configuration was outside the design basis of the plant due to a door being removed that affected the tornado depressurization model.
11/24/98	Positive	IR 98-301	N	OPS	3B	All applicants passed all portions of the examination and performed well, overall.
11/24/98	Positive	IR 98-301	N	OPS	3B	The applicants were well prepared for the examination, indicating that the facility had thoroughly evaluated the knowledge and abilities of each applicant in an effort to determine their readiness to sit for an initial NRC examination. Crew communications and control board awareness were good.
11/24/98	Misc	IR 98-301	N	OPS	5B	An event involving a potential exam compromise was evaluated. The licensee was objective, thorough and timely in its investigations and in its actions taken to prevent similar events in the future. NRC staff agreed with the licensee that there was reasonable assurance that an exam compromise had not occurred and the control of the examination met the requirements of 10 CFR 55.49.
11/24/98	Positive	IR 98-301	N	OPS	3B	The experience and qualifications of the RO and SRO applicants met the facility licensee program and NRC requirements. NRC questions on waivers to the program guidelines were adequately resolved. The licensee made enhancements to their program subsequent to the NRC questions.
11/24/98	Negative	IR 98-301	N	OPS	1C	Two procedure clarity problems were identified by the NRC examiners during the exam preparation week.
11/20/98	Positive	IR 98-08	N	OPS	1A	Routine plant operations were well performed including shift turnover and pre-evolutionary briefings.

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Date	Type	Source	ID	SFA	Code	Item Description
11/20/98	Positive	IR 98-08	N	OPS	1A	Operators performed well during a power reduction to clean two main condenser waterboxes. Plant management developed a special procedure to provide specific criteria to address potential boundary valve leakage between the waterboxes. After mussel shells and other debris was removed from inside the condenser tubes, overall condenser performance significantly improved.
11/20/98	Negative	IR 98-08	N	OPS	1A 1C	A primary containment configuration control weakness was identified that resulted in not entering the related LCO requirements during chemical decontamination of the residual heat removal (RHR) loops. Several opportunities existed for the licensee's staff to identify this problem. Contributing to this issue was the improper interpretation of an UFSAR table and inadequate communications between operations and systems engineering personnel.
11/20/98	Positive	IR 98-08 LER 98-20	L	OPS	1A 5A	A control room shift staffing issue was properly identified, resolved and reported to the NRC.
10/7/98	Negative	IR 98-07 NCV 98-07-01	L	OPS	1C	Failure to verify compliance with TS limit on control rod worth since cycle 7.
10/7/98	Positive	IR 98-07	N	OPS	5A	An increased use of industry operating experience was evident at the Plant Manager's morning meeting.
10/7/98	Positive	IR 98-07	N	OPS	1A	Routine plant operations were performed well, especially during several downpowers to backwash the condenser water boxes. A cross functional self assessment utilized industry peers and was self critical in identifying areas for improvement.
10/7/98	Negative	IR 98-07	N	OPS	5A 2A	The inspectors noted three occasions when degraded equipment conditions were either not expeditiously identified or communicated. Plant and operations management acknowledged the observation and stated there was an ongoing effort to strengthen management expectations in this area.
10/7/98	Positive	IR 98-07	N	OPS	1A	Operations personnel performed fuel movements well in the spent fuel pool, with appropriate concerns for safety, and foreign materials exclusion. Communications between operator, spotter, and reactor engineering personnel were clear and concise.
2/15/98	Negative	IR 97-13 LER 97-03-01	L	OPS	1B 1C	Manual scram due to due to increasing reactor water level during power reduction for refueling outage. Violation cited in IR 97-01.

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Date	Type	Source	ID	SFA	Code	Item Description
3/7/97	Positive	IR 98-01 LER 97-04-01	L	OPS	2A	Loss of preferred off-site power and oil spill due to an electrical fault in the main transformer while shutdown. Proper operation response to the loss of power
8/28/98	Positive	IR 98-06	N	OPS	1B	The conduct of operations was professional and safety-conscious. Operators responded effectively to two plant transients. In one instance, operators gained control of a recirculation pump which suddenly increased in speed due to a controller malfunction. This action took only six seconds and averted a potential plant transient or reactor scram.
8/28/98	Positive	IR 98-06	N	OPS	1A	Reactor engineers and operators closely monitored minor reactor power oscillations and initiated action to lower power to prevent exceeding the instantaneous reactor power limit.
8/28/98	Positive	IR 98-06	N	OPS	1C	Review of operator overtime data revealed that the licensee maintains sufficient licensed operations personnel to maintain adequate shift coverage without routine heavy use of overtime.
8/28/98	Positive	IR 98-06	N	OPS	1A	The licensed and non-licensed operators were knowledgeable of plant and equipment status during equipment rounds.
07/09/98	Positive	IR 98-05	N	OPS	1A	The conduct of operations was professional and safety-conscious. A May 28, 1998, plant down power was well controlled and executed.
07/09/98	Positive	IR 98-05	N	OPS	1C 4B	The recently revised process for tracking equipment and system degraded conditions and performing and reviewing operability determinations was well defined, clearly documented, and consistently applied. The new tracking program provides operations personnel with sufficient information to understand the impact of the degraded equipment on a component and system basis.
07/09/98	Positive	IR 98-05	N	OPS	3B 5A 5C	Licensed operator performance in training scenarios was generally adequate. The Pilgrim training staff identified a weakness in an operator's use of an emergency operating procedure (EOP) and provided appropriate remedial activities. Additionally, training evaluations were acceptable. Plant experience was incorporated in the scenarios.
05/19/98	Positive	IR 98-02	N	OPS	1A	Generally good operator performance was noted during the period.
05/19/98	Positive	IR 98-02	L	OPS	1B	A planned power reduction to 50% power and return to full power was completed well with no noted operator human performance issues. The pre-evolutionary briefing, good communications and the use of a dedicated reactivity manager contributed to the positive operational controls.

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Date	Type	Source	ID	SFA	Code	Item Description
2/24/98	Positive	IR 98-01	N	OPS	1A 3A	Good use of self-checking and procedure adherence was evident during the performance of routine plant evolutions. This was especially evident during two power reductions performed to support work in the condenser bay.
11/14/97	Negative	IR 97-11	N	OPS	5C	Continued operation of the recirculation pump motor generator set with worn exciter brushes was not rigorously evaluated nor was a problem report initiated.
11/14/97	Negative	IR 97-11	N	OPS	5B 5C	Operators did not properly assess the effect of a leaking reactor vessel water level keep fill relief valve nor did they initiate a problem report.
2/24/98	MIS	IR 98-01	N	OPS	5C	Corrective actions to resolve a broad procedure adherence problem were determined to be adequate to close two previous procedure adherence violations. The initial corrective actions were not entirely effective, but additional corrective measures were developed and either implemented or are planned to be implemented this year.
2/24/98	Positive	IR 98-01	N	OPS	3C	The Nuclear Safety Review and Audit Committee (NSRAC) was effective in the evaluation of potential safety significant issues. Meaningful discussions occurred that focused on reactor safety.
2/24/98	Negative	IR 98-01	N	OPS	3C	Procedures for cold weather were properly implemented. The cold weather program at BECo was determined to be weak in that not all instrumentation for cold weather protection gets periodically calibrated/tested and is thereby subject to potential failure.
2/24/98	MIS	IR 93-01	N	OPS MAINT	3A	The control room high efficiency air filtration system was properly configured to support system operability. No substantive concerns were noted during the walkdown of the system. Surveillance requirements were properly captured in BECo surveillance procedures.
2/24/98	Negative	IR 98-01	N	OPS	3A	A mechanical joint leak in standby liquid control system was identified and discussed with the nuclear watch engineer for resolution. The licensee cleaned the area and monitored to determine if an active leak existed.
2/24/98	Positive	IR 98-01	L	OPS	1A	An operations self assessment was determined to be self critical with the identification of areas for improvement and the use of industry peers during the review was considered to be a strength.
1/6/98	Negative	IR 97-13	N	OPS	5A 3A 1A	A partially clogged cooling air inlet screen on the "a" residual heat removal pump motor was not detected by operators on rounds or managers on tour. Operator human performance.
1/6/98	Negative	IR 97-13	S	OPS	3B 3C	An inadvertent reactor water cleanup isolation during post scram conditions was an operator performance issue that broadly warranted increased training on the use of the letdown valve.

