



Plant Performance Review - Millstone

[Plant Performance Review Index](#) | [News and Information](#) | [NRC Home](#) | [E-mail](#)

April 9, 1999

Mr. R. P. Necci, Vice President
Nuclear Oversight and Regulatory Affairs
C/O Mr. D. A. Smith, Manager - Regulatory Affairs
Northeast Nuclear Energy Company
PO Box 128
Waterford, CT 06385

SUBJECT: PLANT PERFORMANCE REVIEW - MILLSTONE UNIT 3

On February 24, 1999, the NRC staff completed a Plant Performance Review (PPR) of Millstone. 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 Millstone involved the participation of all technical divisions in evaluating inspection results and safety performance information for the period from April 1998 to January 15, 1999. The primary focus of this PPR was on Unit 3 activities. Oversight of Unit 2 has continued to be conducted by the Restart Assessment Panel under NRC Manual Chapter 0350 guidance with frequent assessments of performance provided to the Commission and at public meetings. Direct Commission oversight of Unit 2 activities is continuing.

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 Systematic Assessment of Licensee Performance (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.

During the period, Unit 3 resumed critical operations on June 30, 1998, after a shutdown of over two years. There were three manual reactor trips from full power, one automatic trip from full power caused by an unexpected main steam isolation valve (MSIV) closure, and one forced outage to repair auxiliary feedwater isolation valves. Two of the manual trips were associated with high conductivity at the discharge of the condensate pumps due to salt water intrusion. The third was in anticipation of a loss of condenser vacuum due to fouling of the circulating water system during a storm.

Unit 3 performance has been acceptable. Operators have characteristically made safe, conservative decisions regarding plant operations and have worked to raise the standards for operations. However, several Unit 3 operational events resulting from procedural or equipment deficiencies challenged the operators with the plant transients noted above. The operators responded well to these events. Management extended the shutdown following the MSIV failure and associated plant trip to address equipment deficiencies which were burdening operators. Maintenance and engineering work since the resumption of Unit 3 operation has been performed well. Management has prioritized work as needed to support safe conduct of Unit 3 operations. Progress has been made in addressing the backlog of issues deferred at the time of restart. However, a large station workload associated with preparing for the Unit 2 restart and the Unit 3 refueling outage, and the backlog of corrective actions constitute a significant, continuing challenge. Steps have been taken to improve station work control and planning processes but progress has been slow. Performance of plant support organizations continued to be good.

While there have been some challenges to operators, overall performance in the operations area has been safe and conservative. Equipment and procedure deficiencies resulted in plant transients after Unit 3 restart. Operator responses to these events were appropriate. Following the plant trip that was caused by a MSIV failure, management took action to address selected equipment deficiencies and provide stronger support to operations. An event involving inadvertent discharge of carbon dioxide impacted control room operators and revealed some weaknesses in operator knowledge of plant design and Technical Specifications. We plan to perform the normal NRC core inspections in operations. In addition, initiative inspections are planned to assess operational performance during the startup of Unit 2 and the shutdown for the Unit 3 refueling outage.

The conduct of maintenance and surveillance activities, including troubleshooting and repair work, continued to be generally well controlled, particularly with respect to procedural controls. Risk assessment was used appropriately in maintenance planning. Improvements in programmatic areas affecting maintenance activities such as the material, equipment and parts lists and the in-service testing program were generally effective. However, the implementation of the new work control process has been slow. We plan to perform the normal NRC core inspections in maintenance and surveillance. In addition, an initiative inspection is planned to evaluate the effectiveness of the new work control process in reducing the corrective maintenance backlog.

The conduct of engineering was generally good, but the large workload associated with the restart of Unit 2 and the Unit 3 deferred items limited support for operations following restart of Unit 3. This contributed to the Unit 3 plant events described above. In addition, several modifications performed late in the Unit 3 outage during final system testing and preparation for restart were not thoroughly engineered and resulted in equipment damage in one case. The Independent Corrective Action Verification Program (ICAVP) for Unit 3 completed at the beginning of the period indicated that efforts to reestablish compliance with the licensing and design bases were effective. We plan to perform the normal NRC core inspections with emphasis on engineering support to operations and maintenance activities.

Radiation protection activities at Unit 3, including the ALARA program, were generally effective. However, applied radiological controls, supervision and site wide technical support were challenged once when workers received uptakes. Radioactive waste processing and handling have improved. The radioactive liquid and gaseous effluent, environmental monitoring and

plant security programs continued to be effectively implemented and maintained. Improvements have been made in the Unit 3 fire protection program. However, the NRC identified inadequate corrective actions to resolve high-impedance fault problems on certain vital power panels. We plan to perform the normal NRC core inspections. In addition, initiatives are planned to review the air sampling and bioassay program, Unit 1 radwaste processing and liquid radwaste storage tank barriers to prevent releases.

The Nuclear Oversight organization has been a positive influence in station assessment processes and has provided rigorous evaluations of line management performance. The corrective action program has improved slowly since the Unit 3 restart. The threshold for problem identification continued to be low with a high volume of items generated. This willingness to identify problems, as indicated by performance monitoring results coupled with an effective Employee Concerns Program, demonstrated that the work environment was sufficiently healthy to close the Commission Order of August 14, 1996. Root cause evaluations have improved since the Unit 3 restart. However, continued management attention is needed to reduce the large corrective action backlog. We plan to perform the normal NRC core inspections. In addition, initiative inspections are planned to evaluate the effectiveness of the safety conscious work environment and the corrective action 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. You will note that the PIM is in two different formats due to a program change effective on October 1, 1998. The PIM includes items summarized from inspection reports or other docketed correspondence between the NRC and Northeast Nuclear Energy Company. 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 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 Public Document Room 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 Millstone 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 for the next nine months. 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 listed will be promptly discussed with your staff. If you have any questions, please contact James Linville at 610-337-5129.

Sincerely,

ORIGINAL SIGNED BY:

Wayne D. Lanning, Director
Millstone Inspection Directorate
Office of the Regional Administrator
Region 1

Docket Nos. 50-336, 50-423
License Nos. DPR-65, NPF-49

Enclosures: [Not included in web-posted version]

1. Plant Issues Matrix
2. Inspection Plan

United States Nuclear Regulatory Commission

Date: 04/06/1999

Time: 08:20:34

Region I

PLANT ISSUE MATRIX

MILLSTONE

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
01/11/1999	1998006	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 1C Ter:	U/2 - During restoration following integrated testing of ESF components, the inspector discussed with operators the propriety of using a valve lineup form to restore the shutdown cooling system valve alignment rather than an approved procedure that controlled the sequence of valve manipulations. The NRC concluded that operator acceptance of using valve lineup forms to realign in-service systems was a general weakness in operations. This is a concern because a valve lineup form does not control the sequence of valve manipulations, which is often important for in-service systems.
01/11/1999	1998006	Pri: OPS Sec:	NRC	NEG	Pri: 1B Sec: Ter:	U/3 - While the lifting and reseating of two main steam safety valves (MSSVs) was identified in a timely manner and reviewed for adequate system response, this information was not initially disseminated to all operators involved in recovery operations.
01/11/1999	1998006	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: Ter:	U/3 - Following the failure of a potential transformer fuse in the "A" train 34D, 4K/ bus, operators took appropriate actions to declare the affected instrumentation inoperable and entered technical specification 3.3.2.
01/11/1999	1998006	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: 2A Ter:	U/3 - Licensed operator recovery actions, and overall control room activities, in response to the unexpected main steam isolation valve (MSIV) closure and resultant automatic reactor trip were deliberate and well controlled.
11/23/1998	1998005	Pri: OPS Sec:	NRC	MISC	Pri: 1C Sec: Ter:	U/3 - Review of independent and third party evaluation documents of Unit 3 performance provide conclusions consistent with the NRC view of the need for a strong operational focus for continued improvement. The Unit 3 theme for a renewed "operational focus" is well served, but must be directed toward all areas and departments affecting plant operations, in order to be fully effective.
11/23/1998	1998005	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 1B Ter:	U/3 - When feedwater heater control level control problems were identified on October 9, operators reduced power to 84 percent to facilitate troubleshooting. On October 15, another downpower was conducted to perform additional repairs to secondary side thermowell and level controller. On October 28, operators tripped the reactor from 100 percent when high conductivity at the discharge of the condensate pumps was detected. Operators again tripped the reactor from 90 percent power on November 11, due to an anticipated turbine trip/reactor trip due to degradation of condenser vacuum.
11/23/1998	1998005	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 2A Ter:	U/3 - During the next inspection period, the operators initiated two manual trips of the reactor. Continued management attention must be directed to a reduction in the backlog of equipment problems and other issues that have the potential to create future operational challenges.
11/23/1998	1998005	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 4A Ter:	U/2 - The licensee failed to adequately translate design information regarding reactor building closed cooling water (RBCCW) flow to the shutdown cooling heat exchanger to the operating procedure used to control RBCCW system configuration. This negative finding is of minor safety significance because operation at power in an improper RBCCW system configuration was found to be unlikely and because the effect of operation in an improper configuration on post-accident containment pressure was found to be minimal. Therefore, this failure constitutes a violation of minor significance and is not subject to formal enforcement action.
11/23/1998	1998005	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: 2A Ter:	U/3 - Operators properly responded to high conductivity levels in the secondary system and manually tripped the reactor. Operators took appropriate command and control of the plant to place it in a safe condition in accordance with procedures. Close coordination and communication was observed among the operations, chemistry, engineering and maintenance departments during the shut down and methodical troubleshooting activities. Although the plant was designed to operate with more than one waterbox out of service, the licensee conservatively maintained the plant shut down until the leaking condenser was identified, based on chemistry results. The specific, leaking "C" condenser tube was identified and plugged shortly after restart.