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Date	Type	Source	ID	SFA	Code	Item Description
1/6/98	Negative	IR 97-13	L	OPS	3A 1A	A reactor operator did not detect a diverging temperature trend between the reactor vessel flange and the adjacent shell temperature.
1/6/98	Positive	IR 97-13	N	OPS	1A 3B 3A	Two reactor startups were characterized by clear communications and effective control by shift supervision. Senior reactor operator performance was good in that distractions to the operating crew were minimized, and the diverging vessel to flange temperature differential was identified and the plant heatup secured.
1/6/98	Positive	IR 97-13	N	OPS	1B 3B	Operators responded effectively by using proper command-and-control and procedure usage in response to a feed water system regulating valve malfunction which resulted in a turbine trip and resultant automatic reactor scram. The post trip review completed by operations support personnel and the readiness for restart meeting focused on proper evaluation and resolution of any equipment and human performance issues.
11/10/97	Positive	IR 97-11	L	OPS	1A 5C	BECo (Boston Edison Co.) promptly notified the NRC of an internal safety concern involving an operator log discrepancy in 1989. A good initial BECo response was evident by hiring the services of an independent investigative service and limiting the licensed duties of any operator who may have been in the control room at the time. Minimum shift manning was not compromised.
11/10/97	VIO	IR 97-11 VIO 97-11-01	L	OPS	3A 1A	Three individual licensed operator errors, involving the tagout preparer, tag hanger and independent verifier, resulted in tagging an electrical breaker in the wrong position. Collectively, these errors resulted in a violation of the PNPS (Pilgrim Nuclear Power Station) tagging program.
11/10/97	Negative	IR 97-11	N	OPS	5B 2A	Investigation into the cause of the 125VDC ground experienced during "B" diesel starts was not aggressively pursued, and the troubleshooting plan delayed due to the batteries being cross-tied.
11/10/97	Negative	IR 97-11	S	OPS	1B 3C	The recirculation pump trip event was handled very well by the operating crew by following procedures to place the plant in a stable and safe condition. The root cause and corrective actions were determined to be good. Root cause was inadequate procedure. LER 97-16 closed in inspection report 98-01.
11/10/97	Positive	IR 97-11	N	OPS	1A 3A	Generally, the conduct of operations was professional and safety conscious. Operators closely monitored an increase tailpipe temperature from safety relief valve 3D which indicated pilot valve seat leakage.

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Date	Type	Source	ID	SFA	Code	Item Description
05/19/98	Negative	IR 98-02	N	OPS	1A	A few operator performance issues were noted indicating a minor weakness in control room formality. The inspector identified a failure of an operator to circle a plant parameter that was outside of the expected range for a non-technical specification required instrument. The NRC identified that the technical specification clarifications in the control room copy of the technical specifications were not being updated. Also, the inspector noted a problem with a chart recorder on a back control panel. The licensee identified the failure of field operators to promptly detect a decreasing trend in the standby diesel generator glycol level.
11/10/97	Positive	IR 97-11	N	OPS	1A 3A	The training staff developed acceptable written and operating tests, and administered and evaluated the tests effectively. A notable strength of the program was the training evaluators, who were particularly good at determining how well operators and crews mastered training objectives. Their high standards for performance were reflected in their critical and objective assessments. Based on these favorable attributes, the inspectors concluded that the requalification program was very good and contributed to safe plant operation.
2/19/99	Positive	IR 98-11	N	MAINT	3B	Good procedure usage was noted for maintenance activities observed. The licensee's post work test of the control room high efficiency air filtration system modification did not adequately prove the intent of the modification. This was considered a poor maintenance practice. Probabilistic risk assessment was properly used to evaluate overall risk to the plant for an emergent work activity.
2/19/99	Negative	IR 98-11	N	MAINT	3C	Scaffolding erected to support motor operated valve work in the RHR quadrant did not provide complete access to perform the scheduled work. Electricians completed the work in a competent manner and took proper corrective actions when an actuator cover bolt broke.
2/19/99	Positive	IR 98-11	N	MAINT	5C	A condenser bay entry at power to perform temporary leak repair on a heating system valve was well coordinated and performed. An emphasis on ALARA was noted at the pre-work brief which was attended by the maintenance production manager.
2/19/99	Positive	IR 98-11	N	MAINT	3A	I&C technicians calibrated a LPCI loop select transmitter with no problems and used effective communications.
2/19/99	Positive	IR 98-11	N	MAINT	3A	Maintenance troubleshooting for control rod 34-35 was effective and operators took precautions during the post work test to minimize the significance of any potential problems.

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Date	Type	Source	ID	SFA	Code	Item Description
2/19/99	Negative NCV	IR 98-11 NCV 98-11-03 LER 98-17	N	MAINT	2B	The inspector conducted an on-site review of the LER and verified that the reactor water level proportional amplifier was calibrated, and that the licensee opened an action item to revise procedure 8.E.6, "Reactor Feedwater Instrumentation Calibration Check," prior to the cycle 12 refueling outage.
12/22/98	Positive	IR 98-10	N	MAINT	3A	A good questioning attitude was displayed by the electrical maintenance mechanics during work on motor operated valve actuators when they observed that the wiring was not in accordance with the internal wiring diagram.
12/22/98	Negative	IR 98-10	N	MAINT	2B	A procedure weakness was identified during the performance of the standby gas treatment surveillance involving the adequacy of the system retest. The licensee initiated a problem report to resolve this issue. Actual system response was not performed following disconnect/reconnect of temperature sensor grey boot.
12/22/98	Negative NCV	IR 98-10 LER 98-11 NCV 98-10-04	L	MAINT	1A 2B	Two concrete shield plugs were removed (in Nov., 1996) that affected the high energy line break analysis.
12/22/98	Negative NCV	IR 98-10 LER 98-10 NCV 98-10-03	L	MAINT	2B	Inadequate surveillance performed for containment cooling flow rates. The system was tested at 4800 gpm vice 5100 gpm.
12/22/98	Negative	IR 98-10	N	MAINT	2A	Overall, the inspector observed that the licensee maintained continued attention to material condition deficiencies. The NRC did note some minor deficiencies that were not captured in the licensee's corrective action system.
12/22/98	Positive	IR 98-10	N	MAINT	2A	Operators used remote cameras to closely monitor valve leaks inside the condenser bay. Efforts to stop packing leakage from the "B" feed water, regulating valve during a down power were not completed. Interim actions were taken to mitigate the effects of the steam leak.
11/20/98	Negative	IR 98-08 LER 98-22	L	MAINT	2B 5B 5C	An unplanned actuation of the 'A' Emergency Diesel Generator occurred during a surveillance test of related logic system testing.
11/20/98	Negative	IR 98-08	N	MAINT	1A 2A	Mechanical interference was identified between the control rod drive system solenoid directional control valve and the actuating arm of the valve position indicator for the inlet scram valve on four of the hydraulic control units (HCU's). HCU operability was not affected, but the solenoids could have been damaged by operation of the scram valve.
11/20/98	Positive	IR 98-08	L	MAINT	2B	Routine surveillance and maintenance activities were generally well controlled. Supervisory presence in the field was noted.

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Date	Type	Source	ID	SFA	Code	Item Description
10/7/98	Positive	IR 98-07	N	MAINT	2B 3B	Use of mock-up training and extra electrical work precautions contributed to successful replacement of the electrical brushes on the exciter for the "B" motor generator set motor.
10/7/98	Positive	IR 98-07	N	MAINT	2B	The maintenance staff exhibited conservative decision making by placing the work to replace the "B" control rod drive (CRD) pump casing gasket on hold in lieu of attempting to perform the work with boundary valve leakage.
10/7/98	Positive	IR 98-07	N	MAINT	3A	Surveillance testing was done in a well controlled manner consistent with safety requirements. Testing was sufficient in scope to demonstrate that the subject equipment would perform their safety functions. Engineering and radiation protection personnel provided the necessary support of testing activities.
10/7/98	Positive	IR 98-07	N	MAINT	3A	The inspector determined that the performance and scheduling of selected infrequently performed technical specifications required surveillances were accurately tracked in the Master Surveillance Tracking Program for the core and containment cooling, 125VDC, 250VDC, core spray, standby gas treatment, and drywell/torus header systems.
10/7/98	Positive	IR 98-07	N	MAINT	3A	The inspector determined that the temporary repair of (salt service water) SSW spool piece JF29-8-4 was adequately performed and that the operability determination was appropriate in scope and detail. A thorough review of the work package by quality assurance personnel identified that the incorrect weld metal was used in the repair of the SSW pipe.
10/7/98	Positive	IR 98-07	N	MAINT	2A	Improved material condition was noted in the reactor building control rod drive quadrant room due to increased management attention. Also, new permanent lighting was added to the torus room.
8/15/97	Negative	IR 97-02 LER 97-06	L	MAINT	2B	A brief loss of shutdown cooling resulted from inadequate procedure. BECo corrective actions were appropriate for the circumstances.
5/19/98	Negative NCV	IR 98-02 LER 97-10-01 NCV 98-02-05	L	MAINT	1A	A high energy line break door was found open at power. The door was removed during a maintenance activity. Improper configuration control.
8/28/98	Negative NCV	IR 98-06 LER 97-14 NCV 98-06-01	L	MAINT	1A 2B	Several pressure transmitters were calibrated with the plant on-line rather than a refueling outage as required by technical specification.
8/28/98	Negative NCV	IR 98-06 LER 97-12-01 NCV 98-06-02	L	MAINT	3B	Relay for the pipe break detection circuit in the RHR system did not energize during surveillance due to improperly set contacts.

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8/28/98	Positive	IR 98-06	N	MAINT	2B 3B	Routine work and surveillance activities were well planned and executed.
8/28/98	Negative	IR 98-06	N	MAINT	2B 3A	The chemistry department was slow to report the initial indication of water in the core spray pump motor bearing oil sample.
8/28/98	Positive	IR 98-06	N	MAINT	3A	Good coordination was noted between the various departments to investigate and promptly restore the core spray pump to service once this issue was identified.
8/28/98	Positive	IR 98-06	N	MAINT	2B	The core spray pump unavailability time was properly accounted for during the maintenance activity in accordance with the maintenance rule requirements.
07/09/98	Positive	IR 98-05	N	MAINT	3A	The inspector observed portions of selected maintenance activities and determined that activities were performed using approved procedures and completed with satisfactory results. Communications among work and support groups were good and supervisor oversight was acceptable. The inspector also verified through document review that technical specifications were satisfied and maintenance was performed by qualified personnel.
07/09/98	Positive	IR 98-05	N	MAINT	5B 5C	NRC identified a potentially degraded solenoid valve (SV) 302-21C which supplies air to the west scram discharge instrument volume outboard vent and drain valve. A detailed operability evaluation was completed including performance based testing to determine that an immediate operability problem did not exist. A detailed test procedure and work package were written and implemented which replaced the potentially degraded solenoid valve. A root cause investigation was planned to identify any potential internal defects or failure mechanism.
06/29/98	EEI Negative	IR 98-04	N	MAINT	2A 2B	The team identified that the risk significant anticipated transient without scram (ATWS) mitigation function of the CRD system was not addressed in the basis document. In response to the teams finding, the expert panel determined that the CRD pumps were risk significant for their ATWS mitigation function and therefore, unavailability criterion was required. BECo's failure to establish appropriate performance criteria for the CRD system is an apparent violation of 10 CFR 50.65 (a)(2).
06/29/98	EEI Negative	IR 98-04	L	MAINT	2A 2B	BECo's review identified the system should have been placed in an (a)(1) status by May 1997 but the status change had not occurred until December 1997. The status change was required due to repetitive functional failures on the feedwater regulating valves. BECo's failure to place the systems into an (a)(1) status in a timely manner commensurate with safety is an apparent violation of 10 CFR 50.65 (a)(2).

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Date	Type	Source	ID	SFA	Code	Item Description
06/29/98	EEI Negative	IR 98-04	L	MAINT	2A 2B	BECO's review identified the system should have been placed in an (a)(1) status by July 10, 1996 but the status change had not occurred until November 1997. The status change was required due to in-service and local leak rate test functional failures that occurred in April 1995 which exceeded the established system performance criteria. BECO's failure to place the systems into an (a)(1) status in a timely manner commensurate with safety was an apparent violation of 10 CFR 50.65 (a)(2).
06/29/98	EEI Negative	IR 98-04	N	MAINT	2A 2B	The team identified that the heating, ventilation and air conditioning (HVAC) units for the reactor building 480V switch gear environmental enclosures were not included in the scope of the MR. These HVAC units were designed to protect the associated switchgears (which provide power to essential equipment loads) from high energy line breaks in the secondary containment. These units should have been included in the scope of the MR because the associated switchgears are relied upon to mitigate the consequences of an accident or transient. This is an example of an apparent violation of 10 CFR 50.65 (b).
06/29/98	EEI Negative	IR 98-04	N	MAINT	2A 2B 5B	The team reviewed BECO's (a)(3) assessment report and determined the report was appropriately self-critical ("Boston Edison Company - Pilgrim Nuclear Power Station - Maintenance Rule (a)(3) Periodic Assessment - July 10, 1996 through April 17, 1998 Operating Cycle 11," dated April 21, 1998). However, the assessment report was not completed in a timely manner and four sections (8.0 - Preventative Maintenance Optimization, 9.0 - Operating Experience Review, 11 - Plant walkdown, and 14 - Review of Documentation) of the report were not completed until the week after the inspection completed. The requirement for completion of the self assessment is linked to the refueling cycle. Refueling outage (RFO-11) was completed in April 1997 and therefore the (a)(3) assessment report should have been completed at the end of RFO 11. This is an apparent violation of 10 CFR 50.65 (a)(3).
06/29/98	EEI Negative	IR 98-04	N	MAINT	2A 2B	The team identified that the firewater system function of providing a backup water supply to the screenwash system was not included in the scope of the rule. It appeared that this function should have been included in the scope of the MR because its failure could result in a scram or safety system actuation. This is an example of an apparent violation of 10 CFR 50.65 (b).
06/29/98	Positive	IR 98-04	N	MAINT	2A 2B	Systems, structures and components (SSCs) performance criteria for reliability and unavailability were conservatively established for most systems and were directly related to the failure rates assumed in the probabilistic risk assessment (PRA). However, Boston Edison Company's (BECO's) failures to consider the anticipated transient without scram mitigation function and establish appropriate performance criteria for the control rod drive system was a violation of 10 CFR 50.65 (a)(2).

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Date	Type	Source	ID	SFA	Code	Item Description
06/29/98	Positive	IR 98-04	N	MAINT	2A 2B	The condition monitoring program for structures and the overall material condition of the SSCs walked down were good.
06/29/98	Positive	IR 98-04	N	MAINT	2A 2B	Corrective actions were taken when an SSC failed to meet its goal, performance criteria, or experienced a functional failure with some exceptions. BECo permitted the primary containment and feedwater systems to remain under 10 CFR 50.65(a)(2) when preventative maintenance failed to assure that these SSCs can perform their intended function in violation of 10 CFR 50.65(a)(2).
06/29/98	Positive	IR 98-04	N	MAINT	2A 2B	BECo's SSC scoping, SSC function identification, and system boundary descriptions were generally acceptable. However, in violation of 10 CFR 50.65(b) BECo failed to include in the scope of the rule the heating, ventilation and air conditioning system for the reactor building 480V switch gear and the firewater system backup supply to the screenwash system.
06/29/98	Positive	IR 98-04	N	MAINT	2A 2B	The methods and calculations that BECo established for making risk determinations, and for establishing performance criteria were acceptable. The expert panel's decisions regarding the performance criteria, risk ranking and knowledge of on-line and shutdown maintenance risk assessment were appropriate.
06/29/98	Positive	IR 98-04	N	MAINT	2A 2B	BECo's program adequately balanced availability and reliability. However, BECo's (a)(3) assessment should have been completed at the end of RFO 11 in April 1997 and was not completed until after the inspection in violation of 10 CFR 50.65 (a)(3).
06/29/98	Positive	IR 98-04	N	MAINT	2A 2B	The process for assessing risk associated with scheduled maintenance work activities was generally good and was being properly implemented at the site. Probabilistic risk assessments were not used to assess the overall plant risk in certain conditions. The persons interviewed expressed sufficient knowledge of the risk assessment process to implement the maintenance rule program. BECo's approach to shutdown risk program was also reasonable.
06/29/98	Positive	IR 98-04	N	MAINT	2A 2B	System engineer and operations department personnel knowledge of the MR and their associated responsibilities was adequate to ensure acceptable implementation of the maintenance rule.
06/29/98	Positive	IR 98-04	N	MAINT	5A 2A 2B	Program revision and substantial improvements were implemented just prior to the inspection due, in part, to the thoroughness of the licensee's self-assessment and audit processes
05/19/98	Positive	IR 98-02	L	MAINT	2B 3A	Thorough planning and controls were used during a planned downpower for work on the "B" feed water system regulating valve. Surveillance test data was properly evaluated to ensure acceptance criteria were met.

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Date	Type	Source	ID	SFA	Code	Item Description
05/19/98	Positive	IR 98-02	L	MAINT	2A 2B	The process for assessing risk associated with scheduled on-line maintenance work activities was good.
05/19/98	Negative	IR 98-02	L	MAINT	2A 5A	Several lower level equipment problems were identified by the inspector in the plant which collectively indicate that some conditions adverse to quality were not promptly identified and corrected.
05/19/98	Negative	IR 98-02	L	MAINT	3B	An inadequate maintenance work plan resulted in damaging an internal cooling coil in the "A" core spray pump motor. The resultant increased work scope cost an additional 530 millirem of radiation exposure and an additional 48 hours of safety system unavailability.
9/19/97	Negative	IR 97-11	L	MAINT	2A	Power was reduced due to the loss of the "A" first point feed water heater. A false high level alarm and isolation occurred due to a steam leak from a blown level transmitter gasket.
11/14/97	Negative	IR 97-13	L	MAINT	2A	The failure of a local level control valve on the "D" moisture separator drain tank caused a high level condition on the tank. Power was reduced to effect repairs.
2/24/98	Negative	IR 98-01	L	MAINT	2A	Power was reduced to make temporary repairs to a steam leak from a zinc injection skid isolation valve.
2/24/98	NCV Negative	IR 98-01 URI 96-03-02	L	MAINT	3A	Maintenance workers incorrectly worked on the wrong valve.
2/24/98	NCV Negative	IR 98-01 URI 97-02-01	L	MAINT	3A	Two equipment issues emerged during the April 1997 reactor startup which affected operational activities. These included sluggish control rod movement and feed water regulating valve performance. Based on timely and comprehensive corrections actions taken by the licensee to correct the issue of inadequate preventive maintenance, this violation of is being treated as a NCV.
2/24/98	NCV Negative	IR 98-01 LER 97-016	L	MAINT	3A	The "B" recirculation system pump tripped due to an inadequate surveillance test procedure. This non-repetitive Licensee-identified and corrected violation is being treated as an NCV.
1/6/98	Negative NCV	IR 97-13 URI 96-80-02	L	MAINT	3A	After maintenance was completed, the specified post work test was not adequate. Corrective actions taken to address weakness identified in 1996 work control packages (missed post work tests) were timely and comprehensive. This licensee identified and corrected violation is being treated as a NCV.
2/24/98	Positive	IR 98-01	N	MAINT	3A	Operators completed a high pressure coolant injection surveillance test in a competent manner using proper self checking. A test anomaly was properly resolved with the assistance of the system engineer and I&C (instrumentation and control) technicians.