United States Nuclear Regulatory Commission

Date: 04/06/1999

Time: 08:20:34

Region 1

MILLSTONE

PLANT ISSUE MATRIX

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/23/1998	1998005	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: 5C Ter: 5B	U/3 - Operators manually tripped the plant during a rain storm on November 11 in accordance with procedures when imminent loss of condenser vacuum was anticipated. The licensee promptly convened an event review team and implemented appropriate corrective actions prior to restarting the reactor.
11/23/1998	1998005	Pri: OPS Sec:	NRC	POS	Pri: 1C Sec: Ter:	U/3 - NRC review of the corrective actions to the enforcement items issued as a result of the operational safety team inspection of Unit 3 found acceptable responses on the part of the licensee's staff, particularly in the operations area.
11/23/1998	1998005	Pri: OPS Sec:	NRC	POS	Pri: 3B Sec: Ter:	U/2 - The Licensed Operator Requalification Training (LORT) program at Unit 2 met regulatory requirements with no significant weaknesses identified. The LORT program content was balanced and met the needs of the operators. The simulator scenarios and written examinations administered during the first three weeks of the cycle were independent with no overlap. This was considered to be a strength. The evaluations of the simulator scenarios and job performance measures (JPMs) were objective and thorough. Minor problems on evaluation consistency were identified. The feedback process as part of the systems approach to training (SAT) program was found to be effective. The licensee was found to be meeting the regulatory requirements associated with licensed operators that were reviewed. Based upon current staffing levels, the inspectors determined that Millstone 2 was meeting licensed operator staffing requirements. Planned licensed operator increases will supplement the licensed operator pool.
10/05/1998	1998216	Pri: OPS Sec:	Licensee	NEG	Pri: 1A Sec: 1B Ter:	U/3 - Unit 3 began the inspection period in cold standby, commencing a reactor startup following repair of a leaking auxiliary feedwater valve. On August 27, power was reduced to 47 percent to facilitate a main condenser tube leak. On September 10, operators began a TS required shutdown when check valves in the service water-hypochlorite injection system failed their surveillance tests. On September 15, operators manually tripped the reactor when high conductivity in the condensate system was detected. On September 18, operators again entered TS 3.0.3, conducting a shutdown to 27 percent power when the same hypochlorite injection system components again failed the surveillance tests. On October 1, operators again entered TS 3.0.3, reducing power to 54 percent, following a blown fuse on a safety-related inverter.
10/05/1998	1998216	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 1B Ter:	U/3 - A manual reactor trip was procedurally mandated by plant conditions that were preventable; several downpowers and operating evolutions, required to comply with the technical specifications, were caused by either component malfunctions or surveillance test failures that were not isolated in occurrence.
10/05/1998	1998216	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 1C Ter:	U/3 - The inspector discussed with the responsible plant managers, including the unit director, the need for additional training and an enhanced approach to prevent problem recurrence to reduce, where possible, the number of future challenges to plant operation.
10/05/1998	1998216	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 1B Ter:	U/3 - Licensee management, operators, and support personnel responded well to the challenges encountered by Unit 3 personnel during this inspection period. Conservative decision-making, deliberate planning, event response and analysis, and appropriate corrective action review were in evidence.
10/05/1998	1998216	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 1C Ter:	U/3 - With regard to the storm preparations on August 26, 1998, the licensee was deliberate and diligent in its planning activities.

United States Nuclear Regulatory Commission

Date: 04/06/1999

Time: 08:20:34

Region I
MILLSTONE

PLANT ISSUE MATRIX

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
10/05/1998	1998216	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 2A Ter:	U/3 - A power reduction on October 1 caused by an inverter failure, was the result of a collaborative decision between operations shift management and unit licensing personnel. The inspector concurred that the entry into TS 3.0.3, while conservative, was both prudent and properly reached given the guidance provided by a Regulatory Guidance Position.
10/05/1998	1998216	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: Ter:	U/3 - Regarding the reactor trip on September 15, crew activities were deliberate and controlled, communications and briefings were clear, and shift management responded to equipment questions appropriately.
10/05/1998	1998216	Pri: OPS Sec:	NRC	STR	Pri: 3B Sec: 3C Ter:	U/2 - Both Operations and Reactor Engineering Departments are making progress for fuel load. Operating procedures, Modes 6 and 5 surveillance tests, and the fuel movement operator training program are comprehensive and acceptable. Nuclear Oversight has been effective in identifying deficiencies in the process and providing their own input to plant readiness. The process for ensuring plant readiness also appears to be comprehensive. Emergent work has delayed fuel load on a number of occasions and at the end of the inspection period, the fuel load date was still being evaluated by the licensee.
10/05/1998	1998216-01	Pri: OPS Sec:	NRC	VIO IV	Pri: 1A Sec: 5A Ter: 5B	U/2 - After the NRC identified that the indicated reactor building closed cooling water (RBCCW) flow to the "A" engineered safeguards room cooler was off-scale high, the cause of the condition was determined to be that the associated throttle valve, 2-RB-68.1A, was in a fully open rather than throttled position. The NRC determined that the RBCCW valve lineup procedure was inadequate in that instructions contained in a note did not specify that this throttled position be verified. As a result, the valve lineup was performed on two occasions without identifying this mispositioned valve. The failure to establish an adequate valve lineup procedure is considered a violation of Technical Specification 6.8.1.c. Although the safety significance of this event in the current defueled condition was minimal, the mispositioning is a concern because the licensee's corrective actions for this inspector identified issue did not address the inadequate valve lineup procedure. It also raises concerns about how the positions of other throttle valves are being verified. The NRC also considered operator performance to be weak in not investigating the high RBCCW flow to the "A" engineered safeguards room cooler.
10/05/1998	1998216-07	Pri: OPS Sec:	Licensee	NCV	Pri: 1A Sec: Ter:	U/3 - During a review of procedures, the licensee identified a historical violation of the Unit 3 TS with the plant in Mode 5. The licensee performed residual heat removal system testing during the transition to Mode 4 incorrectly using a one hour out of service allowance for leak testing. This licensee identified TS violation is considered a non-cited violation. (See LER 97-37)
10/05/1998	1998216-08	Pri: OPS Sec:	Licensee	NCV	Pri: 1A Sec: Ter:	U/3 - Licensee corrective actions to address this LER, relating to a missed surveillance, appeared appropriately directed to the specific TS violations. Collectively, the incorporation of triggering mechanisms into operating procedures for TS required surveillances was an effective program enhancement. Operator compliance with procedure requirements, as well as cognizance of system configuration and plant status, have improved since restart. The issue was properly analyzed and reported by the licensee and is considered a non-cited violation. (See LER 97-44)
10/05/1998	1998216-09	Pri: OPS Sec:	Licensee	NCV	Pri: 1A Sec: Ter:	U/3 - Licensee corrective actions to address an LER, relating to operator cognizance of plant conditions during surveillance activities, appeared appropriately directed to the specific TS violation. Collectively, the incorporation of triggering mechanisms into operating procedures for TS required surveillances was an effective program enhancement. Operator compliance with procedure requirements, as well as cognizance of system configuration and plant status, have improved since restart. The issue was properly analyzed and reported by the licensee and is considered a non-cited violation. (See LER 97-49)
10/05/1998	1998216-10	Pri: OPS Sec:	Licensee	NCV	Pri: 2B Sec: Ter:	U/3 - Licensee corrective actions to address an LER, relating to deficiencies in the performance of a surveillance, appeared appropriately directed to the specific TS violations. Collectively, the incorporation of triggering mechanisms into operating procedures for TS required surveillances was an effective program enhancement. Operator compliance with procedure requirements, as well as cognizance of system configuration and plant status, have improved since restart. The issue was properly analyzed and reported by the licensee and is considered a non-cited violation. (See LER 97-52)

United States Nuclear Regulatory Commission

PLANT ISSUE MATRIX

Date: 04/06/1999

Time: 08:20:34

Region I
MILLSTONE

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
10/05/1998	1998216-11	Pri: OPS Sec:	Licensee	NCV	Pri: 1C Sec: 3C Ter:	U/3 - Licensee corrective actions to address an LER, relating to a failed surveillance, appeared appropriately directed to the specific TS violation. Collectively, the incorporation of triggering mechanisms into operating procedures for TS required surveillances was an effective program enhancement. Operator compliance with procedure requirements, as well as cognizance of system configuration and plant status, have improved since restart. The issue was properly analyzed and reported by the licensee and is considered a non-cited violation. (See LER 97-53)
01/11/1999	1998006	Pri: MAINT Sec:	Self	NEG	Pri: 3A Sec: 2A Ter: 4B	U/2 - Although fuel handling operations were generally well controlled, one incident occurred where the spent fuel pool area hoist operator raised a fuel assembly approximately 2 inches above the prescribed height and when recovering from this, the operator did not immediately stop when the fuel hoist did not respond as expected. Similarly, when two pieces of tape were found on top of fuel assemblies in the spent fuel pool, the licensee did not initially plan to assess the impact of undetected tape on the fuel and core components during power operations.
01/11/1999	1998006	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: 5B Ter:	U/3 - The preliminary failure mechanism of stress corrosion cracking for the main steam isolation solenoid valves appears reasonable, although a formal root cause remains to be determined. The licensee's material reconciliation effort was thorough and of sufficient depth to provide a basis for the installation of new MSIV solenoid valves.
01/11/1999	1998006	Pri: MAINT Sec:	NRC	POS	Pri: 2B Sec: 3B Ter: 5C	U/3 - Following the failure of a potential transformer fuse in the "A" train 34D, 4KV bus, thorough licensee discussion of the plant design and options for troubleshooting were observed. The normally scheduled monthly operability surveillance, performed at power, and troubleshooting on the affected instrumentation, performed in cold shutdown, were well controlled and completed without affecting operable plant equipment.
11/23/1998	1998005	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: 2B Ter:	U/3 - A reduction in the backlogged list of equipment problems and other issues that have the potential to create operational challenges to the plant is an issue that merits continued licensee management attention.
11/23/1998	1998005	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: Ter:	U/3 - The proper use of a temporary modification, including a safety evaluation considering the seismic design, material specifications and independent calculations, was verified for a maintenance activity on a feedwater system containment isolation valve.
11/23/1998	1998005	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: 1C Ter:	U/3 - Review of inspected troubleshooting, failure analysis, and maintenance repair activities revealed the implementation of adequate controls by the licensee.
11/23/1998	1998005	Pri: MAINT Sec:	NRC	POS	Pri: 2B Sec: 3A Ter:	U/2 - The NRC concluded that the maintenance on the medium voltage breaker located in Unit 2 Cubicle A410 was performed in an acceptable manner using approved procedures. Also, the licensee had acceptable justification for the level of maintenance performed on individual breakers. (Section U2.M1.2)
11/23/1998	1998005	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: Ter:	U/3 - Knowledgeable operators and maintenance and instrumentation and control technicians performed the observed Unit 3 surveillance activities in a controlled and professional manner.