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Date	Type	Source	ID	SFA	Code	Item Description
2/24/98	Positive	IR 98-01	N	MAINT	3A 3B	Work activities were performed within the technical specification limiting condition for operation allowed time and performed ahead of schedule. A good questioning attitude was demonstrated by the maintenance craft and good communications between maintenance and engineering was noted in resolving the torque value for the "C" residual heat removal terminal box. Good procedural adherence was observed for all activities observed.
1/6/98	Positive	IR 97-13	N	MAINT	3A 3B	Routine and emergent maintenance tasks were completed by experienced workers with generally good results. A planned emergency diesel generator limiting conditions for operations maintenance outage was better planned and executed than one during the previous period.
12/6/97	Negative LER	IR 97-13 LER 97-026	S	MAINT	3A 2A	Maintenance troubleshooting efforts were effective in identifying the most probable cause why feed regulating valve 642A failed open on December 6, 1997, resulting in a reactor scram. The BECo post trip review team determined that an instrumentation and controls corrective maintenance activity during the main steam isolation valve shutdown outage inadvertently interfered with the proper positioning of the valve clip located in the valve positioner. This was another instrumentation and control human performance issue. The system engineer properly applied the maintenance rule criteria for this maintenance preventable failure. Corrective actions were thorough.
11/23/97	Positive LER	IR 97-13 LER 97-025	S	MAINT	5C 2A 5B	An unplanned preventable shutdown resulted from degraded main steam isolation valve (MSIV) actuator closing springs which was considered a maintenance functional failure. The licensee expanded the corrective actions to restore margin on all MSIVs. The use of a quarterly surveillance test, beyond the technical specification requirements, to detect actuator degradation at an early stage was a positive initiative.
1/6/98	VIO Negative	IR 97-13 VIO 97-13-01	L	MAINT	5B 3A 3C	The anticipated transient without scram system was declared inoperable when instrumentation and controls (I&C) technicians inadvertently installed a 24 vdc relay into a 125 vdc application. The relay failed when placed in service. The event was caused by a work control planner and supervisor errors. A violation was issued.
1/6/98	NCV Negative	IR 97-13	N	MAINT	3A 5A	The NRC identified two I&C (instrumentation and control) human performance issues with the potential use of expired thread sealant and the inadvertent opening of a petcock valve on the lube oil strainer for the "A" emergency diesel generator.
11/10/97	Negative	IR 97-11 URI 97-11-03	S	MAINT	5C 5B	The failure of the "A" salt service water (SSW) motor shafts resulted from fatigue failure due to improper pump assembly. Based on the satisfactory alignment checks of the "B", "C", "D", and "E" SSW pumps and the metallurgical evaluation performed on the failed shafts, the failure mechanism is not a generic concern for the other SSW pumps. The corrective actions taken after the first "A" SSW shaft failure were ineffective in that the replacement shaft failed 54 days later.

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Date	Type	Source	ID	SFA	Code	Item Description
11/10/97	VIO	IR 97-11 VIO 97-11-01	N	MAINT	3A 1A 5C	A planned limiting condition for operation (LCO) maintenance outage on the "A" emergency diesel generator did not go as smoothly as past LCO maintenance issues. The NRC identified two problems including an inadequate tagout for the X-103A starting air compressor and also untimely corrective action for a broken coolant expansion tank Hi/Lo level alarm dating back to 1993.
2/19/99	Negative	IR 98-11	N	ENG	4B	A mechanical failure of a ventilation damper actuating assembly during a special test resulted in insufficient EDG radiator air cooling and increasing EDG operating temperatures. Shortly thereafter, the EDG tripped automatically on high jacket water temperature. Manual actions by the operator and engineering test director to trip the EDG prior to automatic trip were hindered due to weaknesses in test control and in the test procedure.
2/19/99	Negative	IR 98-11	N	ENG	4B	Initial engineering corrective measures to address AO-220-45, which failed a 10 second stroke-close test, were minimal. Approximately two weeks later, the valve was again declared inoperable when the stroke time was just under the 10 second limit. A review of the stroke close time data since 1992 revealed a repetitive pattern of increasing stroke times every two years. Also, the stroke-close time data in 1995 showed an adverse trend which was not rigorously evaluated.
2/19/99	Positive	IR 98-11	N	ENG	3A	A quality assurance audit of the CRHEAF system identified important findings regarding the maintenance history of the relative humidity switches. An effective synergy was noted between QA, engineering, I&C and operations when evaluating and correcting the system operability aspects of the audit findings. The audit report was detailed and contained supporting and compliance details but contained sparse assessment information.
2/19/99	Negative	IR 98-11 IFI 98-11-04	N	ENG	3A	The licensee initiated a second problem report which would include a review of the historical trend as well as the applicability to other air operated valves. An additional factor was the elevated ambient temperatures in the RWCU heat exchanger which could serve to dry out the valve packing. This item will remain as an inspector follow item following further analysis of the erratic stroke closing time of AO-220-45 and the potential generic implications for other air-operated valves.
12/22/98 537	Positive NCV	IR 98-10 LER 98-03 NCV 98-10-07	L	ENG	5A 5B	As part of the USI A-46 program the licensee identified that the reactor building closed cooling water and turbine building closed cooling water support plates did not conform to design drawings.
12/22/98 536	Misc	IR 98-10 LER 97-27 LER 98-02 LER 98-04	L	ENG	5B 5C	Emergency diesel generator air temperature went below its design temperature on three occasions.

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Date	Type	Source	ID	SFA	Code	Item Description
12/22/98 535	Positive NCV	IR 98-10 LER 98-07 NCV 98-10-05	L	ENG	5A 5C 4A	Single failure vulnerability of the residual heat removal system when in suppression pool cooling.
12/22/98 534	Positive NCV	IR 98-10 LER 97-13 NCV 98-10-06	N	ENG	5A 5C	The inspector concluded that the licensee's extensive engineering review for resolving a previous load shed issue resulted in the identification of the load-shed-circuit cable separation problem. This problem was properly evaluated, reported to the NRC with corrective actions taken and planned.
12/22/98	Positive	IR 98-10	N	ENG	5C	The licensee's corrective actions taken and planned for degraded and non-conforming equipment conditions (residual heat removal single failure vulnerability, heat exchanger supports) was determined to be good.
11/24/98	Negative	IR 98-203 IFI 98-203-17	N	ENG	4A	Several ASME VIII heat exchangers did not have overpressure protection devices installed on the equipment or on the adjacent piping. The original Bechtel Specification had required that the seller furnish shell and channel relief valves on these heat exchangers. The licensee stated that when the RBCCW and SSW systems are in their normal lineups there is no potential for overpressure to occur. However, during maintenance the heat exchanger may be isolated, resulting in the potential for thermal pressurization. The licensee concluded that this potential could be eliminated with procedural controls.
11/24/98	Negative	IR 98-203 IFI 98-203-16	N	ENG	4B 5B	The design and protection of the RBCCW system inside containment was not well documented. The licensee did not evaluate the potential effects of losing RBCCW inventory before the failure could be isolated by the operators.
11/24/98	Misc	IR 98-203 IFI 98-203-15	N	ENG	4A	The team questioned the basis of the ISI classification boundaries located at the normally open RBCCW non-essential loop isolation valves (MO4085A/B, MO4009A/B) and at the primary containment penetrations (30-CK-432 to X-23, X-24 to MO4002). It is necessary that a final determination be made as to the appropriate classification of the RBCCW non-essential piping and components. Engineering Evaluation (EE) 98-0081 prepared during the inspection, determined that the non-classified portion of the system should either be included in the ISI program, or be included in a similar inspection program.
11/24/98	Misc	IR 98-203 IFI 98-203-18	N	ENG	4A	Elements of design control require that measures be established for the selection and review for suitability of application of materials, parts, and equipment that are essential to the safety-related functions of the structures, systems and components. The licensee's commercial grade item process did not require an evaluation of the radiological effects on non-electrical items outside the scope of the radiological EQ program.

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Date	Type	Source	ID	SFA	Code	Item Description
11/24/98	Misc	IR 98-203- URI 98-203-14	N	ENG	4A	Adequacy of design controls associated with emergency core cooling systems room potential flooding to assure that multiple ECCS equipment rooms are not adversely impacted by a single flooding event.
11/24/98	Negative	IR 98-203- URI 98-203-13	N	ENG	4A	The licensee has no formal procedure for tracking and controlling DC loads other than the revision of appropriate D calculations or by calculation comment sheets. Calculation comments associated with vendor calculations were not controlled as well.
11/24/98	Negative	IR 98-203- IFI 98-203-12	N	ENG	4A	The team reviewed calculation PS47G regarding voltage available at DC components (end devices). In most cases, the licensee calculated the available voltage at the distribution panel level and not down to the DC end devices. The licensee did not determine, by analysis, what the minimum battery terminal voltage would be during a given station battery's discharge cycle. The service test acceptance criteria had no basis except that the licensee believed it to be conservative.
11/24/98	Negative	IR 98-203- IFI 98-203-11	N	ENG	4A	There is no calculation that determines available fault currents for the new batteries installed by PDC 93-28 in 1993 and 1994. The licensee has since learned that possibly five buses (D4, D5, D10, D16, and D17, in the DC distribution systems of the three station batteries, have to be replaced with ones with higher fault ratings since the fuses in question will not properly limit DC fault currents.
11/24/98	Negative	IR 98-203- IFI 98-203-10	N	ENG	4A	Several discrepancies were identified during review of the loading calculation for the 125V "A" battery. The licensee determined the station batteries had sufficient margin in accordance with IEEE 485 even after accounting for the outstanding load discrepancies.
11/24/98	Negative	IR 98-203- IFI 98-203-09	N	ENG	4B	The licensee's safety evaluation for the modification for the degraded bus protection for the 480V swing bus did not discuss the effect on the TS. The licensee's 10 CFR 50.59 safety evaluation Procedure P83E5 "Safety Review," Revision 12, did not require any review for TS impact. It was not clear that the licensee's review of this modification completely satisfied the TS impact review requirements specified in 10 CFR 50.59.
11/24/98	Negative	IR 98-203- IFI 98-203-06	N	ENG	4A	The licensee had used the 345 kV switchyard, back feeding through the main transformer, as the preferred off-site source during shutdown conditions. The 345 kV back feed feature is an alternate qualified offsite power source. The team learned that no written basis existed to confirm backfeed adequacy as to required voltage, loading, or short circuit protection requirements.

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Date	Type	Source	ID	SFA	Code	Item Description
11/24/98	Misc	IR 98-203 IFI 98-203-05	N	ENG	4A	Review of recent EDG surveillance test reports for the "B" EDG showed that electrical loads, including ECCS loads, were sequenced onto the EDG within the required times and that the drop and recovery in output voltage and frequency were acceptable. The licensee's existing tests were not verifying the EDG's capability to carry worst-case loading conditions. Non worst case testing nor steady state calculations completely demonstrate EDG capability under transient loading conditions.
11/24/98	Negative	IR 98-203 IFI 98-203-02	N	ENG	4B	The licensee's safety evaluation regarded the LPCI injection time delay did not identify any needed changes to UFSAR Section 6.5. The team was also concerned that the level of detail provided in the UFSAR for description of the LOCA analysis inputs and results (i.e., only a reference to the GE report) was not appropriate. Also, an important design input to the licensing basis LOCA analysis (swing bus transfer time), and the resulting impact on the PCT, were developed in SE No. 2989 but were not documented in an engineering calculation; therefore, although the SE was reviewed, independent verification was not documented.
11/24/98	Positive	IR 98-203	N	ENG	5A	Other issues regarding Design Control, Calculation Control, and UFSAR inconsistencies are included within the report. During the course of the inspection the licensee documented many of the issues in their corrective action program. The number and nature of the items documented on problem report (PRs) demonstrated good sensitivity for problem identification.
11/24/98	Misc	IR 98-203	N	ENG	4C	Regarding battery testing, it is the NRC's understanding that PNPS plans to review the current TS requirements and modify them if necessary, after verifying the new testing method is technically acceptable to the battery vendor.
11/24/98	Misc	IR 98-203 IFI 98-203-07	N	ENG	4A	Electrical system concerns associated with electrical penetration single device protection, station battery TS testing, and control of electrical loads through the use of calculation comment sheets were identified. During the exit meeting, PNPS staff described their plans to test the electrical penetration single protective device on an approximate 4 year schedule. This increased testing should provide additional assurance as to the reliability of the single protective device.
11/24/98	Negative	IR 98-203 IFI 98-203-04	N	ENG	4A 4C	The potential for RHR shutdown cooling line thermal over pressurization and for water hammer and two-phase flow conditions in RBCCW are being addressed through the NRC's review of Generic Letter 96-06, Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions.
11/24/98	Negative	IR 98-203	N	ENG	4A	Several ASME VIII heat exchangers did not have overpressure protective devices installed as specified in the original specifications and for compliance with ASME Code, Section VIII requirements.

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Date	Type	Source	ID	SFA	Code	Item Description
11/24/98	Misc	IR 98-203	N	ENG	4A	Equipment drains supporting the ECCS rooms may subject the ECCS equipment to common mode flooding concerns. PNPS staff is currently evaluating the basis and design of this equipment to ensure adequate protection from flooding.
11/24/98	Negative	IR 98-203 IFI 98-203-01	N	ENG	4C 4A	RHR pump surveillance test acceptance criteria and RHR system LOCA hydraulic analysis do not appear to adequately account for instrument uncertainties. PNPS is planning to address instrument uncertainty on a graded and programmatic basis. However, PNPS staff does not believe that there is a design or licensing requirement to specifically account for instrument uncertainty in testing or analyzing variables used in the LOCA analysis. Additionally, LOCA analysis inputs and results currently contained in the UFSAR do not reflect the impact of delaying LPCI injection flows due to the increase in the swing bus transfer time.
11/24/98	Negative	IR 98-203 URI 98-203-03	N	ENG	4B 4A 1B	Emergency operating procedure (EOP) mitigation strategy for a design basis loss of coolant accident (LOCA) directs the operators to flood the containment, although this action is not necessary for short or long term core cooling. The radiological consequences, equipment demands, and environmental qualification associated with containment flooding are more severe than that assumed in the UFSAR and used to form the basis for equipment design. PNPS's plant specific 10CFR50.59 evaluations for EOP implementation did not identify the consequences of containment flooding as a potential unreviewed safety question (USQ). This potential generic issue is currently being reviewed by the NRC and additional followup actions may result.
11/24/98	Positive	IR 98-203	N	ENG	4A 5C	The PNPS efforts, to assemble, verify, and correct design basis documentation have generally resulted in new calculations of good quality and a consolidated design basis document (DiD) that was useful for the team's review. These same documents, when completed for other systems, should provide useful design information for future activities. In the electrical area, many of the calculations that support the design basis of the system have not been completed and are still being revised.
11/24/98	Positive	IR 98-203	N	ENG	2A 4A	Overall, the team found that the RHR system was capable of performing its design and licensing basis functions under all design basis conditions, including loss of off-site power and single active failure. The support systems, such as reactor building closed cooling water and electrical distribution, provided adequate margin to ensure short-term and long-term RHR system emergency core cooling performance objectives.
11/20/98	Positive	IR 98-08	N	ENG	4C	An effective system has been implemented for processing degraded and non-conforming conditions from identification through correction. Review of open operability evaluations confirmed that individual conditions in the aggregate did not seriously degrade safety systems.

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Date	Type	Source	ID	SFA	Code	Item Description
11/20/98	Positive	IR 98-08	N	ENG	4B	A local leak rate test (LLRT) of a primary containment penetration was well controlled by the system engineer with effective support from the I&C, operations and health physics groups.
11/20/98	Positive	IR 98-08 LER 97-30 NCV 98-08-02	L	ENG	5A 5B	Effective engineering problem identification was indicated by subtle discrepancies involving the UFSAR drywell free volume and seismic classification of vacuum relief valves. These issues were properly evaluated and reported to the NRC.
11/20/98	Negative	IR 98-08 LER 98-09 NCV 98-08-01	L	ENG	4A	Incorrect seismic values were used for the main steam safety relief valve line vacuum breakers when they were originally purchased.
8/20/98	Positive	IR 98-09	N	ENG	4B	A sample of four operability evaluations were found to be adequately supported by engineering evaluations. Management oversight of the OE process was evident, including an integrated assessment of cumulative effect.
8/20/98	Positive	IR 98-09	N	ENG	5A 5B	Sufficient management attention is being focused to address significant Problem Reports awaiting engineering resolution. Self-assessments and audits were being performed.
8/20/98	Positive	IR 98-09	N	ENG	5C	Corrective actions associated with previous NRC inspection findings were effective, and being implemented as stated in responses and reports.
10/7/98	Positive	IR 98-07	N	ENG	4B	The engineering staff properly utilized NRC GL 90-05 to develop and execute the non-ASME (American Society of Mechanical Engineers) repair plan for the degraded SSW (salt service water) spool piece. The inspection of nine similar pipe locations for erosion/corrosion was very rigorous.
10/7/98	Negative	IR 98-07 VIO 98-07-02 LER 98-08 LER 98-16	N	ENG	4A	The NRC and the licensee's engineering staff identified deficiencies in the design of the control room high efficiency air filtration system, i.e., seismic qualification of duct supports, single failure design analyses, and inconsistencies between analysis assumptions and operational procedures. The deficiencies have been reported in two licensee event reports, including acceptable short term corrective actions. The failure to accurately transfer the system design into instructions, procedures or drawings was a violation of 10 CFR 50 Appendix B Criterion III "Design Control."
2/6/98	Negative	IR 97-13 LER 97-07	L	ENG	4A	Safeguards buses de-energize and losses off-site power during storm while shut down. The loss of safety related systems was due to inadequate design control measures. Violation 97-02-02 previously cited in NRC inspection report.
3/24/98	Negative	IR 98-01 LER 97-08	L	ENG	2A	Set point of safety relief valve popping pressure exceeded technical specification value during surveillance.