United States Nuclear Regulatory Commission

Date: 04/06/1999
Time: 08:20:34

PLANT ISSUE MATRIX

By Primary Functional Area

Region I
MILLSTONE

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/23/1998	1998005-05	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: Ter:	U/3 - Licensee corrective action for an LER that involved inadequate testing of logic circuits was determined to be acceptable. The corrective measures were commensurate with the safety significance of the self-identified problem and included consideration of long term programmatic initiatives to preclude problem recurrence. Reportability, timeliness, event analysis requirements have been met (See LER 97-17-02)
11/23/1998	1998005-06	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: Ter:	U/3 - Licensee corrective actions an LER that involved non-EQ parts installed in safety related components was determined to be acceptable. The corrective measures were commensurate with the safety significance of the self-identified problem and included consideration of long term programmatic initiatives to preclude problem recurrence. Reportability, timeliness, event analysis requirements have been met (See LER 97-50)
10/05/1998	1998216	Pri: MAINT Sec:	NRC	NEG	Pri: 2B Sec: Ter:	U/3 - Continued progress is required for several improvements to the twelve-week on-line work schedule process, including the prioritization of backlogged work with operator impact, proper operator work control staffing, and review of the methods for changing or adding to the existing work scope.
10/05/1998	1998216	Pri: MAINT Sec:	NRC	POS	Pri: 2B Sec: Ter:	U/3 - The Unit 3 on-line maintenance process has been structured to use probabilistic safety assessment insights and operator judgement to achieve a balance between plant safety, schedule duration, and required work completion. A sample review of the implementation of this process determined that PRA information is effectively used and schedule adjustments routinely made to address the changing plant system configuration and risk profile. For the areas inspected, the Maintenance Rule (10 CFR 50.65) objectives, in relation to the risk perspectives of work control and overall plant safety, were effectively met.
10/05/1998	1998216-04	Pri: MAINT Sec:	NRC	NCV	Pri: 2B Sec: 3A Ter:	U/2 - Operators performed the pre-brief and surveillance test of manual safety injection actuation signal initiation well, and the test results satisfied the relevant technical specification acceptance criteria. However, the NRC noted that operators referred to an operating procedure to determine which components would actuate rather than referring to a drawing specified by the surveillance procedure. A subsequent comparison of the operating procedure and the drawing revealed four errors in the operating procedure attachment that lists the actuated components. However, the concerns with the operating procedure adequacy had previously been identified by the licensee and the NRC considers the corrective action plan to be acceptable. Accordingly, this concern was characterized as a non-cited violation.
10/05/1998	1998216-12	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: Ter:	U/3 - Licensee corrective actions for an LER documenting an IST program problem were determined to be acceptable. The licensee implemented the corrective actions in a timely manner after problem identification and before taking the unit to a higher mode of operation. No adverse safety consequences actually developed as a result of this IST problem, which is considered a licensee identified, non-cited violation. (See LER 97-27)
10/05/1998	1998216-13	Pri: MAINT Sec:	NRC	NCV	Pri: 2B Sec: Ter:	U/3 - Licensee corrective actions for an LER documenting an IST program problem was determined to be acceptable. The licensee implemented the corrective actions in a timely manner after problem identification and before taking the unit to a higher mode of operation. No adverse safety consequences actually developed as a result of this IST program omission, which is considered a licensee identified, non-cited violation. (See LER 97-40)
10/05/1998	1998216-14	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: Ter:	U/3 - Licensee corrective actions for an LER documenting an IST program problem was determined to be acceptable. The licensee implemented the corrective actions in a timely manner after problem identification and before taking the unit to a higher mode of operation. No adverse safety consequences actually developed as a result of this IST program omission, which is considered a licensee identified, non-cited violation. (See LER 97-42)
10/05/1998	1998216-16	Pri: MAINT Sec:	Licensee	NCV	Pri: 2B Sec: Ter:	U/3 - The licensee's corrective actions for inadequate technical specification surveillances of the solid state protection system were appropriate. The required procedural revisions were completed before the unit was allowed to change mode. This is considered a non-cited violation. (See LER 97-58)

United States Nuclear Regulatory Commission

PLANT ISSUE MATRIX

Date: 04/06/1999
Time: 08:20:34

Region 1
MILLSTONE

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
01/11/1999	1998006	Pri: ENG Sec:	NRC	NEG	Pri: 1A Sec: Ter:	U/3 - The licensee initially determined that troubleshooting and repair could be performed on the affected instrumentation ("A" train, 34D, 4 KV bus) while in TS 3.3.2. The inspector discussed this determination with plant management, and after a subsequent discussion with NRR, the licensee decided not to perform the work using this TS
01/11/1999	1998006	Pri: ENG Sec:	NRC	POS	Pri: 5C Sec: 5B Ter:	U/3 - Licensee activities to investigate the cause of an MSIV closure during partial stroke testing, and to implement corrective actions in the form of a design modification to the MSIVs, were well detailed, planned, and executed.
11/23/1998	1998005-08	Pri: ENG Sec:	Licensee	NCV	Pri: 4A Sec: 5C Ter:	U/3 - The licensee's corrective actions in response to a design deficiency in the tie rod assemblies for eight Unit 3 RSS expansion joints are acceptable. This licensee-identified and corrected violation is being treated as a non-cited violation. (See LER 97-21)
10/05/1998	1998216	Pri: ENG Sec:	Licensee	NEG	Pri: 4A Sec: 2A Ter:	U/3 - Through observations of corrective actions and review of documentation related to the inoperability of the Unit 3 service water system, appropriate licensee response was observed to the Technical Specification (TS) 3.0.3 entry caused by the failure of the check valves in the service water hypochlorite injection system. However, the recent modification installed valve materials which were incompatible with the hypochlorite system. This inadequate design led to the inoperability of both trains of service water and subsequently required two entries into TS 3.0.3 and two downpowers
10/05/1998	1998216-05	Pri: ENG Sec:	NRC	NCV	Pri: 4B Sec: Ter:	U/2 - System readiness reviews for the service water system and the control room air conditioning system, which support the transition to operational mode 6, refueling, from a defueled condition, were implemented well. The dispositioning of a licensee identified slow closure of a control room boundary isolation damper revealed a historical concern with the transmission of design information into surveillance procedures. However, the licensee implemented effective corrective actions to address this concern and therefore, it was characterized as a non-cited violation.
01/11/1999	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Common - The security program was inspected during this period. The inspection consisted of selective reviews of procedures and records, inspector observations, and interviews with security personnel. No safety concerns or violations were identified. The inspector determined that the security program was effectively implemented to protect against acts of radiological sabotage.
01/11/1999	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 3B Ter:	Common - All radioactive material shipments reviewed were determined to be in compliance with the applicable provisions of Titles 10 and 49 CFR. The technical training program for personnel involved in the transportation of radioactive materials was effective. The licensee provided an independent review of all radioactive material shipments from Millstone Station utilizing detailed checklists, which was effective.
01/11/1999	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 5A Ter:	Common - The review of the licensee's audit program for security indicated that audits were comprehensive in scope and depth, that the audit findings were reported to the appropriate level of management, and that the program was being properly administered.
01/11/1999	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 5A Ter:	Common - A review of the self-assessment program documentation in conjunction with the key performance indicators program indicated that the programs were being effectively implemented to identify and resolve potential weaknesses

United States Nuclear Regulatory Commission

Date: 04/06/1999

Time: 08:20:34

Region I
MILLSTONE

PLANT ISSUE MATRIX

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/23/1998	1998005-07	Pri: PLTSUP Sec:	Licensee	NCM	Pri: 1C Sec: Ter:	U/3 - Licensee corrective actions for an LER that involved vital area barrier maintenance was determined to be acceptable. The corrective measures were commensurate with the safety significance of the self-identified problem and included consideration of long term programmatic initiatives to preclude problem recurrence. Reportability, timeliness, event analysis requirements have been met. (See LER 97-S001)
11/23/1998	1998005-10	Pri: PLTSUP Sec:	NRC	VIO IV	Pri: 2B Sec: 3A Ter:	U/2 - The fire penetration seals that were sampled in Unit 2 were satisfactory with regards to physical damage, presence of required permanent damming material, shrinkage and separation. The quality and consistency of the work orders improved with the implementation of subsequent revisions to the procedure MP 2721N. An issue involving indeterminate seal fill depths remains unresolved. Additionally, the inspector identified a violation in which several penetration seals were not installed or repaired to a tested configuration, which resulted in a violation of the Millstone 2 fire protection requirement.
10/05/1998	1998216	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: Ter:	Common - An effective radiation protection program for activities being conducted at all three units is being implemented. The changing work scope at Units 1 and 2 has led to a review of the annual exposure goals for these units.
10/05/1998	1998216	Pri: PLTSUP Sec:	NRC	POS	Pri: 3B Sec: Ter:	Common - An effective technical training program has been established for the continuing education of licensee radiation protection technicians.