PILGRIM PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
12/11/97	Negative	IR 97-11 LER 97-09	L	ENG	4A	Reactor core isolation cooling system tripped on over speed during surveillance. Cause was due to a result of a gear change made during the refueling outage. A violation was issued in IR 97-02 against design control.
8/28/98	Negative NCV	IR 98-06 LER 97-22 NCV 98-06-05	L	ENG	4C	Temporary power cables and extension cords draped to class 1E conduits in violation of electrical separation criteria.
8/20/98	Negative NCV	IR 98-06 LER 97-23-01 NCV 98-06-06	L	ENG	4C	Radwaste building was not in a configuration consistent with the tornado depressurization analysis. A second door had been added and not subsequently removed after the original door had been repaired.
8/28/98	Positive	IR 98-06 LER 98-14 LER 98-15 IFI 98-203-08	L	ENG	5A	An effective questioning attitude by the engineering staff led to the identification of the inadequate implementation of the 4.16kV degraded voltage protection logic. Engineering evaluations were performed that concluded the emergency AC power system was operable but outside design. No immediate corrective actions were necessary; procedures were already in place to prevent this scenario from occurring, and the delay in restoring core cooling after a DBA-LOCA was determined not to cause the peak clad temperature to exceed the temperature limits specified in 10CFR 46. Corrective actions are being developed that will be implemented during the next refueling outage, presently scheduled for April 23, 1999, to modify the degraded grid voltage relay setting.
8/28/98	Positive	IR 98-06	N	ENG	5A 5C	The engineering staff closely followed the guidance contained in NRC Generic Letter 91-18, Revision 1, during the identification and resolution of three adverse design control conditions involving a potential containment leakage path, electrical hot shorts and use of incorrect seismic damping factors.
8/20/98	Positive	IR 98-09	N	ENG	4B	A sample of four operability evaluations were found to be adequately supported by engineering evaluations. Management oversight of the OE process was evident, including an integrated assessment of cumulative effect.
8/20/98	Positive	IR 98-09	N	ENG	5B 5C	Sufficient management attention is being focused to address significant Problem Reports awaiting engineering resolution. Self-assessments and audits were being performed.
8/20/98	Positive	IR 98-09	N	ENG	5C	Corrective actions associated with previous NRC inspection findings were effective, and being implemented as stated in responses and reports.

PILGRIM PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
07/09/98	Positive	IR 98-05	N	ENG	4A	An implemented increase in the response time for the scram discharge volume high reactor water level scram instrumentation reduced spurious half scrams during post scram conditions and met the safety related setpoint change methodology criteria. A calculation and minor design change carefully evaluated the effect of increased response time.
05/19/98	Positive	IR 98-02 LER 98-05	L	ENG	4B	Engineers resolved two degraded equipment issues involving the residual heat removal quadrant room cooler supports and a thru-wall pipe leak in the outlet of the "B" turbine building closed cooling water heat exchanger. In both cases, interim corrective actions included physical modifications and demonstrated effective teamwork between engineers and the maintenance staff.
05/19/98	Negative	IR 98-02	L	ENG	5C	Engineering review of the failure of a salt service water pump shaft did not detect a subtle pump pedestal alignment problem until a second shaft failure occurred. The licensee's root cause evaluation after the second shaft failure addressed the specific concern for the SSW pumps, but did not evaluate the oversight in the design and/or work control process which overlooked a previous modification.
2/24/98	NCV Negative	IR 98-01 URI 96-10-02	N	ENG	3A	A written engineering evaluation regarding lowering feedwater temperature at the end of an operating cycle did not discuss all pertinent aspects of the final safety analysis report. Subsequent review determined that lowering the temperature did not adversely affect the evaluation. The identified weakness were isolated in nature and was of minor significance.
1/6/98	Positive NCV	IR 97-13 LER 95-12	L	ENG	3A	Error in core thermal power calculation. An omission existed in calculation due to original calculation error. This licensee identified and corrected violation is being treated as a NCV.
1/6/98	Negative NCV	IR 97-13 LER 95-08	L	ENG	3A	Wired containment isolation valve resulting from a personnel error during an improper modification installation in 1993. This licensee identified and corrected violation is being treated as an NCV.
2/24/98	Positive	IR 98-01	N	ENG	4C	Improvements in the control and oversight of vendor services addressed previous problems in this area.
2/24/98	VIO	IR 98-01	N	ENG	3C 4C	A past programmatic problem with updating the final safety analysis report was closed out as a violation.
2/24/98	VIO	IR 98-01 VIO 98-01-07	N	ENG	4B 5A	A violation of reporting requirements resulted when engineering personnel initiated an engineering evaluation for a newly discovered problem with the emergency diesel generator (EDG) fuel oil system but failed to follow the established problem report process by initiating a problem report in a timely manner.

PILGRIM PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
11/19/97	EEI	IR 97-12 EEI 97-12-01	N	ENG	4C	There were unreviewed safety questions (USQ) for the replacement and the subsequent modification of two 480/120 volt safeguard control transformers. One apparent violation with two examples of 10 CFR 50.59 pertaining to unreviewed safety questions were identified. Inadequate digital modification change process.
2/24/98	NCV Positive LER	IR 98-01 LER 98-001	L	ENG	4A 4C	Single failure vulnerability of the emergency diesel generator fuel oil supply system. Failure to clearly translate design basis assumptions into the licensing basis and failure to establish proper configuration control.
1/6/98	Positive	IR 97-13	N	ENG	5C 4C	Corrective actions have been taken by BECo to address the backlog of open vendor manual changes. The open VMCR have not contributed to problems with plant equipment. The failure to process all vendor manual changes in a timely manner was previously determined to be a non cited violation.
1/6/98	EEI Negative LER	IR 97-13 LER 97-015	L	ENG	3A 5A 5C	With a single salt service water (SSW) pump operation per loop and under degraded power conditions, the SSW breaker overload heater protection relays for any pump could have tripped the pump and, therefore, violate technical specification 3/4.5.B, Operable Core and Containment Cooling Systems. This condition was unknown by the licensee prior to receipt and review of the new SSW pump performance testing curve in August 1997. The licensee determined that this condition was reportable. This condition is an apparent design control violation.
1/6/98	Positive	IR 97-13	N	ENG	4C 5A	BECo's (Boston Edison Co.) tracking and trending program was consistent with the guidelines established in Generic Letter 89-10. The licensee made effective use of industry information.
1/6/98	NCV Positive	IR 97-13	N	ENG	4C 3C 5A	Design-basis motor operated valve calculations were updated to reflect the latest technical information. Isolated cases were identified in which calculations needed to be updated, but the licensee was aware of the discrepancies and revisions either were planned or in progress.
1/6/98	Positive	IR 97-13	N	ENG	4C 3B 3C	The licensee demonstrated the design-basis capability of its GL 89-10 motor operated valves. The licensee committed to obtain additional information to bolster the assumptions by June 30, 1998. The licensee appropriately adjusted MOV (motor operated valve) program design assumptions in response to industry information. Program assumptions regarding load sensitive behavior, stem friction coefficient, and extrapolation of test data were acceptable for GL 89-10 program closure.

PILGRIM PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
1/6/98	VIO	IR 97-13 VIO 97-13-02	N	ENG	4B 5B	An unplanned power reduction and technical specification logging violation resulted from incorrect readings from a temporary modification made on the reactor vessel flange temperature elements. The licensee did not adequately evaluate the cause of and develop effective corrective actions to preclude the recurrent instances of the temporary temperature detectors from becoming dislodged from the reactor vessel flange. The elements moved/separated from the reactor vessel flange on three separate occasions. The failure was a violation of involving inadequate corrective actions.
11/19/97	Negative	IR 97-12	N	ENG	4C	From June 1993 to 1996, because of General Electric's calculation error, Pilgrim environmental qualification (EQ) files for the affected Limiting components and the acoustic monitors did not contain the appropriate post-accident containment temperature profile to which these components were required to be qualified to. The issue for the GE calculation error was documented in NRC inspection report 97-05 as an apparent EQ violation.
11/19/97	Positive	IR 97-12	L	ENG	5B 5C	The environmental qualification (EQ) equipment that required requalification due to containment environment changes resulting from the containment spray flow rate reduction in 1988 (Limiting limit switches, Marathon terminal blocks, Klerite cable, Rockbestos cable, and the acoustic monitors for the safety relief valves) was qualifiable to the corrected post-accident profile without requiring additional tests.
11/10/97	Positive	IR 97-11 LER 97-24 NCV 98-06-07	S	ENG	5C 4A	BECO (Boston Edison Co.) was susceptible to the suppression pool bypass path under certain plant evolutions (torus inerting). Prompt actions were taken by the operations department manager upon identification of the issue to prevent placing the plant in a condition outside of its design.
11/19/97	VIO	IR 97-12 VIO 97-12-02	N	ENG	4C	The requalification for 9 General Electric electrical penetrations was acceptable. However, from March, 1996 to April, 1997, these 9 GE electrical containment penetrations were not qualified in that the qualification methodology (thermogravimetric analysis and linear slope comparison analysis) used by BECO had not been validated by test results to be equivalent to the method specified in the Guidelines for Evaluating EQ of Class 1E Electrical. This was a violation.
12/4/97	LER	IR 97-05 VIO 97-05-03 LER 97-21-00	L	ENG	5C 4A	Operation outside the design basis of the plant during periods of time when ambient temperature exceeded 88 degrees F that adversely affects the emergency diesel generator operation. Ambiguity in the final safety analysis report. One of several salt service water licensee self assessment issues. Identified by BECO (Boston Edison Co.), but not formally entered in the problem reporting process and corrected.