United States Nuclear Regulatory Commission
PLANT ISSUE MATRIX
 By Primary Functional Area

Date: 04/06/1999
 Time: 08:20:34

Legend

Type Codes:

BU Bulletin
 CDR Construction
 DEV Deviation
 EEI Escalated Enforcement Item
 IFI Inspector follow-up item
 LER Licensee Event Report
 LIC Licensing Issue
 MISC Miscellaneous
 MV Minor Violation
 NCV NonCited Violation
 NEG Negative
 NOED Notice of Enforcement Discretion
 NON Notice of Non-Conformance
 P21 Part 21
 POS Positive
 SGI Safeguard Event Report
 STR Strength
 URI Unresolved item
 VIO Violation
 WK Weakness

Template Codes:

1A Normal Operations
 1B Operations During Transients
 1C Programs and Processes
 2A Equipment Condition
 2B Programs and Processes
 3A Work Performance
 3B KSA
 3C Work Environment
 4A Design
 4B Engineering Support
 4C Programs and Processes
 5A Identification
 5B Analysis
 5C Resolution

ID Codes:

NRC NRC
 Self Self-Revealed
 Licensee Licensee

Functional Areas:

OPS Operations
 MAINT Maintenance
 ENG Engineering
 PLTSUP Plant Support
 OTHER Other

EEIs 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 EEIs and the PIM entries may be modified when the final decisions are made.

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. A URI may also be a potential violation that is not likely to be considered for escalated enforcement action. 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.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
9/25/98	Positive	IR 98-212	N	OPS	1A	The licensee performed the Unit 3 startup in a controlled and conservative manner following a shutdown which lasted in excess of two years. Improved operator performance since the NRC operational safety team inspection (OSTI) inspection (IR 50-423/97-83) was noted. Appropriate actions were taken in response to equipment, environmental, performance and procedural problems. Overall, the NRC around-the-clock shift coverage noted good licensee performance consistent with that of a plant returning from an outage over two years in duration.
9/25/98	Positive NCV	IR 98-212 NCV 98-212-03 LER 97-34	L	OPS	2B 5C	The corrective actions taken by the licensee for the Containment Manual (Outside Containment) Valve Checklist, which did not contain the complete list of manually operated CIVs that require monthly closure verification are deemed to be adequate. LER 423/97-034-00 is considered closed. The failure to perform the required Technical Specification surveillances is a non-cited violation.
9/25/98	Negative	IR 98-212	N	MAINT	2B	The preventive maintenance instructions for the Unit 3 station blackout (SBO) uninterruptable power supply (UPS) did not include any acceptance criteria; the licensee did not follow the written directions of AWO M3 96-18284; and the results had not been evaluated in a timely manner. This appears to be a weakness in translating the requirement for preventive maintenance on the station blackout diesel to an AWO.
9/25/98	Positive	IR 98-212	N	ENG	5C	The licensee's corrective actions for the missed medium voltage breaker overhauls were prudent and timely following their discovery of the missed overhaul recommendation. The inspector concluded that sufficient justification existed for breaker operability based on the GE letter that stated that no potential problems were found as a result of the completed overhauls performed to date which found no common mode failure mechanism that would interfere with plant safety.
9/25/98	Negative NCV	IR 98-212 NCV 98-212-05 LER 96-19-00 LER 96-19-01	L	ENG	5C	The actions taken by the licensee to resolve the inability of Power Operated Relief Valves (PORVs) 3RCS*MOV8000 A/B to perform their intended function to close and reopen under design basis accident conditions are deemed adequate. New Anchor Darling valves have been tested, and installed. This licensee-identified and corrected violation is being treated as a non-cited violation.
9/25/98	Negative NCV	IR 98-212 NCV 98-212-06 LER 96-20	L	ENG	4C	The summary table of the Design Basis Differential Pressure Calculation for all four Main Steam Atmospheric Relief Valves (3MSS*MOV74A/B/C/D) did not include the throttle/close direction safety function stroke which was described in the body of the valve calculation for the referenced valves. The calculations have been revised and the valve settings changed to meet design basis requirements. The actions taken by the licensee are deemed to be adequate. This licensee-identified and corrected violation is being treated as a non-cited violation.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
9/25/98	Negative NCV	IR 98-212 NCV 98-212-07 LER 96-35	L	ENG	5A 5C 2B	An evaluation of all Motor Operated Valves (MOVs) within the scope of Generic Letter (GL) 89-10 was performed by the licensee to determine if the referenced MOVs would have stroked under design basis conditions. This review identified 27 MOVs that potentially may not have stroked fully under design basis conditions. The revisions to the calculations, the valve modifications and the static testing have been completed adequately. This licensee-identified and corrected deficiency is being treated as a non-cited violation.
9/25/98	Positive	IR 98-212	N	PS	2A	The licensee established, implemented, and maintained an effective radiation monitoring system program with respect to electronic and radiological calibrations. As a result of self-assessment initiatives, the licensee implemented efforts to improve radiation monitoring system reliability. Licensee tracking and trending efforts provided sufficient information to assess radiation monitoring system performance.
9/25/98	Positive	IR 98-212	N	PS	5B	The licensee established, implemented, and maintained an effective quality assurance program for the radioactive effluent control program with respect to audit scope and depth, audit team experience, and response to audit findings. The licensee implemented an effective quality control program to validate measurement results for radioactive effluent samples.
9/25/98	Positive	IR 98-212	N	PS	1C 2A	All but two of the inspected fire seals were satisfactory with regard to physical damage, shrinkage, and separation. The licensee took appropriate corrective actions upon the discovery of the two faulty fire seals.
9/25/98	Negative	IR 98-212	N	PS	1C 2A	The licensee conducted a detailed silicone RTV foam fire barrier penetration seal audit at Unit 3 for expired materials and found no evidence of expired material usage. The inspector identified one minor violation, with two examples, which resulted from the failure to follow fire barrier seals installation procedures.
8/12/98	Positive	IR 98-208 IR 97-83	N	OPS	5C 1A	The inspector reviewed the licensee's root cause evaluations and corrective actions for the operational events documented in the Unit 3 Operational Safety Team Inspection, NRC Inspection Report 50-423/97-83, dated June 12, 1998. The corrective actions were comprehensive and appropriately addressed the deficiencies identified in the root cause evaluations, as well as the operator performance issues.
8/12/98	Positive	IR 98-208 IR 97-83	N	OPS	5C 1A	The licensee's corrective actions for an OSTI concern related to the valve and system alignment program was reviewed. The licensee demonstrated that the valve and system alignment program was effectively implemented.
8/12/98	Negative VIO	IR 98-208 VIO 98-208-04	N	OPS	1A	Although the licensee's performance during several Unit 3 plant heatups and cooldowns was generally acceptable, the licensee violated their plant heatup procedure during one plant heat up and transition into Mode 4.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
8/12/98	Positive	IR 98-208 IR 98-207 IR 97-203 IR 97-202 URI 95-07-10	N	MAINT	2B	The Unit 3 material, equipment, and parts lists (MEPL) program was reviewed in several inspections over the past year. The licensee has invested substantial effort into improving the program and has significantly upgraded both the program and the evaluations for many components and parts in Unit 3. A number of issues were identified during the review and the licensee has been responsive in addressing the concerns. The program is currently deemed acceptable and meets regulatory requirements.
8/12/98	Positive	IR 98-208 IR 98-82 VIO 98-82-10	N	ENG	5C	The licensee's corrective actions regarding the Unit 3 MOV thrust calculation violation were comprehensive.
8/12/98	Negative	IR 98-208 URI 98-208-07 LER 98-36 LER 97-46	N	ENG	4A	At Unit 3, the RSS cubicle initial sump pump system design and the pump qualification were inadequate. Significant corrective action, including system and pump design changes, were required to ensure the system would perform its design function.
8/12/98	Positive	IR 98-208	N	PS	1C	Appropriate work planning for maintaining occupational exposures ALARA was also observed at Unit 3 for work on the 3RCS*V132 valve and for industrial radiography taking place in the containment.
8/12/98	Positive	IR 98-208 IR 98-01 VIO 98-01-01	N	PS	2B 5C	The licensee made significant improvements to the post accident sampling system (PASS). Procedures were rewritten, technicians retrained and the system was repeatedly tested. Also, as equipment deficiencies were identified, they were corrected. With the exception of the dissolved gas sample results, the licensee met the appropriate acceptance criterion. Corrective actions are sufficient to provide reasonable assurance that the PASS system would be able to assist in the assessment of core damage, given a significant transient or accident. The licensee is continuing to assess their method for retrieving and analyzing a dissolved gas sample.
8/12/98	Positive	IR 98-208	N	PS	1C	The licensee conducted security and safeguards activities thoroughly and in a manner that ensured safe operations. Inspections were conducted in the areas of access authorization, alarm stations, communications, protected area access control of personnel and packages, and protected area access control of vehicles.
6/19/98	Positive	IR 98-207	N	OPS	5C	The licensee's actions following the failure to comply with a Unit 3 technical specification (TS) upon initial entry into Mode 4 were appropriately scoped and performed. They ensured current compliance with Mode 4 TS and reviewed those TS which would be applicable in Mode 3. Through independent control board walkdowns and surveillance reviews, the inspector independently verified licensee compliance with selected Mode 3 TS.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
6/19/98	Negative VIO	IR 98-207 VIO 98-207-15	N	MAINT	5C	The licensee failed to ensure that degraded or nonconforming parts were promptly identified and corrected in the area of nonsafety-related parts upgrade as part of the MEPL program. Specifically, although previous industry information had been issued in this regard 29 safety related Unit 3 components had nonsafety related parts procured and installed in the past two years.
6/19/98	Positive	IR 98-207	N	ENG	4B	Based on an NRR review of documentation for modifications made to the Unit 3 RSS system, field walkdown of the system, and discussions with the licensee, the NRC determined that modifications made to the RSS during the current outage appear to be in compliance with the requirements of 10CFR50.59.
6/18/98	LER	LER 98-32	L	OPS		Technical specification-required fuel handling crane limit switch surveillance test was not performed. The cause of the condition was human error.
6/12/98	Negative	IR 97-83	L	MAINT	2B	The adherence to plant schedules has been poor. On average, only 60% of work orders on the 3-day look ahead schedule were started and 54% were completed on schedule. The scheduled dates for achieving major milestones, such as mode changes, were rarely met. The difficulty in meeting schedules was attributed to several factors including emergent issues, inability to identify work scope, and lack of accountability to meet schedules. The OSTI team did not find any examples where inefficiencies in planning and scheduling resulted in degradation of safety system performance.
6/12/98	Positive	IR 97-83	N	MAINT	2B	The Fix-It-Now (FIN) team had a positive impact on handling emergent work and reducing the automated work order (AWO) backlog.
6/12/98	Positive	IR 97-83	N	MAINT	2B	Procedure adherence by the maintenance staff was good. The team observed several instances where work was stopped to clarify or revise maintenance procedures.
6/12/98	Positive	IR 97-83	N	MAINT	2A 2B	The plant material condition was generally good. The housekeeping practices and equipment storage were observed to be good. The team determined that processes were in place to maintain a satisfactory level of plant material condition. The backlog of open maintenance work activities was trending down, had been prioritized, and the overall impact on operations was assessed and found to be acceptable.
6/12/98	Positive	IR 97-83	N	ENG	4A 4B	The design control process provided a detailed and comprehensive method for implementing plant design change activities. Modification package content, including the screening and safety reviews, were generally appropriate. Post-modification testing encompassed verification of important design change attributes.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
6/12/98	Positive	IR 97-83	N	OPS	1A	The team found the quality of command and control to be generally good with a few occasional lapses. Shift turnovers were typically comprehensive. The quality of prebriefs was comprehensive with some variations. Operators were generally cognizant of plant conditions and control room annunciator status. Operators appropriately controlled access to the control room.
6/12/98	Negative	IR 97-83	N	OPS	1A 5C	The team found that the licensee's corrective actions for past equipment alignment problems have not been fully effective. The team identified several problems with the administration and control of the plant equipment alignment program. These problems included components not properly aligned, inadequacies in the valve and breaker lineup process, and deficiencies in the locked valve program. The team concluded that corrective actions to address these deficiencies were necessary prior to plant restart.
6/12/98	Negative VIO	IR 97-83 VIO 97-83-03	S	OPS	1A	While the team found that operators generally adhered to procedures, the team identified a few exceptions where procedures were not precisely followed. In one case, the failure to follow the procedure resulted in the inadvertent opening of the pressurizer power operated relief valve (PORV).
6/12/98	Negative VIO	IR 97-83 VIO 97-83-02 LER 98-22	L	OPS	1A	The OSTI team identified two instances where the administrative control of procedures was not in accordance with technical specifications (TS). In one case, a procedural deficiency was a contributing cause to missing the TS requirement to have two operable reactor coolant system loops in Mode 4. The licensee took effective corrective action to address these issues prior to the conclusion of the OSTI.
6/12/98	Positive	IR 97-83	N	OPS		The NRC OSTI team concluded that the quality of plant operating procedures was generally good. With a few exceptions, the procedures reviewed by the team were technically accurate and provided an appropriate level of detail. Risk significant operator actions were adequately proceduralized.
6/12/98	Positive	IR 97-83	N	OPS	3B 3A	The NRC OSTI team conducted an independent evaluation of operational events which occurred during initial plant heatup after an outage in excess of two years. The team and the licensee determined that these events indicated weaknesses in several areas. These areas include a lack of specific operator knowledge, attention to detail, procedural adherence and control board awareness.