PILGRIM PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
12/4/97	LER	IR 97-05 VIO 97-05-04 LER 97-20-00	N	ENG	5C 4C	Operation outside the design. Residual heat removal flow rate during a loss of coolant accident established as low as 4800 gpm (gallons per minute) in procedures. This is less than the 5100 gpm established in the final safety analysis report. Inadequate translation of analysis parameters into operating procedures. Also a reportability concern. Was a salt service water licensee self assessment potential issue.
12/4/97	LER	IR 97-05 VIO 97-05-01 LER 97-019	N	ENG	5C 4A	Analysis assumption to close reactor building closed cooling water (RBCCW) valve supplying cooling water to non-essential heat loads during LOCA (loss of coolant accident) not translated into procedure, contrary to the final safety analysis report. Identified during the licensee's self-assessment (SWSOP) of the salt service water system. NRC identified several reportability concerns. Potential escalated enforcement action taken. Not properly translated into residual heat removal operating procedure. Also several issues were not formally entered into the problem reporting process and corrected.
12/4/97	LER	IR 97-12 LER 97-18-00	L	ENG	4A	Plant operation outside of environmental qualification envelope due to non conservative drywell temperature profile. Incorrect assumption in computer model. LER not closed
12/4/97	Negative LER	IR 97-05 VIO 97-05-02 LER 97-17-00	N	ENG	4B 5C 1A	Past operation with salt service water temperatures above 65 degrees F was temperature assumed in the accident analysis. Plant analyses or calculations of record were not consistent with nor properly translated into applicable operating procedures.
2/19/99		IR 98-11		PS	3A	Radioactive material/waste management and transportation programs were effectively implemented as evidenced by use of up-to-date regulations and facility licenses, appropriately trained personnel, proper procedural guidance and adequate maintenance of procedures, appropriate use of scaling factors to estimate isotopic content of radioactive material/waste packages, and proper shipping records.
2/19/99	Positive	IR 98-11	N	PS	2A	Housekeeping practices were effective as evidenced by clear aisles and walkways, neatly stored tools and equipment, and generally good conditions of painted floor and wall surfaces.
2/19/99	Positive	IR 98-11	N	PS	2A	Access controls and radiological posting practices were effective as evidenced by clear radiological postings, well defined contaminated area boundaries, and use of radiation work permits, physical barriers and/or locked doors for all high radiation area boundaries. One exception was water leakage in a radwaste corridor from the retube building drain line which was not well contained.

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Date	Type	Source	ID	SFA	Code	Item Description
2/19/99	Positive	IR 98-11	N	PS	2B	A significant self-assessment and program improvement effort was made in the area of radioactive waste management and transportation of radioactive materials including a broad and probing audit, multiple performance based surveillances, and self-assessments that included bench marking with other nuclear power plants and a detailed review of solid low level waste generation, minimization, processing, and disposal practices.
12/22/98	Negative	IR 98-10	N	PS	5A	Two radiation dose rate signs in the "B" residual heat removal (RHR) quadrant were not updated after chemical decontamination of the RHR system.
12/22/98	Positive	IR 98-10	N	PS	1C	The implementation of the fire protection program was found to be acceptable, as evidenced by: the installed detection and suppression systems are in good repair, the smoke detectors and sprinkler heads were not obstructed, control of combustible material was generally good, the new "B" switchgear room raceway fire barrier enclosures met the requirements for 3-hour rated barriers for safe shutdown systems, the design of the main transformer fire detection, fire suppression, and oil drainage systems documented in the field revision notices (FRN), and the fire brigade was well trained, knowledgeable, and enthusiastic.
12/22/98	Positive	IR 98-10	N	PS	5A 5C	Based upon generally good licensee performance during drills, the absence of repeat audit findings, and no adverse trends in the EP program, the licensee's problem identification and corrective action processes were determined to be effective. The EP program audits were thorough and the reports were useful for licensee management to assess the effectiveness of the EP program.
12/22/98 541	Positive	IR 98-10	N	PS	3B	Overall ERO member training was assessed as good because Plan requirements were being met and no adverse drill performances were observed. The licensee maintains the ERO at least three deep in key positions.
12/22/98 540	Positive	IR 98-10	N	PS	3C	A review of the licensee's procedure change review process, and a sampling of recent procedure changes, indicated that a good procedure control program was being implemented.
12/22/98 539	Positive	IR 98-10	N	PS	1C 2B	Emergency equipment surveillances and communication tests were performed as required and the facilities were determined to be in a good state of operational readiness.
12/22/98 538	Positive	IR 98-10	N	PS	5A	Based on the issues documented in the fire protection program self-assessment report, the fire protection program audits, and the associated PRs, the inspector determined that the self-assessment and audits had been successful in identifying program strengths and areas for improvement. The Fire Protection Improvement Program is an excellent initiative, and appears to have the proper focus to resolve fire protection program deficiencies.

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Date	Type	Source	ID	SFA	Code	Item Description
11/20/98	Negative	IR 98-08 NCV 98-08-03	L	PS	1A 2A	There was an isolated event with low risk significance due to the low radiation levels present in areas adjacent to the onsite storage container.
11/20/98	Positive	IR 98-08	N	PS	1A	Effective self-assessment oversight of the radiological controls program was evidenced by the identification of an inadequate radiological survey and prompt actions taken to investigate, evaluate, and implement corrective actions.
11/20/98	Positive	IR 98-08	N	PS	1C	Overall response by the emergency response organization to the September 15, 1998, drill was good. No major concerns were noted.
11/20/98	Positive	IR 98-08	N	PS	1A 2A	Radiological boundaries were well defined and posted, and housekeeping in the reactor building was generally well maintained. The material condition of the trash compactor facility had improved in that the facility had been cleaned, painted, and color coded to implement human factors to aid waste handling.
11/20/98	Positive	IR 98-08	N	PS	1A	The chemical decontamination of RHR systems substantially reduced radiation dose rates in the RHR quadrants. This reduction in dose rates eliminated high radiation areas in both RHR quadrants and is expected to result in significant long term radiation exposure savings.
11/20/98	Positive	IR 98-08	N	PS	1A 3B	The chemical decontamination of the RHR system included thorough and detailed planning and preparation as evidenced by a generally thorough safety evaluation, clear and detailed procedural guidance, an equipment setup that guarded against leaks and minimized radiation exposures, and effective health physics access controls.
10/7/98	Negative NCV	IR 98-07 NCV 98-07-01	N	PS	3A	The circumstances leading to the misplacement of the intermediate range detectors represented a lack of accountability and control of special nuclear material. The licensee was successful in finding the missing intermediate range monitors, however the search resulted in an accumulated dose of approximately one rem. The corrective actions to resolve the issue were determined to be appropriate.
10/24/97	Positive NCV	IR 97-08 LER 97-01-00 NCV 97-08-04	L	PS	5C	Loss of special nuclear material. Additional items were identified as part of a followup to previous violation.
10/24/97	Negative NCV	IR 97-08 LER 97-02-00 NCV 97-08-05	L	PS	4B 1A	Steam jet air ejector sampling not performed IAW technical specifications. Sample location changed due to a GE SIL that made recommendation. Licensee concluded that a TS change was not required to change the sample location since specific location was not stated.

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Date	Type	Source	ID	SFA	Code	Item Description
10/24/97	Negative NCV	IR 97-08 LER 97-05-00 NCV 97-08-06	L	PS	3B 1A	NRC notification not made when turbine effluent monitor was out of service as required by technical specifications (TS). Instrument was inoperable and operations did not recognize that the TS applied while the unit was shutdown and no potential for release of radioactive material existed.
8/28/98	Positive	IR 98-06	N	PS	1C	An effective radiological environmental monitoring program was implemented and maintained in accordance with regulatory requirements.
8/28/98	Positive	IR 98-06	N	PS	1C	The licensee effectively maintained and implemented a meteorological monitoring program in accordance with regulatory requirements.
8/28/98	Positive	IR 98-06	N	PS	1C 2B	QA audits and surveillances were thorough and of sufficient depth to assess performance and implementation of the REMP.
8/28/98	Positive	IR 98-06	N	PS	1C	The contract laboratory continued to implement excellent QA/QC programs for the REMP, and continued to provide effective validation of analytical results and the programs are capable of ensuring independent checks on the precision and accuracy of the measurements of radioactive material in environmental media.
8/28/98	Negative	VIO 98-06-08 LER 97-29 LER 98-12	N	PS	1C 5A	Two violations were identified by the NRC that related to the fire protection program. The licensee subsequently took thorough corrective actions including performing detailed root cause evaluations, issuance of two related LERs, detailed problem extent review for other degraded fire barriers, and prompt resolution of hardware and testing deficiencies.
8/28/98	Negative	IR 98-06	N	PS	1C	An ALARA concern that could potentially result in higher cumulative radiation exposure for operators who perform turbine standard inspections was effectively addressed by the licensee.
07/09/98	Positive	IR 98-05	N	PS	1C	Reasonable As Low As Is Reasonably Achievable (ALARA) dose goals were established for 1998, the ALARA Committee was actively investigating dose reduction measures, and several significant dose reduction initiatives were planned including installation of permanent shielding in the drywell and reactor building, and a chemical decontamination of portions of the residual heat removal (RHR) system.