MILLSTONE 3 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
6/12/98	Negative	IR 97-83	S	OPS	1A 1B	Two operational events occurred during the initial plant heatup to mode 3. The events were an inadvertent opening of a pressurizer power operator relief valve and an automatic initiation of the auxiliary feedwater system caused by a low-low steam generator level. There were also three failures to meet Technical Specification requirements including: (1) not having the required number of operable reactor coolant system loops while in Mode 4; (2) the failure to record pressurizer temperature data during a plant heatup; and (3) the failure to complete a conditional surveillance requiring a dilution path valve alignment check with one shutdown margin monitoring channel out-of-service. While there were no safety consequences as a result of these events, the performance by some plant operators during the initial plant heatups was weak.
6/12/98	Positive	IR 97-83	N	OPS	3B	The overall implementation of the systems approach to training for the technical training programs has improved and is adequate to ensure continued qualification of technical and non-licensed personnel.
6/12/98	Positive	IR 97-83	N	OPS	5A	The Nuclear Oversight Organization's reporting mechanisms to line management provided an effective means of capturing conditions adverse to quality and ensuring that those conditions were corrected. The reports were critical assessments and adequately provided senior management with a useful "snapshot" of plant performance and areas requiring additional attention.
6/12/98	Positive	IR 97-83	N	OPS	5A 5B	The OSTI team concluded that the self-assessment programs are functioning well and are identifying and dispositioning issues which affect plant and personnel performance. The self-assessments were timely and self-critical. Management oversight ensured corrective actions initiated by the self-assessments were taken in a timely manner.
6/12/98	Positive	IR 97-83	N	OPS	5A 5B 5C	The overall corrective action program was adequate to support plant restart. The threshold for including identified plant deficiencies in the corrective action program was low and a timely resolution of safety significant issues is generally being met. The team concluded that the root cause evaluations reviewed by the OSTI identified appropriate causes. Issues that should be addressed prior to restart were identified and being tracked for completion.
6/12/98	Negative	IR 97-83	N	MAINT	2B	The application of probabilistic risk assessment (PRA) insights to design and operation of the plant was adequate with one exception being the lack of risk assessments for removal of equipment from service during transitional modes of operation. This deficiency was adequately addressed by the licensee during the OSTI.
6/11/98	Positive	IR 97-82	N	OPS	1A	The plant staff's clear understanding of management's expectations was considered a management strength.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
6/11/98	Positive	IR 97-82	N	OPS	1A 3A	Organizational communications and team work were adequate, with vertical communications between plant organizations considered a strength. Communications between groups and departments in formal meeting settings, such as the daily morning meetings, showed a questioning attitude and command and control by senior managers.
6/11/98	Negative	IR 97-82	L	OPS	3A	Good team work initiatives had been introduced through the first line supervisor level, but not to the overall work force. The NRC corrective action inspection team noted ineffective communications occurred between certain elements of the maintenance and oversight organizations.
6/11/98	Positive	IR 97-82	N	OPS	5A	Plant management was effective in its efforts to encourage plant personnel to identify problems and the plant staff feels that management is receptive to problems brought forward. Individuals generally characterized the environment as improved and currently receptive to problem identification. There is no reluctance or reservation expressed by individuals to identify problems.
6/11/98	Positive	IR 97-82	N	OPS	3C	The licensee is adequately responsive to specific harassment, intimidation, retaliation or discrimination (HIRD) case needs. The Employee Concerns Program, the Employee Concerns Oversight Panel and the Safety Conscious Work Environment programs are positive contributions to the overall process.
6/11/98	Negative	IR 97-82	N	OPS	3C	NU management has not been fully effective in dealing with trends and common causes for HIRD allegations generated organization-wide to Employee Concerns Program. The Safety Conscious Work Environment processes have not yet been formalized.
6/11/98	Negative	IR 97-82	L	OPS	1C	The performance monitoring program was good. The high number of human errors was a weakness that the licensee needs to examine further.
6/11/98	Positive	IR 97-82	N	OPS	5A 5B 5C	The team's general conclusions regarding the adequacy of the licensee's corrective action program were that the program elements concerning identification, Condition Report (CR) initiation, and CR processing were performing well. The threshold for identification of issues, reportability reviews, and the assignment of severity level and corrective actions were timely and appropriate. The CR program elements concerning root cause, corrective actions, and failure recurrence were considered to be operating at an acceptable level, but with room for improvement.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
6/11/98	Weakness	IR 97-82	N	OPS	5B	The NRC corrective action inspection team found a notable number of process discrepancies, including the boric acid transfer pump air binding issue, in a relatively small sample size of CRs, after NU had completed their own extensive self-assessment preparing for this team inspection. For example, the Corrective Actions Program lacked controls over combining similar Condition Reports such that it was not effective in retaining issue descriptions and significance level. This is considered a program weakness.
6/11/98	Negative	IR 97-82	N	OPS	5B	Several CRs were inappropriately classified at a lower Significance Level. There were examples of root cause analyses that were narrowly focused. The analysis quality has improved through 1997, but overall performance is still mixed.
6/11/98	Negative	IR 97-82	N	OPS	5C	Some corrective actions were also narrowly focused which missed the opportunity for the process to detect additional existent problems.
6/11/98	Negative VIO	IR 97-82 VIO 97-82-06 LER 98-16	N	OPS	5B 5C 4B	Root cause determinations and corrective actions for recurrent boric acid transfer pump problems were inadequate. The reportability evaluations were incomplete. Operating experience was not considered. A potential unreviewed safety question resulting from non-conservative boric acid tank level technical specification was not identified. The failure to correct the air binding of the boric acid transfer pumps is a violation.
6/11/98	Positive	IR 97-82	N	OPS	5A 5B	The self-assessment program was being adequately implemented and the associated recommendations were beneficial in identifying areas for enhancement and improved performance.
6/11/98	Negative VIO	IR 97-82 VIO 97-82-08	N	OPS	1A	A Condition Report Action Request concerning review of Design Change Notices was closed without accomplishing the specified corrective actions. This is a violation.
6/11/98	Positive	IR 97-82	N	OPS	5A	Nuclear Oversight was effective in performing audits, general plant oversight, and work surveillance activities. Considerable improvement was noted since independent assessments identified weaknesses two years ago in the performance of QA activities
6/11/98	Positive	IR 97-82	N	OPS	5C	Nuclear Oversight procedures and audits have improved and there is good control in the follow up of audit findings.
6/11/98	Positive	IR 97-82	N	OPS	3A 4C	Quality Control was generally effective in performing the required in-plant inspections. The QC support group was effective in establishing and standardizing the use of QC hold points in work packages.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Ccde</i>	<i>Item Description</i>
5/26/98	Negative	IR 98-206	N	OPS	4A 4C	NRC review of the Unit 3 implementation of NUREG-0737 TMI Action Plan Requirements continued to identify FSAR compliance issues and other licensing basis questions. Similar problems have been documented in previous NRC inspection reports.
5/26/98	Negative VIO	IR 98-206 VIO 98-206-04	N	OPS	5C	At Unit 3 a violation was identified for the failure to take prompt corrective actions regarding a nonconformance with assumed operator performance time required to isolate a steam generator upon a tube rupture.
5/26/98	Negative	IR 98-206	N	ENG	4C	The inspectors identified several items that were inappropriately included on the deferred issues list, including two that may have challenged system operability. Additional licensee actions appear to be necessary to ensure all deferred items are appropriate.
5/26/98	Negative VIO	IR 98-212 IR 98-206 VIO 98-206-06	N	ENG	5C	Unit 3 Corrective action for an ACR was determined to be inadequate because 21 solenoid operated valves important to safety and related cables located in a harsh environment were not included in the EEQ Program. This could have resulted in improper future maintenance activities. Resulting failure of these components in an unsafe position would result in diversion of ECCS flow to nonsafety related piping and is identified as a violation of 10 CFR 50.49.
5/26/98	Positive	IR 98-206	N	PS	1C	Effective programs for radiation protection during extended outages have been established at all three units. Additionally, Units 2 and 3 have prepared plans for restart as they related to changing radiological conditions.
5/22/98	Negative VIO	IR 98-81 VIO 98-81-01	N	PS	1C 2A	The licensee failed to provide an adequate fire barrier between the cable spreading room and control room due to inadequately protected structural steel. This is a violation of License Condition 2.H, Fire Protection.
5/22/98	Negative VIO	IR 98-81 VIO 98-81-02	N	PS	1C 2A	The licensee did not initially take appropriate corrective actions to resolve multiple high impedance fault problems on the 120 VAC vital power panels. This is a violation of License Condition 2.H, Fire Protection.
5/22/98	Negative NCV	IR 98-81 NCV 98-81-04 LER 97-051	L	PS	1C 2A 4A	On October 6, 1997, the licensee identified that the overcurrent protection design for 4.16kV feeder circuits (class 1E and non-class 1E) would not clear a short circuit in sufficient time to provide adequate cable protection for short circuit conditions. The inspectors concluded that, prior to the relay replacements recently performed, the facility did not conform to the approved design documented in the Fire Protection Evaluation Report. The licensee reported and corrected this deficiency in an acceptable manner.