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Date	Type	Source	ID	SFA	Code	Item Description
07/09/98	Positive	IR 98-05	N	PS	1C	Contamination controls in major plant work areas were generally good as evidenced by a spacious radiological controlled area (RCA) access control facility, a separate RCA tool room, and maintenance of clean areas in the high pressure coolant injection (HPCI) room, reactor core isolation cooling (RCIC) room, and areas around the hydraulic control units (HCUs). Rain water intrusion into several enclosed radioactive material storage areas located outside of the plant had the potential to spread contamination.
07/09/98	Negative	IR 98-05	N	PS	2A	Housekeeping deficiencies in the torus room and retube building detracted from otherwise good conditions in major plant work areas.
07/09/98	Positive	IR 98-05	N	PS	5A 5B 5C	Quality assurance oversight and the problem report system were effective in the identification, evaluation, and resolution of radiological control program deficiencies.
07/09/98	Negative	IR 98-05	N	PS	1C	The NRC identified several potential deficiencies in the fire protection program. One issue involved the identification of a major defect in an Appendix R raceway enclosure which protects safe shutdown cables. Further NRC review will be required to determine the safety significance and proper enforcement action for these deficiencies.
05/19/98	Positive	IR 98-02	L	PS	4B	A significant dose reduction activity in the "D" thru "G" condensate demineralizer room was effectively performed. The use of a design change in the resin transfer line to the spent resin storage tank eliminated the need for manual transfer of drums filled with spent resin. The dose rates in the room dropped from 500 - 1000 mr/hr to 10 - 15 mr/hr, which was a significant reduction. In a second dose reduction activity, a portable high pressure water source was used to clean the 51 foot elevation floor drains in the reactor building.
05/19/98	Positive	IR 98-02	L	PS	3A	Proper radiological practices were demonstrated by maintenance workers when opening and venting the RCIC pressure detectors and during work on the "B" feed regulation valve.
03/12/98	EEI Weakness	IR 98-03	N	PS	5C	In general, the licensee maintained an effective security program. However, the inspectors determined that multiple examples of equipment failures associated with the protected area assessment system existed. Assessment aid concerns were identified in the licensee's 1996 and 1997 quality assurance (QA) audits as well as in the 1995-1997 NRC security inspection reports. The failure to address known programmatic weaknesses is a concern.

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Date	Type	Source	ID	SFA	Code	Item Description
03/12/98	Positive	IR 98-03	N	PS	3A 3B	The 1996 and 1997 security, access authorization, and FFD audits were thorough and in-depth, alarm station operators were knowledgeable of their duties and responsibilities, and communication requirements were being performed in accordance with the NRC-approved physical security plan (the Plan). Personnel search equipment was being tested and maintained in accordance with licensee procedures and the Plan, personnel and packages were being properly searched prior to protected area (PA) access and controls were in place, which included a departmental self-assessment program, for identifying, resolving, and preventing programmatic problems.
03/12/98	Negative	IR 98-03	N	PS	3B	Security training was generally being performed in accordance with the training and qualification (T&Q) plan. However, the inspectors noted that the licensee has not conducted drills associated with tactical response training for over 18 months.
03/12/98	Positive	IR 98-03	N	PS	1C	The inspectors determined, by physical verification, discussions with security supervision, and procedural reviews, that locks and keys were being maintained as required in the Plan.
1/6/98	Positive	IR 97-13	N	PS	3A	Operators closely followed the alarm response procedure for the failure of a digital controller function for a recirculation system motor-generator set.
2/24/98	Negative	IR 98-01	N	PS	2A	Boron residue from a mechanical joint leak in the stand-by liquid control system was not cleaned.
02/24/98	Positive	IR 98-01	N	PS	5C	The minimum number of compensatory measures in place and the prompt response to repair identified degraded conditions indicates good management of security equipment.
2/24/98	Positive	IR 98-01	N	PS	3C	Quality assurance (QA) audits were sufficient to effectively assess the radioactive liquid and gaseous effluent control programs. The licensee implemented a good quality assurance (QA)/quality control (QC) program to validate measurement results for effluent samples.
2/24/98	Positive	IR 98-01	N	PS	3C	The inspector concluded: (1) effluent control procedures were sufficiently detailed to facilitate performance of all necessary steps; (2) the licensee effectively implemented the technical specifications (TS)/offsite dose calculation manual (ODCM) requirements for reporting effluent releases and projected doses to the public; and, (3) the licensee's ODCM contained sufficient specification, information, and instruction to acceptably implement and maintain the radioactive liquid and gaseous effluent control programs.
2/24/98	Positive	IR 98-01	N	PS	3C	The plant air balance was maintained in accordance with established design specifications and the updated final safety analysis report.
2/24/98	Positive	IR 98-01	N	PS	3C	An adequate air cleaning surveillance program existed for the standby gas treatment and control room air cleaning systems.

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Date	Type	Source	ID	SFA	Code	Item Description
2/24/98	Positive	IR 98-01	N	PS	3C	An adequate calibration program was maintained and implemented for selected effluent/process area radiation monitoring systems.
2/24/98	Positive	IR 98-01	N	PS	3C	Effective radioactive liquid and gaseous effluent control programs were maintained and implemented.
1/6/98	Positive	IR 97-13	N	PS	3B	Overall, proper radiological controls were demonstrated by the maintenance craft during replacement of the main steam safety relief valve.
1/6/98	NCV Negative	IR 97-13	N	PS	3A	One poor practice was identified when a maintenance supervisor demonstrated poor contamination control work practices which had the potential to cause a personnel contamination by retrieving his cellular phone from inside of the anti-contamination clothing without removing his rubber gloves and placing the receiver against his face
11/10/97	Negative	IR 97-11	N	PS	3A	Two instances of poor radiological practices were observed including an overflowed protective clothing receptacle and spillage of water from decontamination rig outside of a posted contamination area. Minor cleanliness issues were observed in the US Room.
11/7/97	Positive	IR 97-10	N	PS	3B	Overall performance of the emergency response organization was very good. Simulated events were accurately diagnosed, proper mitigation actions were performed, emergency declarations were timely and accurate, and off-site agencies were notified promptly. No exercise weaknesses, safety concerns, or violations of NRC requirements were observed.

GENERAL DESCRIPTION OF PIM TABLE COLUMNS

Date	The actual date of an event or significant issue for those items that have a clear date of occurrence (mainly LERs), the date the source of the information was issued (such as for EALs), or the last date of the inspection period (for IRs).
Type	The categorization of the item or finding - see the Type / Findings Type Code table, below.
Source	The document that describes the findings: LER for Licensee Event Reports, EAL for Enforcement Action Letters, or IR for NRC Inspection Reports.
ID	Identification of who discovered issue: N for NRC; L for Licensee; or S for Self Identifying (events).
SFA	SALP Functional Area Codes: OPS for Operations; MAINT for Maintenance; ENG for Engineering; and PS for Plant Support.
Code	Template Code - see table below.
Item Description	Details of NRC findings on LERs that have safety significance (as stated in IRs), findings described in IR Executive Summaries, and amplifying information contained in EALs .

TYPE / FINDINGS CODES

ED	Enforcement Discretion - No Civil Penalty
Strength	Overall Strong Licensee Performance
Weakness	Overall Weak Licensee Performance
EEL *	Escalated Enforcement Item - Waiting Final NRC Action
VIO	Violation Level I, II, III, or IV
NCV	Non-Cited Violation
DEV	Deviation from Licensee Commitment to NRC
Positive	Individual Good Inspection Finding
Negative	Individual Poor Inspection Finding
LER	Licensee Event Report to the NRC
URI **	Unresolved Item from Inspection Report
Licensing	Licensing Issue from NRR
MISC	Miscellaneous - Emergency Preparedness Finding (EP), Declared Emergency, Nonconformance Issue, etc. The type of all MISC findings are to be put in the Item Description column.

TEMPLATE CODES

1	Operational Performance: A - Normal Operations; B - Operations During Transients; and C - Programs and Processes
2	Material Condition: A - Equipment Condition or B - Programs and Processes
3	Human Performance: A - Work Performance; B - Knowledge, Skills, and Abilities / Training; C - Work Environment
4	Engineering/Design: A - Design; B - Engineering Support; C - Programs and Processes
5	Problem Identification and Resolution: A - Identification; B - Analysis; and C - Resolution

NOTES:

- * EELs are apparent violations of NRC requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EELs and the PIM entries may be modified when the final decisions are made. Before the NRC makes its enforcement decision, the licensee will be provided with an opportunity to either (1) respond to the apparent violation or (2) request a predecisional enforcement conference.
- ** URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.

ENCLOSURE 2

PILGRIM INSPECTION PLAN FOR APRIL 1999 THROUGH JANUARY 2000

Inspection	Program Area/Title	Planned Dates	Type Inspection/Comments
T1 - Y2K	<u>Engineering</u> : Y2K Readiness Review	4/19-23/1999	Temporary instruction required review.
IP37550	<u>Engineering</u> : Engineering	5/10-14/1999	Initiative inspection to review and assess the backlog of open operability determinations.
IP73753	<u>Maintenance</u> : In-service Inspection	5/10-14/1999	Core inspection.
IP81700	<u>Plant Support</u> : Physical Security Program for Power Reactors	5/10-12/1999	Core inspection.
IP83750	<u>Plant Support</u> : Occupational Radiation Exposure - Outage	5/17-20/1999	Core inspection.
IP37550 and IP92903	<u>Engineering</u> : Engineering and Engineering Follow-up	8/2-20/1999	Initiative inspection to follow up on resolution of AE team inspection findings.
IP84750	<u>Plant Support</u> : Radioactive Waste Treatment, Effluent and Environmental Monitoring	9/13-17/1999	Core inspection - effluent portion of inspection procedure.
IP71001	<u>Operations</u> : Licensed Operator Requalification Program Evaluation	10/4-8/1999	Core inspection.
IP84750	<u>Plant Support</u> : Radioactive Waste Treatment, Effluent and Environmental Monitoring	10/11-15/1999	Core inspection - environmental monitoring portion of the inspection procedure.

ENCLOSURE 2

PILGRIM INSPECTION PLAN FOR APRIL 1999 THROUGH JANUARY 2000

IP82302	Plant Support: Review of Exercise Objectives and Scenarios for Power Reactors	10/11-12/1999	Core inspection.
IP83750	Plant Support: Occupational Radiation Exposure Non-outage	12/6-10/1999	Core inspection.