MILLSTONE 3 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
5/22/98	Negative NCV	IR 98-81 NCV 98-81-05 LER 97-059	L	PS	1C 2A 4A	One September 10, 1997, the licensee identified the spurious operation of auxiliary feedwater pump turbine exhaust condensate drain line isolation valve during certain fire scenarios which may impact safe shutdown capability. The inspector concluded that prior to the recent tie-in of the exhaust drain line to the drain header, the facility was not in conformance to the approved design as documented in the Fire Protection Evaluation Report. The licensee reported and corrected this deficiency in an acceptable manner.
5/22/98	Negative NCV	IR 98-81 NCV 98-81-03	N	PS	1B 1C 2B	The licensee took the following actions to disposition inadequate implementation of fire protection program controls; (1) The licensee took appropriate actions to verify operability of post-fire safe shutdown equipment. (2) Appropriate measures have been taken to ensure effective evaluations of temporary modification impact on the fire protection program. (3) The licensee had adequately implemented the licensing commitment to proceduralize that manual actions identified in the fire hazards analysis as being necessary to achieve safe shutdown after a fire. (4) Corrective actions taken by the licensee to disposition fire protection issues documented in condition report M3-97-3373 were acceptable. These issues violated Branch Technical Position (BTP) 9.5-1, Section 4(e), Section 6, the license condition, and Section 4(h).
5/19/98	LER	LER 98-31	L	MAINT		Historical performance of the P-4 interlock functional test failed to verify the functionality of specific reactor trip breaker and bypass breaker's contacts and associated cell switch contacts for an at-power breaker alignment. Therefore, the requirements of technical specifications were not satisfied. Condition existed since the original development of the procedure. In addition, since procedure reviews conducted in response to NRC Generic Letter 96-01 failed to identify this deficiency, the cause is attributed to inadequate procedure development and human error.
5/8/98	Positive	IR 98-205	N	OPS	5A 5B 5C	Overall, the team found that the implementation of corrective action during the CMP to be acceptable in that in the majority of the instances, conditions adverse to quality were identified and corrected, in accordance with 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action."
5/6/98	Weakness VIO	IR 98-01 VIO 98-01-01	N	PS	5B 5C 2A	A programmatic breakdown was identified with the Post Accident Sampling System (PASS). Examples of this include: 1) Since 1988, the licensee has not been in compliance with the requirements of the Unit 3 Technical Specification, Updated Final Safety Analysis Report (UFSAR) commitments, and the Emergency Plan. 2) PASS maintenance was found to be ineffective, resulting in continual system problems and 31 condition reports generated during the period of 1995 - 1997. 3) Emergency and chemistry surveillance test procedures were found to be inadequate. The failure to maintain an adequate PASS, is a violation.

MILLSTONE 3 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
4/1/98	Positive	IR 97-209	N	ENG		The ICAVP team determined that the licensee's instrumentation and controls engineers demonstrated a good focus on safety and sound engineering practices. The team concluded that the design, installation, and testing of instrumentation and controls used to mitigate the consequences of a LOCA and SGTR accident were adequate. Instrumentation used during the SGTR accident and LOCA were reliable and properly calibrated.
4/1/98	Weakness	IR 97-209	N	ENG	2B	A problem was identified in the licensee's implementation of their TS 6.8.4 program to reduce leakage from systems outside containment that carry reactor coolant following a LOCA. The ICAVP team found that the licensee did not implement an adequate recirculation spray system heat exchanger test program. The licensee's review of this program failed to identify and correct this program weakness during their CMP effort.
4/1/98	Negative	IR 97-209	N	ENG	4A 5A	In the area of control room and offsite dose consequences, numerous errors and inconsistencies between the design and licensing bases were identified. Several calculations with different input assumptions covering the same aspects of the analyses were indicative of poor calculation control in this area. Additionally, the licensee's organization responsible for maintaining these analyses failed to recognize the importance of maintaining the design and licensing bases consistent with one another. The licensee was responsive to the issues and indicated a commitment to combine the design and licensing bases into stand alone calculations, provide additional oversight of the dose analysis group, and verify that the plant operation was consistent with the new design and licensing bases.
4/1/98	Negative	IR 97-209 LER 97-57	N	ENG	2A 4C	The licensee's procedures for conducting design changes met the requirements of 10 CFR Part 50, Appendix B, and licensee personnel adhered to those procedures. Minor weaknesses were identified in the design control manual. Additionally, temporary modifications included substantial calculations that were not controlled to the same level as design changes, and emergent conditions were not evaluated adequately on systems that had temporary modifications installed. The latter resulted in the potential inoperability of the A emergency diesel generator following a tornado.
4/1/98	Weakness	IR 97-209	N	ENG	4B 4A	A weakness was identified in the threshold for writing an SE for a Final Safety Analysis Report Condition Report (FSARCR) which later was found to have been previously identified by the licensee. However, the licensee's corrective actions failed to review FSARCRs between mid-1996 and July 1997. The licensee subsequently determined that SEs should have been written for approximately 50 percent of the FSARCRs written during that period of time. None of the SEs resulted in an unreviewed safety question determination.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
4/1/98	Weakness URI	IR 98-80 URI 98-80-01	N	PS	1A 1C 2A	Numerous longstanding problems were found to exist in the post accident sampling system. Problems revealed by this review included procedures that lacked sufficient detail, deletion of a yearly sump sample, a number of condition reports which did not seem to get the system repaired adequately, missing valve identification, and instrument tubing and fitting leaks. Due to the nature of the problems, these findings are being made an unresolved item and will be documented in a subsequent inspection report.
4/1/98	Negative NCV	IR 98-80 NCV 98-80-01	L	PS	1C 3B	Due to a lapse in tracking respirator qualifications many site emergency response organization (SERO) members became disqualified but were not removed from the SERO roster.
3/27/98	Weakness VIO	IR 98-208 IR 98-82 VIO 98-82-10	N	ENG	4C	Several types of errors were found in MOV thrust calculations. The thrust calculation for the safety injection accumulator outlet isolation valves was incorrect in evaluating the unwedging capability and the opening capability under maximum differential pressure conditions, in that the structural weak-link limit, in lieu of the actuator's open degraded voltage thrust capability, was used as an estimate of the motor-actuator output capability. Also, the database software called SMARTBOOK used to store and develop MOV thrust/torque calculations caused errors within MOV calculations by not selecting from specific indicated allowable torque and thrust limits. The presence of these errors, including their significance and generic nature, was a violation of 10 CFR 50, Appendix B, Criterion III, "Design Control".
3/27/98	Positive	IR 98-82	N	ENG		NU applied the results obtained from the Electric Power Research Institute's Performance Prediction Methodology to establish the design-basis thrust requirements for more than 100 of the 143 valves in the MOV program. Where standard program assumptions and using the EPRI PPM were not feasible, the use of alternate test plans clearly identified those valves that required additional methods to justify current switch settings.
3/27/98	Positive	IR 98-82	N	ENG		Modifications were implemented to improve the performance of many MOVs, including the installation of new double-disc PORV block valves for which an offsite prototype test was performed at design basis conditions.
3/16/98	LER	LER 98-20	L	OPS		Daily channel check of the radioactive liquid effluent waste neutralization sump monitor was not consistently performed as required by technical specifications. The cause for this condition was a poorly written procedure which did not adequately implement the surveillance requirement.
3/2/98	LER	LER 98-18	L	MAINT		A 12 hour noble gas grab sample, required to be taken by technical specifications, was taken 5 minutes past the required time frame. Unit 1 personnel were taking the grab sample to support Unit 3 TS. The licensee-identified cause for this failure was inadequate administrative controls in inter-unit evolutions. This was an inappropriate use of the 25% grace period allowed for conditional surveillances, similar to that identified in LER 96-51.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
2/27/98	LER	LER 98-17	L	MAINT		A low pressure safety injection check valve was not tested in 1995 in accordance with technical specification requirements. The licensee identified the cause of this event as program and process related deficiencies that resulted in an inadequate program used for tracking and scheduling of technical specification surveillances and deficient surveillance procedures.
2/21/98	Negative VIO	IR 97-210 VIO 97-210-09 LER 98-15	N	OPS	1A 2B	The NRC ICAVP team identified the historical failure of the licensee to enter technical specifications when manual control of an automatic function (auxiliary building ventilation) was taken. This is a violation of TS 6.8.1.a which requires proper procedures be maintained to control systems, including emergency core cooling systems. Auxiliary building ventilation supplies cooling to safety-related charging and reactor plant component cooling water pump areas.
2/20/98	LER	LER 98-14	L	ENG		Historical failure to provide weepholes in some safety-grade and Regulatory Guide 1.97 conduit and junction boxes located in the containment and auxiliary building could have degraded the capability of the plant to mitigate a loss of coolant accident or high energy line break accident. Causes for the missing weepholes were inadequate review and process control during construction and misjudgement when evaluating response to an NRC information notice.
2/19/98	LER	LER 98-13	L	PS		Exceeded technical specification sampling duration for the A, B, and D steam generators when the steam generator blowdown monitor was inoperable. Licensee identified cause to be less than adequate communication between operations and chemistry.
3/18/98	LER	LER 98-12	L	ENG		Licensee identified the potential loss of minimum flow recirculation cooling to the residual heat removal pumps under accident conditions.
2/9/98	Negative URI	IR 97-84 URI 97-84-01 IR 98-81	N	PS	1C 2B	NU audits of fire protection activities at Unit 3 concluded that there is no assurance Unit 3 could achieve safe shutdown after a postulated fire in the plant. Based on the reviews of the audit findings, the inspector determined that the audits of the fire protection program have been effective in identifying deficiencies and identifying corrective actions. The corrective actions, however, have not always been effective in resolving the problems, nor preventing recurrence. This issue remains unresolved, pending completion of corrective actions and subsequent NRC review for enforcement actions.
2/9/98	Negative URI	IR 97-84 URI 97-84-01 IR 98-81	N	PS	1C 2B	The inspector concluded, based on the information provided by NU personnel, that, for the most part, the safe shutdown equipment had never been tested. For those components that could be verified to have been tested, the tests were inadequate to demonstrate that they could perform their intended function. This issue remains unresolved pending completion of corrective actions and further NRC review for enforcement action.

MILLSTONE 3 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
2/9/98	Negative URI	IR 97-84 URI 97-84-01 IR 98-81	L	PS	1C 2B	The inspector found the temporary modification process weak in that evaluation of impact on fire-related safe shutdown equipment was not specifically required. NU had previously identified this problem, and had initiated corrective actions. This issue remains unresolved pending completion of corrective actions and further NRC review for enforcement action.
2/9/98	Negative URI	IR 97-84 URI 97-84-01 IR 98-81	N	PS	1B 1C	The inspector determined that earlier implementation of the licensing commitments to include fire protection actions in the EOPs was ineffective. Efforts are underway to implement the licensing commitment to specify manual actions in the station emergency procedures. This issue remains unresolved pending completion of corrective actions and further NRC review for enforcement actions.
2/6/98	LER	LER 98-09	L	MAINT		Containment atmosphere monitoring system radiation monitor particulate and gaseous, alert and alarm setpoints were set too high to meet licensee's commitment to Regulatory Guide 1.45, as contained in Table 1.8-1 of the Final Safety Analysis Report. This condition was outside the design basis and prohibited by technical specifications. Historical condition caused by lack of organizational authority for program implementation.
1/29/98	LER	LER 98-07-00 LER 98-07-01	L	ENG		Containment bypass leakage limits specified in technical specifications had been historically exceeded. The calculation identifying containment penetrations and defining which penetrations represent potential bypass leakage paths was revised in 1998 to resolve containment assumption discrepancies. The licensee-identified cause of this condition was non-conservative decision making and incorrect assumptions.
12/31/97	NCV Positive	IR 97-208 LER 97-04	L	OPS	5C 1A	Corrective actions to address specific and generic concerns with verbatim compliance with Unit 3 technical specifications were comprehensive.
12/31/97	Negative	IR 97-208 IR 96-201 EEI 96-201-19	N	OPS	5C 3B	At Unit 3, the NRC identified a problem in the area of operator training during a review of Rosemount transmitter shipping plug corrective actions. Although part of the licensee-identified corrective actions for this issue included added operations personnel training, this training had not been performed when the item was closed. The required training was subsequently completed.
12/31/97	Positive	IR 97-208	N	OPS	5C 2B	Several corrective actions reviewed this period for various problems involved procedure changes. In each case, the deficient procedures were identified and appropriately revised to prevent future problems.
12/31/97	LER	LER 97-63	N	OPS		Inadequate operator response time for inadvertent safety injection (SI) event. One of six operating crews failed to prevent a solid water condition and none met required SI termination response time during simulator exercises. Response time is in FSAR.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
11/30/97	Negative	IR 97-207	N	OPS	5C	Although a sampling review of the Unit 3 implementation status for NUREG-0737, TMI Action Plan Requirements, noted acceptable results overall; incomplete items were identified. These items included, 1) the FSAR is not current regarding the TMI items, 2) there is a discrepancy between licensee commitments to have a separate shift technical advisor in the control room and licensee procedure requirements, and 3) there is a question as to the effective use of human factors personnel for independent and line functions.
11/30/97	Positive	IR 97-207	N	OPS	1A	Unit 3 shift management and operator performance during infrequent plant evolutions were deliberate, well communicated, and handled with proper consideration of shutdown risk and plant safety. These observations confirm past NRC conclusions regarding conservative decision making by the on-shift crews during special tests and evolutions.
10/1/97	Strength NCV	IR 97-203 LERs 96-02 96-48,96-51 97-07,97-18	L	OPS	5C 1A	Unit 3 staff effectively addressed the performance issues identified in LERs related to TS noncompliance. Licensee personnel accurately determined the cause of deficient performance and identified appropriate corrective actions that addressed immediate concerns and the apparent root causes.
10/1/97	Positive	IR 97-203 IR 96-09 VIO 96-09-04	N	OPS	1C	TS revisions regarding organizational changes have improved. This resulted from actions to correct a violation for an improperly instituted management reorganization at Millstone Station.
10/1/97	Negative	IR 97-203	N	OPS	5C 5A	While both the restart verification and recovery oversight review activities appear to be positive efforts in demonstrating nuclear oversight organization's integrated assessment of the readiness to restart, the results of such rigorous evaluations have not resulted in improvement.
9/19/97	Weakness VIO	IR 97-206 VIO 97-206-13	N	OPS	1A 2B	The valve lineup procedure for verifying the TS requirement that all charging pump injection flow path valves not locked or otherwise secured in position, are in their correct positions every 31 days was found to be inadequate.
12/31/97	Positive	IR 97-208	N	MAINT	5B 5C	The licensee's root cause assessment and corrective actions were thorough and provided an appropriate resolution to the Unit 3 reactor coolant pump number one seal housing bolt leakage and bolt corrosion problems.

MILLSTONE 3 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
12/19/97	LER	IR 98-212 IR 98-207 LER 97-62-00 97-62-01	L	MAINT	2B 5C	The method used to satisfy the TS channel functional test for digital radiation monitors was found to be out of compliance with the TS definition. The radiation monitors that are affected are those where the analog channel operational test (ACOT) was implemented by performing a source check, and then increasing the conversion factor until the alarm trips. A review found that an ACOT surveillance on the 3HVR*RIY10B that was performed with a procedure revised to correct the condition remained out of compliance with the TS definition. The apparent cause of this condition is that the test methods were historically considered in compliance with the intent philosophy behind the TS definition for the ACOT. The cause of a failure to adequately revise the procedure for 3HVR*RIY10B was personnel error and inadequate written and verbal communication.
11/30/97	Negative	IR 97-207	L	MAINT	2B 2A	Licensee attention is needed to resolve Generic Letter 89-13 items related to heat exchanger performance at Unit 3. Open issues include aspects of surveillance and controls to reduce flow blockage due to biofouling and the test program for heat exchanger capability.
11/5/97	LER	LER 97-55	L	MAINT		TS violation: Area temperature monitoring element mounted in wrong location resulted in no temperature monitoring in B and D RSS pump cubicle. Licensee identified root cause was human error and inadequate validation by A/E and NNECO of design documents. Problems existed since initial licensing. Historical Event.
10/17/97	LER	LER 97-50	L	MAINT		Non-EQ parts installed in safety related feedwater isolation valves. Historical operability. Programmatic issues resulted in inadequate implementation of the electrical EQ program.
10/1/97	Negative	IR 97-203 LER 96-26	L	MAINT	2B 4C	A functional deficiency in the setting of the ECCS throttle valve positions could have resulted in the loss of the charging and high head safety injection functions in the recirculation phase.
10/1/97	Weakness EEI	IR 97-203 IR 96-201 EEI 96-201-19	N	MAINT	5B 5C	Although the licensee properly addressed specific Rosemount transmitter shipping plug problems, problems were identified in the broad corrective and preventive actions taken thus far. For example, they performed a sampling inspection instead of a complete review, as described in the corrective action plan.
1/14/98	LER	LER 98-03	L	ENG		Missed in-service inspection (ISI) pressure tests for Class 2 and 3 systems. Historical failure to perform the first two of the required three ISI pressure tests during the current 10-year inspection interval. The root cause for the failure to perform the required ISI pressure test was historical program-to-program interface deficiencies.
12/31/97	Strength VIO	IR 98-212 IR 97-208 VIO 97-208-04 URI 96-01-08	N	ENG	5C	The licensee has implemented comprehensive corrective actions to ensure that safety-related logic circuit surveillance procedures are adequate to fulfill technical specification testing requirements.

MILLSTONE 3 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
12/31/97	Negative LER	IR 97-208 LER 96-28	L	ENG	5C 2B 3B	The NRC noted examples of incomplete licensee followup to implement changes to operational procedures required by corrective action to a charging pump overcooling problem. Corresponding with this, control room operators had not been trained to respond to adverse conditions associated with the postulated failure scenario.
12/31/97	Positive	IR 97-208 EEI 96-201-04	N	ENG	4A 5C	The licensee's corrective actions to heighten employee awareness of the importance of technical specifications and their proper consideration in determining compliance with 10CFR50.59 and to redress the source of an apparent Unit 3 violation concerning turbine driven auxiliary feedwater design concerns were positive and appropriate.
12/31/97	VIO	IR 97-208 VIO 97-208-04 URI 96-01-08 LER 97-17	L	ENG	2B	The failure to have adequate surveillance procedures to test the safety-related logic circuits, as initially identified by the NRC, is a violation of plant technical specifications.
12/9/97	LER	LER 97-60	L	PS		A nuclear oversight audit finding identified that the post accident sampling system (PASS) may not have been capable of obtaining and analyzing required reactor coolant system, containment atmosphere, and containment recirculation sump samples during a design basis accident in accordance with TS section 6.8.4.d, "Administrative Controls - Post Accident Sampling," requirements. This condition is historical and has existed since initial plant startup. The cause of this condition is a failure of management to implement an effective PASS program.
11/30/97	Positive	IR 97-207	N	ENG	4C	The licensee improved their review and approval process for Unit 3 items included in the 10 CFR 50.54(f)-requested list of items to be completed after restart to provide additional assurance that the list would be complete and accurate. The process resulted in the listing of items appropriate for deferral and reflected a conservative decision-making process. No items were found on the list that, if not completed prior to restart, would have resulted in a significant safety concern during operation.
11/30/97	Strength LER	IR 97-207 LERs 96-49 96-45 96-15-05	L	ENG	4A 5A 5C	Corrective actions to address electrical separation noncompliances in the Unit 3 main control room panels and other plant areas were determined to be acceptable. The licensee has a proactive program to identify and correct electrical separation noncompliances at Unit 3.
11/13/97	LER	LER 97-57	S	ENG		The "A" emergency diesel generator (EDG) was inoperable due to ventilation alignment prohibiting tornado recovery. Cause of the event was inadequate development and review of the safety and technical evaluations associated with a temporary modification to fail open the "A" EDG cubicle ventilation dampers.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
11/7/97	LER	LER 97-56	L	ENG		Service water system drainage following a containment depressurization actuation and loss of offsite power could result in a condition outside the design basis of the unit. Historical event caused by a design deficiency in the service water system.
10/1/97	Positive	IR 97-203 URI 97-203-10	N	ENG	5B 4A	The licensee conducted an extensive evaluation to determine if Unit 3 had a problem with unqualified solenoid valves, as identified at Unit 2.
10/1/97	Negative URI	IR 97-203 URI 97-203-10	N	ENG	5B 4A	During an evaluation of solenoid valves, the licensee failed to walkdown affected valves in the PASS system. 3 of the 8 PASS valves did not meet the licensing basis.
10/1/97	Weakness	IR 97-203	N	ENG	2B	The hard copy MEPL, which is used for items without specific component identification numbers has not been kept up-to-date.
10/1/97	Strength EEI	IR 97-203 EEI 96-06-15	N	ENG	5C	Revisions to the corrective action program and DCM were enhancements. Establishment of the corrective action manager with an experienced staff provides a level of impartial and knowledgeable oversight to the program, which was missing in former program.
10/1/97	Negative URI	IR 97-203 URI 97-203-09	N	ENG	4A	The licensee used DBE 50 DEG C equivalent life, based on the Arrhenius equation, in their EQ calculations for post-accident operation time extrapolation without a sound technical basis for its use.
10/1/97	Negative	IR 97-203	N	ENG	2B	There is no effective method to track MEPL status on consumable items or ensure any requirements established in the MEPL are met during purchase and use of the item.
10/1/97	Positive	IR 97-203	N	PS	1C	The licensee has made improvements in the ALARA program which included establishment of an ALARA Committee, departmental ALARA goals, selection of ALARA liaisons for each department, and the commitment of senior unit management to the establishment of an effective ALARA program at the unit.
9/19/97	Weakness EEI	IR 97-206 EEI 97-206-20	N	ENG	5A 5B 2A	During a Safety System Functional Inspection, the team found that the air in certain piping in the initially dry recirculation spray system could be swept into the suctions of the charging and safety injection pumps during the cold-leg recirculation phase of a loss-of-coolant accident. The potential for air binding these pumps was recognized by the licensee prior to initial plant startup. However, that review failed to completely identify and analyze the extent of the problem.

MILLSTONE 3 PLANT ISSUES MATRIX

<i>Date</i>	<i>Type</i>	<i>Source</i>	<i>ID</i>	<i>SFA</i>	<i>Code</i>	<i>Item Description</i>
9/19/97	Weakness VIO	IR 97-206 VIO 97-206-02 LER 97-61	N	ENG	2B	The licensee's program for minimizing leakage outside the containment (a requirement of TS 6.8.4) did not address inter-system leakage that could result in radioactive water leaking into places where radioactivity could be vented to the atmosphere, such as the refueling water storage tank (RWST) following a LOCA. Minor leakage through such valves could result in unacceptable control room and offsite radiation doses in the event of an accident. The failure to test the valves in question also is indicative of a weakness in the licensee's American Society of Mechanical Engineers (ASME) Code Section XI valve testing program.
9/19/97	Negative URI	IR 97-206 URI 97-206-17	N	ENG	4A	A concern in the structural design area was the licensee's failure to account for the post-accident temperature rise inside containment on rigidly restrained structural steel. In an elevated temperature environment the steel will tend to expand more rapidly than the concrete around it. Excessive expansion of the steel could result in damage to the concrete structures as well as consequential damage to nearby equipment.
9/19/97	VIO	IR 97-206 VIO 97-206-06	N	ENG	4A	In the area of mechanical design, the removal of certain main steam valves from the electrical equipment qualification program was identified as an issue. Originally, the main steam block valves in question were part of the environmental qualification program. Subsequently, questions relative to the actual qualification of the valves arose and the licensee performed an analysis that justified the removal of the valves from the program. The team concluded that based on the available documentation, the removal of the valves from the program was not properly justified.
9/19/97	Negative URI	IR 97-206 URI 97-206-05	N	ENG	2A 4A	The lack of adequate justification for the qualification of the seal material used on certain RSS containment isolation valves was an unresolved item. At the end of the inspection the licensee had not provided the team with sufficient information to support its position that the material was qualified for the radiation exposure it would receive during a design basis LOCA.

ABBREVIATIONS USED IN PIM TABLE

CFR	Code of Federal Regulations
CR	Condition Report
EQ	environmental qualification
IR	Inspection Report
MEPL	material equipment parts list
NNECO	Northeast Nuclear Energy Company
NRC	Nuclear Regulatory Commission
RSS	containment recirculation spray system
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report

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
EEI *	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:

* EEIs 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 EEIs 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
INSPECTION PLAN

Inspection Procedure	Title	Planned Dates	Inspection Type
IP 92903	U/2 - Hydrogen Analyzer (SIL #23, #9)	3/29/99 - 4/2/99	Regional Initiative
IP 92904	U/2 - Post Accident Sampling System (SIL #27)	4/5/99 - 4/9/99	Regional Initiative
IP 84750	Site - Environmental Radiation Monitoring	4/12/99 - 4/16/99	Core Inspection
IP 71715	U/2 - Sustained Control Room/Plant Observations	4/15/99 - 4/23/99	Regional Initiative
IP 71715	U/3 - Sustained Control Room/Plant Observations	4/28/99 - 5/3/99	Regional Initiative
IP 83750	U/3 - Outage Radiological Controls	5/24/99 - 5/28/99	Core Inspection
IP 73753	U/3 - Inservice Inspection	5/17/99 - 5/21/99	Core Inspection
IP 37550	Site - Year 2000 Audit	6/14/99 - 6/18/99	Temporary Inspection
IP 40500, 40001	U/3 - 40500 Team (SCWE/ECP)	6/14/99 - 6/18/99 6/28/99 - 7/2/99	Core/Regional Inspection
IP 83725, 84523, 84522	Site - Internal Exposure, Liquid & Solid Radwastes	7/19/99 - 7/23/99	Regional Initiative
IP 37550, 37001	U/3 - Engineering	9/6/99 - 9/24/99	Core Inspection
IP 62700	U/3 - Work Control Program/Backlog Management	9/13/99 - 9/17/99	Regional Initiative
IP 83750	U/2;U/3 - Non-Outage Radiological Controls	9/13/99 - 9/17/99	Core Inspection
IP 40001	Site - SCWE/ECP Audit Review	9/99	Regional Initiative
IP 81700	Site - Physical Security	12/6/99 - 12/10/99	Core Inspection
IP 40001	Site - SCWE/ECP Audit Review	12/99	Regional Initiative

